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*** START OF THE PROJECT GUTENBERG EBOOK GARDENING FOR THE MILLION ***

GARDENING FOR THE MILLION

By ALFRED PINK

AUTHOR OF "RECIPES FOR THE MILLION."

T. FISHER UNWIN



It is with the object of stimulating the cultivation of gardens still more beautiful than those generally to be met with that the present volume has been written. It has not been thought necessary to repeat in each case the times when the seeds of the various flowers and plants are to be sown. A careful attention to the remarks made under the headings of "Annuals," "Biennials," "Perennials," and "Seed-Sowing" will supply all the information needed. That the work may prove useful to those at least who supervise their own gardens is the sincere wish of the author.

DULWICH.

GARDENING FOR THE MILLION

A

Aaron's Rod.—See "Solidago."

Abelia.—Very ornamental evergreen shrubs, bearing tubular, funnel-shaped flowers. They succeed in any ordinary soil if the situation is warm and sheltered, and are readily raised by cuttings. Height, 3 ft. to 4 ft.

Abies (*Spruce Firs*).—Among these ornamental conifers mention may be made of the beautiful Japanese Spruce *Ajanensis*, which grows freely in most soils and has dual-coloured leaves—dark green on the upper surface and silvery white underneath; this makes a grand single specimen anywhere. The White Spruce (*Abies Alba Glauca*) is a rapid grower, but while it is small makes a lovely show in the border; it prefers a moist situation. Of the slow-growing and dwarf varieties *Gregorii* is a favourite. The *Caerulea*, or Blue Spruce, is also very beautiful. *Clanbrasiliana* is a good lawn shrub, never exceeding 4 ft. in height. The Pigmy Spruce (*A. Pygmea*) is the smallest of all firs, only attaining the height of 1 ft. Any of these may be increased by cuttings.

Abronia.—Handsome half-hardy annual trailers. Grow in sandy peat and multiply by root division. Flowers in April. Height, 4 in. to 6 in.

Abutilon.—Evergreen greenhouse shrubs of great beauty and easy cultivation. May be raised from seed, or by cuttings of young shoots placed in spring or summer in sand under glass, or with a bottom heat. Cut the old plants back in January, and when new shoots appear re-pot the plants. Height, 5 ft. to 8 ft.

Acacia.—Winter and spring flowering greenhouse shrubs with charming flowers and graceful foliage. May be grown from seed, which should be soaked in warm water for twenty-four hours, or they may be propagated by layers, cuttings placed in heat, or suckers. They like a rich sandy loam soil. Height, 2 ft. to 3 ft.

Acæna.—These shrubby plants are herbaceous and mostly hardy, of a creeping nature, fast growers, and suitable for dry banks or rough stony places. They flourish best in sandy loam and peat, and may be increased by cuttings placed under glass. The flowers, which are green, are produced in May. The height of the various kinds varies from 3 in. to 2 ft.

Acantholimon Glumaceum (*Prickly Thrift*).—This is a frame evergreen perennial, thriving in any light, rich soil. It can be increased by dividing the roots. In May it puts forth its rose-coloured flowers. Height, 3 in.

Acanthus.—A coarse, yet stately hardy perennial, which has large ornamental foliage, and flowers in August. It is not particular as to soil or situation, but free space should be given it. Will grow from seed sown from March to midsummer, or in August or September in a sheltered situation. Will also bear dividing. Height, 3 ft.

Acer (*Maple*).—Very vigorous plants, suitable when young for pots, and afterwards for the shrubbery. The *A. Negundo Variegata* has silvery variegated leaves, which contrast effectively with dark foliage, *Campestre Colchicum Rubrum*, with its bright crimson palmate leaves, is very ornamental, as is also *Negundo Californicum Aureum*, with its golden-yellow foliage. The Maple grows best in a sandy loam. It may be increased by cuttings planted in a shaded situation, or by layers, but the choice varieties are best raised from seed sown as soon as it is ripe.

Achillea Ptarmica (*Sneezewort*).—A pure white hardy perennial which blooms in August. The dried leaves, powdered, produce sneezing. Any soil. Best increased by rooted off-sets. Flowers from July to September. Height, 1-1/2 ft.

Achimenes.—Fine plants, suitable for the greenhouse, sitting-room, or hanging baskets. Plant six tubers in a 5-in. pot, with their growing ends inclining to the centre and the roots to the edge of the pot, and cover them an inch deep with a compost of peat, loam, and leaf-mould, or a light, sandy soil. Keep them well supplied with liquid manure while in a growing state. Height, 6 in. to 2-1/2 ft.

Aconite (*Monk's-Hood or Wolf's-Bane*).—Very pretty and very hardy, and succeeds under the shade of trees; but being very poisonous should not be grown where there are children. Increased by division or by seeds. Flowers June to July. Height, 4 ft. (*See also "Winter Aconites."*)

Acorus (*Sweet Flag*).—A hardy bog plant, having an abundance of light-coloured evergreen foliage. It will grow in any wet soil. Height, 2 ft.

Acroclinium.—Daisy-like everlastings. Half-hardy annuals suitable for cutting during summer, and for winter bouquets. Sow in pots in February or March, cover lightly with fine soil, plunge the pot in gentle heat, place a square of glass on the top, and gradually harden off. Seed may also be sown in the open during May or in autumn for early flowering. Height, 1 ft.

Acrophyllum Verticillatum.—A greenhouse evergreen shrub. It will grow in any soil, and may be increased by cuttings of half-ripened wood. March is its flowering season. Height, 3 ft.

Acrotis.—These are mostly hardy herbaceous plants from South Africa. The soil should consist of two parts loam and one part leaf-mould, and the situation should be dry and sunny. Seed may be sown early in March in gentle heat, and the plants grown on in a cold frame till May, when they may be planted out a foot apart. They will flower at midsummer. Winter in a warm greenhouse. Height, 2 ft. Some few are of a creeping nature.

Actaea Spicata (*Bane Berry*).—A hardy herbaceous perennial which delights in a shady position, and will even grow under trees. It is increased by division of the roots, or it may readily be raised from seed in ordinary soil. May is its flowering month. Height, 3 ft.

Actinella Grandiflora.—A showy herbaceous plant, bearing large orange-coloured flowers in July. It is not particular as to soil, and is increased by dividing the roots. Height, 1 ft.

Actinomeris Squarrosa.—This hardy and ornamental herbaceous plant bears heads of bright yellow flowers, resembling small sunflowers, from June to August. It thrives in any loamy soil, and is easily increased by dividing the root. Height, 4 ft.

Adam's Needle.—See "Yucca."

Adenandra Fragrans.—An evergreen shrub suitable for the greenhouse. It thrives best in a mixture of sandy peat and turfy loam. Cuttings of the young branches stuck in sand will strike. It flowers in June. Height, 3 ft.

Adenophora Lilifolia.—Pretty hardy perennials suitable for the border. Produce drooping pale blue flowers on branching spikes in July. Any soil suits them. They may be grown from seed, but will not allow being divided at the root. Height, 1 ft.

Adlumia Cirrhosa.—Interesting hardy climbers. Will grow in any soil, and are readily increased by seeds sown in a damp situation. Require the support of stakes. Bloom in August. Height, 15 ft.

Adonis Flos.—Showy crimson summer flowers, requiring only the simplest treatment of hardy annuals. Sow in March or April in the open border. Height, 1 ft.

Adonis Pyrenaica.—A rare but charming Pyrenean perennial species, with thick ornamental foliage, and producing large golden-yellow flowers from May to July. It needs no special treatment. Height, 1-1/2 ft.

Adonis Vernalis.—A favourite hardy perennial, which grows freely from seed in any garden soil. It may also be increased by dividing the roots. Height, 1 ft.

Æthionema Cordifolium.—This little Alpine plant is a hardy evergreen that is very suitable for rock-work, as it will grow in any soil. Its rose-hued flowers are produced in June. It may be propagated by seeds or cuttings. Height, 3 in.

Agapanthus (*African Lily*).—This is a noble plant, which succeeds well in the open if placed in a rich, deep, moist loam in a sunny situation or in partial shade. In pots it requires a strong loamy soil with plenty of manure. Throughout the summer the pots should stand in pans of water. Repot in March. Give it plenty of pot room, say a 9-in. pot for each plant. In winter protect from severe frost, and give but very little water. The flowers are both lovely and showy, being produced during August in great bunches on stems 3 ft. high. The plant is nearly hardy. Several growing together in a large tub produce a fine effect. It is increased by dividing the root while in a dormant state.

Ageratum.—Effective half-hardy annual bedding plants, thriving best in a light, rich soil. Seed should be sown in heat in February or March. Cuttings root freely under glass. Height, 1-1/2 ft. There is a dwarf variety suitable for ribbon borders and edgings. Height, 6 in.

Agricultural Seeds.—Required per statute acre.

Carrot 5 to 6 lb. Cabbage (to transplant) 1" Cabbage (to drill) 2 to 3" Kohl Rabi (to drill) 2 to 3" Lucerne 16 to 20" Mangold Wurtzel 5 to 7" Mustard (Broadcast) 10 to 20" Rape or Cole 4 to 6" Rye Grass, Italian 3 bus. Rye Grass, Perennial 2" Sainfoin 4" Tares, or Vetches 3" Turnip, Swedish 3 lb. Turnip, Common 2 to 3" Trifolium 16 to 20"

Agrostemma.—A hardy annual that is very pretty when in flower; suitable for borders. Flourishes in any soil, and is easily raised from seed sown in spring. Blooms in June and July. There are also perennial varieties: these are increased by division of the root. Height, 1 ft. to 3 ft.

Agrostis.—A very elegant and graceful species of Bent-Grass. It is a hardy annual, and is

largely used for bouquets. Sow the seed in March. Height, 1 ft. to 1-1/2 ft.

Ajuga Reptans.—A hardy herbaceous perennial, suitable for the front of borders. It will grow in any soil, and may be propagated by seeds or division. May is its flowering season. Height, 6 in.

Akebia Quinata.—This greenhouse evergreen twining plant delights in a soil of loam and peat; flowers in March, and is increased by dividing the roots. Height, 10 ft.

Alchemilla Alpina (*Lady's Mantle*).—A useful hardy perennial for rock-work. It will grow in any soil, if not too wet, and may be increased by seed sown in the spring or early autumn, or by dividing the roots. It flowers in June. Height, 1 ft.

Allium Descendens.—A hardy, bulbous perennial. Plant in October or November in any garden soil, and the flowers will be borne in July. Height, 1 ft.

Allium Neapolitanum.—This is popularly known as the "Star." It bears large heads of pure white flowers, and is suitable for borders, pots, or forcing in a cool house. Any common soil suits it. It is increased by off-sets. Being one of our earliest spring flowers, the bulbs should be planted early in autumn. Height, 1 ft.

Allspice.—See "*Calycanthus*" and "*Chimonanthus*."

Alonsoa.—A pretty and free-blooming half-hardy annual, which produces fine spikes of orange-scarlet flowers in June. It is multiplied by cuttings or seeds. Height, 1 ft. to 1-1/2 ft.

Aloysia Citriodora.—This favourite lemon-scented verbena should be grown in rich mould. If grown in the open, it should be trained to a wall facing south, and in winter the roots need protecting with a heap of ashes and the branches to be tied up with matting. It is increased by cuttings planted in sand. August is its flowering season. Height, 3 ft.

Alsine Rosani.—This pretty little herbaceous plant, with its cushions of green growth, makes a very fine display on rock-work or in any shady position. Ordinary soil suits; it is of easy culture, and flowers during June and July. Height, 3 in.

Alstromeria (*Peruvian Lilies*).—These beautiful summer-flowering hardy perennials produce large heads of lily-like blossoms in great profusion, which are invaluable for cutting for vase decorations as the bloom lasts a long time in water. Plant in autumn 6 in. deep in a well-drained sunny situation, preferably on a south border. Protect in winter with a covering of leaves or litter. They may be grown from seed sown as soon as it is ripe in sandy loam. They bloom in July. Height, 2 ft. to 3 ft.

Alternantheras.—Cuttings of this greenhouse herbaceous plant may be struck in autumn, though they are usually taken from the old plants in spring. Insert them singly in 4-1/2-in. pots filled with coarse sand, loam, and leaf-mould. When rooted, place them near the glass, and keep the temperature moist and at 60 degrees or 65 degrees, then they will flower in July. Height, 4 in. to 1 ft.

Althea—See "*Hibiscus*."

Alyssum.—Well adapted for rock-work or the front of flower-beds, and is best sown in autumn. The annual, or Sweet Alyssum, bears an abundance of scented white flowers in June, and on to the end of September. The hardy perennial, Saxatile (commonly called Gold Dust), bears yellow flowers in spring. Height, 6 in.

Amaranthus.—The foliage of these half-hardy annual plants are extremely beautiful, some being carmine, others green and crimson, some yellow, red, and green. They are very suitable either for bedding or pot plants. Sow the seed early in spring in gentle heat, and plant out in May or June in very rich soil. If put into pots, give plenty of room for the roots and keep well supplied with water. Flower in July and August. Height, 1-1/2 ft. to 6 ft.

Amaryllis.—These plants bear large drooping bell-shaped lily-like blossoms. They thrive best in a compost of turfy loam and peat, with a fair quantity of sand. The pots must in all cases be well drained. Most of the stove and greenhouse species should be turned out of their pots in autumn, and laid by in a dry place until spring, when they should be re-potted and kept liberally supplied with water. *A. Reticulata* and *A. Striatifolia* bloom best, however, when undisturbed. Discontinue watering when the foliage shows signs of failing, but avoid shrivelling the leaves. The hardy varieties should be planted 6 in. deep in light, well-drained soil, and allowed to remain undisturbed for two or three years, when they will probably require thinning out. They are increased by off-sets from the bulbs.

The Belladonna (*Belladonna Lily*) should be planted in June in a sheltered border in rich, well-drained soil.

Formosissima (*the Scarlet Jacobean Lily*) is a gem for the greenhouse, and very suitable for forcing, as it will bloom two or three times in a season. It should be potted in February.

Lutea (*Sternbergia*) flowers in autumn. Plant 4 in. deep from October to December.

Purpurea (*Vallota Purpurea* or *Scarborough Lily*) is a very beautiful free bloomer. October and November or March and April are the most favourable times for potting, but established plants should be re-potted in June or July.

Ambrosia Mexicana.—A hardy annual of the simplest culture. Sow the seed in spring in any fine garden soil. Height, 1-1/2 ft.

American Plants.—These thrive most in a peat or bog soil, but where this cannot be obtained a good fertile loam, with a dressing of fresh cow manure once in two years, may be used; or leaf-mould and soil from the surface of pasture land, in the proportions of three parts of the former to one of the latter. The soil should be chopped up and used in a rough condition. Sickly plants with yellowish foliage may be restored by applying liquid manure once a week during the month of July. A light top-dressing of cow manure applied annually, and keeping the roots free from stagnant water, will preserve the plants in good health.

Ammobium.—Pretty hardy perennials which may be very easily raised from seed on a sandy soil. Flower in June. Height, 2 ft.

Ampelopsis.—Handsome and rapid climbers, with noble foliage, some changing to a deep crimson in autumn. The Veitchii clings to the wall without nailing, and produces a profusion of lovely leaves which change colour. Any of the varieties may be grown in common garden soil, and may be increased by layers.

Anagallis (Pimpernel.)—Very pretty. Sow the hardy annuals in the open early in March; the biennials or half-hardy perennials in pots in a greenhouse or a frame, and plant out when strong enough. May also be increased by cuttings planted in ordinary soil under glass. Flower in July. Height, 6 in.

Anchusa.—Anchusa Capensis is best raised in a frame and treated as a greenhouse plant, though in reality it is a hardy perennial. The annual and biennial kinds succeed well if sown in the open in rich soil. All are ornamental and open their flowers in June. Height, 1-1/2 ft. (*See also* "Bugloss.")

Andromeda.—An ornamental evergreen shrub, commonly known as the Marsh Cistus, and thriving in a peat soil with partial shade. May be grown from seed sown directly it is ripe and only lightly covered with soil, as the seed rots if too much mould is placed over it. Place the seedlings in a cold frame and let them have plenty of air. It is more generally increased by layers in September, which must not be disturbed for a year. Drought will kill it, so the roots must never be allowed to get dry. It flowers in April and May. Height, 2 ft.

Androsace.—Pretty little plants, mostly hardy, but some require the protection of a frame. They grow best in small pots in a mixture of turfy loam and peat. Water them very cautiously. They flower at different seasons, some blooming as early as April, while others do not put forth flower till August. They can be increased by division as well as by seed. Height, 6 in.

Anemones.—These are highly ornamental, producing a brilliant display of flowers. The scarlets make very effective beds. They are mostly hardy, and may be grown in any moist, light, rich garden soil, preferably mixed with a good proportion of silver sand. They should occupy a sunny and well-drained situation. For early spring flowering plant from October to December, placing the tubers 2-1/2 or 3 in. deep and 4 or 5 in. apart, with a trowelful of manure under each plant, but not touching them. A little sea sand or salt mixed with the soil is a preventive of mildew. If planted in February and March they will bloom from April to June. They are increased by seeds, divisions, or off-sets; the greenhouse varieties from cuttings in light loam under glass. The tubers will not keep long out of the ground. In growing from seed choose seeds from single-flowering plants; sow in March where they are intended to flower 1 in. deep and 9 in. apart; cover with leaf-mould. Two or three sowings may be made also during the summer. Height, 6 in. to 2 ft.

Anemonopsis Macrophylla.—A rather scarce but remarkably handsome perennial, producing lilac-purple flowers with yellow stamens in July and August. It will grow in ordinary soil, and may be increased by division. Height, 2 ft.

Angelonia Grandiflora Alba.—An elegant and graceful greenhouse plant, giving forth a delicious aromatic odour. It grows best in a compost of turfy loam and peat, but thrives in any light, rich soil. Take cuttings during summer, place them under glass, but give a little air occasionally. Height, 1-1/2 ft.

Annuals.—Plants of this description arrive at maturity, bloom, produce seed, and die in one season.

Hardy.—The seed should be sown thinly in the open borders during March, April, or May in fine soil, covering slightly with well-prepared mould—very small seeds require merely a dusting over them. When the plants are large enough to handle, thin them out boldly, to allow them to develop their true character. By this means strong and sturdy plants are produced and their flowering properties are enhanced. Many of the hardy annuals may be sown in August and September for spring flowering, and require little or no protection from frost.

Half-Hardy.—These are best sown in boxes 2 or 3 in. deep during February and March, and placed on a slight hotbed, or in a greenhouse at a temperature of about 60 degrees. The box should be nearly filled with equal parts of good garden soil and coarse silver sand, thoroughly mixed, and have holes at the bottom for drainage. Scatter the seeds thinly and evenly over the soil and cover very lightly. Very small seeds, such as lobelia and musk, should not be covered by earth, but a sheet of glass over the box is beneficial, as it keeps the moisture from evaporating too quickly. Should watering become necessary, care must be taken that the seeds are not

washed out. As soon as the young plants appear, remove the glass and place them near the light, where gentle ventilation can be given them to prevent long and straggly growth. Harden off gradually, but do not plant out until the weather is favourable. Seed may also be sown in a cold frame in April, or in the open border during May; or the plants may be raised in the windows of the sitting-room.

Tender.—These must be sown on a hotbed, or in rather stronger heat than is necessary for half-hardy descriptions. As soon as they are large enough to be shifted, prick them off into small pots, gradually potting them on into larger sizes until the flowering size is reached.

Anomatheca Cruenta.—This produces an abundance of bright red flowers with a dark blotch and a low growth of grass-like foliage. It is suitable for either vases, edges, or groups. Plant the bulbs in autumn in a mixture of loam and peat, and the plants will flower in July. They require a slight protection from frost. If the seed is set as soon as it is ripe it produces bulbs which will flower the following year. Height, 6 in.

Antennaria.—Hardy perennial plants, requiring a rich, light soil. They flower in June and July, and may be increased by cuttings or division. The heights of the various kinds range from 3 in. to 2 ft.

Anthemis Tinctoria (*Yellow Marguerites*).—These perennials are almost hardy, needing protection merely in severe weather. They are readily raised from seed sown in gentle heat early in spring or by slips during the summer months. Transplant into light soil. As pot plants they are very effective. June is their flowering period. Height, 1-1/2 ft.

Anthericum Liliago (*St. Bernard's Lily*).—One of the finest of hardy plants, and easy to grow. Planted in deep, free, sandy soil, it will grow vigorously, and in early summer throw up spikes of snowy-white, lily-like blossoms from 2 to 3 feet in height. It may be divided every three or four years, but should not be disturbed oftener. Mulching in early springtime is advantageous.

Anthericum Liliastrum (*St. Bruno's Lily*).—This hardy perennial is a profuse bloomer, throwing up spikes of starry white flowers from May to July. Treat in the same manner as the foregoing. Height, 2 ft.

Anthoxanthum Gracila.—Sweet vernal grass. It is graceful and ornamental, and is used for edgings. Sow in spring, keeping the seed moist until it germinates. Height, 6 in.

Anthyllis Montana.—A fine hardy perennial for rock-work. It is of a procumbent habit, and has a woody nature. A vegetable soil is best suited for its growth, and its roots should be in contact with large stones. It may be increased by cuttings taken in spring and planted in the shade in leaf-mould. It flowers at midsummer. Height, 6 in.

Antirrhinum (*Snapdragon*).—Handsome hardy perennials; most effective in beds or borders. They stand remarkably well both drought and excessive rainfall, and succeed in any common soil. Seeds sown early in spring produce flowers the same year. For spring bedding, sow in July; keep the young plants in a cold frame, and plant out in March or April. Choice sorts may be plentifully increased by cuttings taken in July or August. Flower from July to September. Height, 1-1/2 ft. to 2 ft.

Ants in Gardens.—Contrary to general belief, ants do more good than harm to a garden; but as they are unsightly on flowers, it is advisable to tie a little wool round the stems of standard roses and other things upon which they congregate. They will not crawl over the wool. A little sulphur sprinkled over a plant will keep them from it; while wall-fruit, etc., may be kept free from them by surrounding it with a broad band of chalk. Should they become troublesome on account of their numbers a strong decoction of elder leaves poured into the nest will destroy them; or a more expeditious method of getting rid of them is to put gunpowder in their nests and fire it with a piece of touch-paper tied on to a long stick.

Aotus Gracillima.—A charming and graceful evergreen shrub, whose slender branches are covered with small pea-like flowers in May. It is most suitable for the greenhouse, and delights in a soil of loamy peat and sand. Cuttings of half-ripened wood planted under glass will take root. Height, 3 ft.

Aphides, or plant-lice, make their presence known by the plant assuming an unhealthy appearance, the leaves curling up, etc. Frequently swarms of ants (which feed upon the aphides) are found beneath the plants attacked. Syringe the plant all over repeatedly with gas-tar water, or with tobacco or lime-water. The lady-bird is their natural enemy.

Apios Tuberosa (*Glycine Apios*).—An American climbing plant which produces in the autumn bunches of purple flowers of an agreeable odour. The foliage is light and elegant. The plant is quite hardy. It enjoys a light soil and a good amount of sunshine. It may be increased by separating the tubers after the tops have died down, and planting them while they are fresh. Height, 12 ft.

Aponogeton.—See "Aquatics."

Apples.—Apples delight in a moist, cool climate. All apples will not succeed on the same soil, some preferring clay, while others grow best in sandy loam or in well-drained peat. For a deep, good soil and a sheltered situation the standard form grafted on the Crab-apple is generally

considered to be the most profitable. For shallow soils it is better to graft on to the Paradise stock, as its roots do not run down so low as the Crab. The ground, whether deep or shallow, should receive a good mulching in the autumn; that on the deep soil being dug in at the approach of spring, while that on the shallow soil should be removed in the spring to allow the ground to be lightly forked and sweetened, replacing the manure when the dry, hot weather sets in. The best time to perform the grafting is March, and it should be done on the whip-handle system, particulars of which will be found under "Grafting." Young trees may be planted in the autumn, as soon as the leaves have fallen. Budding is done in August, just in the same manner as roses. In spring head back to the bud; a vigorous shoot will then be produced, which can be trained as desired. Apples need very little pruning, it being merely necessary to remove branches growing in the wrong direction; but this should be done annually, while the branches are young—either at the end of July or in winter. If moss makes its appearance, scrape it off and wash the branches with hot lime. The following sorts may be specially recommended:—For heavy soils, Duchess of Oldenburgh, equally suitable for cooking or dessert; Warner's King, one of the best for mid-season; and King of the Pippins, a handsome and early dessert apple. For light, warm soils, Cox's Orange Pippin or Bess Pool. The Devonshire Quarrenden is a delicious apple, and will grow on any good soil. In orchards standards should stand 40 ft. apart each way, and dwarfs from 10 ft. to 15 ft.

Apricots.—Early in November is the most favourable time for planting Apricots. The soil—good, sound loam for preference—should be dug 3 ft. deep, and mixed with one-fourth its quantity of rotten leaves and one-fourth old plaster refuse. Place a substratum of bricks below each tree and tread the earth very firmly round the roots. They will not need any manure until they are fruiting, when a little may be applied in a weak liquid form, but a plentiful supply of water should be given during spring and summer months. The fan shape is undoubtedly the best way of training the branches, as it allows a ready means of tucking small yew branches between them to protect the buds from the cold. They may be grown on their own roots by planting the stone, but a quicker way to obtain fruit is to bud them on to vigorous seedling plum trees. This should be done in August, inserting the bud on the north or north-west side of the stem and as near the ground as possible. To obtain prime fruit, thin the fruit-buds out to a distance of 6 in. one from the other. In the spring any leaf-buds not required for permanent shoots can be pinched back to three or four leaves to form spurs. The Apricot is subject to a sort of paralysis, the branches dying off suddenly. The only remedy for this seems to be to prevent premature vegetation. The following are good sorts: Moor Park, Grosse Peche, Royal St. Ambroise, Kaisha, Powell's Late, and Oullin's Early. In plantations they should stand 20 ft. apart.

Aquatics.—All aquatics grow best in wicker-baskets filled with earth. Cover the surface of the earth with hay-bands twisted backwards and forwards and round the plant, and lace it down with tarred string, so as to keep the earth and plant from being washed out. The following make good plants:—White Water Lily (*Nymphaea Alba*) in deep water with muddy bottom; Yellow Water Lily (*Nuphar Lutea*); and Nuphar Advena, having yellow and red flowers; Hottonia Palustris, bearing flesh-coloured flowers, and Alismas, or Water Plantain, with white, and purple and white flowers. Water Forget-me-nots (*Myosotis Palustris*) flourish on the edges of ponds or rivers. The Water Hawthorn (*Aponogetou Distachyon*) does well in a warm, sheltered position, and may be grown in loam, plunged in a pan of water. Calla Ethiopica bears pretty white flowers, so also does the before-mentioned Aponogeton Distachyon. The Flowering Rush (*Butomus Umbellatus*), produces fine heads of pink flowers. The Water Violet merely needs to be laid on the surface of the water; the roots float. For shallow water Menyanthus Trifoliata (Three-leaved Buckbean) and Typha Latifolia (Broad-leaved Cat's Tail) are suitable. Weeping Willows grow readily from cuttings of ripened shoots, planted in moist soil in autumn. Spiraea does well in moist situations, near water. Aquatics are propagated by seed sown under water: many will allow of root-division. Tender Aquatics are removed in winter to warm-water tanks.

Aquilegia (Columbine).—Very ornamental and easily-grown hardy perennials. Sow seed in March in sandy soil, under glass, and transplant when strong enough. Common garden soil suits them. The roots may be divided in spring or autumn. The flowers are produced from May to July. Height, 2 ft.

Arabis Alpina (Rock Cress, or Snow in Summer).—Pure white hardy perennial, which is valuable for spring bedding. Not particular to soil, and easily raised from seed sown from March to June, placed under a frame, and transplanted in the autumn, or it may be propagated by slips, but more surely by rootlets taken after the plants have done flowering. Plant 3 in. apart. Height, 6 in.

Aralia (Fatsia Japonica).—Fine foliage plants, very suitable for a shady situation in a living-room. They may be raised from seed sown in autumn in a gentle heat, in well-drained pots of light sandy soil. Keep the mould moist, and when the plants are large enough to handle, pot them off singly in thumb pots, using rich, light, sandy soil. Do not pot too firmly. Keep them moist, but do not over water, especially in winter, and re-pot as the plants increase in size. Be careful not to let the sun shine on them at any time, as this would cause the leaves to lose their fresh colour.

Aralia Sieboldi (Fig Palm).—This shrub is an evergreen, and is generally given stove culture, though it proves quite hardy in the open, where its large deep-green leaves acquire a beauty surpassing those grown indoors. Slips of half-ripened wood taken at a joint in July may be struck in heat and for the first year grown on in the greenhouse. The young plants should be hardened off and planted out in May in a sunny situation. It should be grown in well-drained sandy loam. Is

increased also by off-sets, and blooms (if at all) in July. Height, 3 ft.

Aralia Sinensis. See "Dimorphanthus."

Araucaria Imbricata (*The Monkey Puzzle, or Chilian Pine*).—This strikingly handsome conifer is very suitable for a forecourt or for a single specimen on grass. Young plants are sometimes grown in the conservatory and in the borders of shrubberies, as well as in the centres of beds. It requires a good stiff sandy loam, which must be well drained, and plenty of room for root action should be allowed. Young plants are obtained from seed sown in good mellow soil. Water sparingly, especially during the winter.

Arbor Vitae. See "Thuya."

Arbutus (*Strawberry Tree*).—Elegant evergreen shrubs with dark foliage of great beauty during October and November, when they produce an abundance of pearly-white flowers, and the fruit of the previous year is ripe. *A. Unedo* is particularly charming. They flourish in the open in sandy loam. The dwarfs are increased by layers, the rest by seeds or by budding on each other.

Arctostaphylos.—These evergreen shrubs need the same treatment as *Arbutos*. *A. Uva-ursi*, or Creeping *Arbutos*, is a pretty prostrate evergreen, which flowers in May, and is only 3 in. high.

Arctotis.—A showy and interesting half-hardy annual. Raise the seed in a frame in March, and transplant in May. It succeeds best in a mixture of loam and peat. It flowers in June. Height, 1 ft.

Arctotis Grandis.—A very handsome, half-hardy annual producing large daisy-like flowers on long wiry stems, the upper part being white and the base yellow and lilac, while the reverse of the petals are of a light lilac. The seed should be sown early in spring on a slight hot-bed, and the plants potted off, when sufficiently strong, using a rich, light mould. They may be transferred to the border as soon as all fear of frost is over. Height, 2-1/2 ft.

Ardisia Japonica.—An evergreen shrub which delights in a mixture of loam and peat. Cuttings will strike if planted in sand under glass with a little bottom heat. It flowers in July. Height, 6 ft.

Arenaria Balearica (*Sand Wort*).—A hardy evergreen trailing plant of easy culture, provided it is favoured with a sandy soil. Its cushions of white flowers are produced in July, and it may be increased by seed or division. Height, 3 in. It is a beautiful plant for moist, shady rock-work.

Argemone.—Interesting hardy annuals, succeeding well in any common garden soil. Are increased by suckers or by seed sown in spring. Height, 6 in. to 3 ft.

Aristolochia Siphon (*Dutchman's Pipe*).—This hardy, deciduous climber grows best in peat and sandy loam with the addition of a little dung. It may be raised from cuttings placed in sand under glass. Height, 30 ft.

Armeria (*Thrift*).—Handsome hardy perennials for rock-work or pots. They require an open, rich, sandy soil. Bloom June to September. Height, 1-1/2 ft.

Arnebia.—Ornamental hardy annuals, closely allied to the *Anchusa*. The seeds are sown in the open in spring, and flowers are produced in July. Height, 2 ft. There is also a dwarf hardy perennial variety (*A. Echioides*) known as the Prophet's Flower, growing about 1 ft. high, and flowering early in summer. It needs no special treatment.

Artemisia Annuum.—Pretty hardy annuals, the silvery leaves of the plant being very effective on rock-work. Sow the seed in spring where it is to flower. Height, 6 ft.

Artemisia Arborea. See "Southernwood."

Artemisia Villarsii.—A hardy perennial whose graceful sprays of finely-cut silvery foliage are very useful for mixing with cut flowers. It may be grown from seed on any soil, and the roots bear dividing; flowers from June to August. Height, 2 ft.

Artichokes.—The Jerusalem variety will flourish in light sandy soil where few other things will grow. Plant the tubers in March, 6 in. deep and 12 in. apart in rows 3 ft. asunder, and raise and store them in November. The Globe variety is increased by off-sets taken in March. Set them in deeply manured ground in threes, at least 2 ft. apart and 4 ft. from row to row. Keep them well watered, and the ground between them loose. They bear best when two or three years old.

Arum Lilies.—In warm districts these beautiful plants may be grown in damp places out of doors, with a south aspect and a background of shrubs, though, not being thoroughly hardy, it is safer to grow them in pots. They may be raised from seed in boxes of leaf-mould and sand, covering them with glass, and keeping them well watered. As soon as they can be handled, transplant them into small pots, and pot on as they increase in size. They may also be increased by the small shoots that form round the base of the corms, using a compost of loam, leaf-mould, and sand, with a little crushed charcoal. In June transplant them in the open to ripen their corms, and in August put them carefully into 6-in. pots filled with the above-mentioned compost. They need at all times a good amount of moisture, especially at such times as they are removed from one soil to another. At the same time, it is necessary to procure good drainage. It is well to feed them every other day with weak liquid manure. A temperature of 55 degrees throughout the winter is quite sufficient. When grown in the open, the bulbs should be placed 3 in. below the soil, with a little silver sand beneath each, and not be disturbed oftener than once in four years.

Three or four may stand a foot apart. Stake neatly the flower stems. They flower from September to June.

Arums.—Remarkably handsome plants with fine foliage and curious inflorescence more or less enclosed in a hooded spathe, which is generally richly coloured and marked. They are hardy, easily grown in any soil (a good sandy one is preferable), and flower in July. Height, 1-1/2 ft. (*See also* "Calla.")

Asarum Europaeum.—This curious hardy perennial will grow in almost any soil, and may be increased by taking off portions of the root early in autumn, placing them in small pots till the beginning of spring, then planting them out. It produces its purple flowers in May. Height, 9 in.

Asclepias (*Swallow-Wort*).—Showy hardy perennials which require plenty of room to develop. They may be grown from seed sown in August or April, or can be increased by division of the root. A very light soil is needed, and plenty of sunshine. Flowers are produced in July. Height, 1 ft. to 2-1/2 ft.

Asparagus.—Sow in March or April, in rich light soil, allowing the plants to remain in the seed-beds until the following spring; then transplant into beds thoroughly prepared by trenching the ground 3 ft. deep, and mixing about a foot thick of well-rotted manure and a good proportion of broken bones and salt with the soil. The plants should stand 2 ft. apart. In dry weather water liberally with liquid manure, and fork in a good supply of manure every autumn. Give protection in winter. The plants should not be cut for use until they become strong and throw up fine grass, and cutting should not be continued late in the season. April is a good time for making new beds. The roots should be planted as soon as possible after they are lifted, as exposure to the air is very injurious to them.

Asparagus Plumosus Nanus is a greenhouse variety, bearing fern-like foliage. The seeds should be sown in slight heat early in spring.

Asparagus Sprengeri.—This delightful greenhouse climber is seen to best advantage when suspended in a hanging basket, but it also makes an attractive plant when grown on upright sticks, or on trellis-work. It is useful for cut purposes, lasting a long time in this state, and is fast taking the place of ferns, its light and elegant foliage making it a general favourite. It should be grown in rich, light mould, and may be propagated by seed or division. The roots should not be kept too wet, especially in cold weather.

Asperula (*Woodruff*).—*A. Azurea Setosa* is a pretty, light-blue hardy annual, which is usually sown in the open in autumn for early flowering; if sown in the spring it will bloom in June or July. *A. Odorata* is a hardy perennial, merely needing ordinary treatment. It is serviceable for perfuming clothes, etc. *Asperulas* thrive in a moist soil, and grow well under the shade of trees. Height, 1 ft.

Asphalte Paths.—Sift coarse gravel so as to remove the dusty portion, and mix it with boiling tar in the proportion of 25 gallons to each load. Spread it evenly, cover the surface with a layer of spar, shells, or coarse sand, and roll it in before the tar sets.

Asphodelus.—Bold hardy herbaceous plants; fine for borders; will grow in common soil, and flower between May and August. Increased by young plants taken from the roots. Height, 2-1/2 ft. to 4 ft.

Aspidistra.—This greenhouse herbaceous perennial is a drawing-room palm, and is interesting from the fact that it produces its flowers beneath the surface of the soil. It thrives in any fairly good mould, but to grow it to perfection it should be accommodated with three parts loam, one part leaf-mould, and one part sand. It will do in any position, but is best shaded from the midday sun. It may be increased by suckers, or by dividing the roots in April, May, or June. Supply the plant freely with water, especially when root-bound. When dusty, the leaves should be sponged with tepid milk and water—a teacup of the former to a gallon of the latter. This imparts a gloss to the leaves. A poor sandy soil is more suitable for the variegated kind, as this renders the variegation more constant. Height, 1 ft. to 2 ft.

Asters.—This splendid class of half-hardy annuals has been vastly improved by both French and German cultivators. Speaking generally, the flowers of the French section resemble the chrysanthemum, and those of the German the paeony. They all delight in a very rich, light soil, and need plenty of room from the commencement of their growth. The first sowing may be made in February or March, on a gentle hotbed, followed by others at about fourteen days' interval. The seeds are best sown in shallow drills and lightly covered with soil, then pressed down by a board. Prick out the seedlings 2 in. apart, and plant them out about the middle of May in a deeply-manured bed. If plant food be given it must be forked in lightly, as the Aster is very shallow-rooting, and it should be discontinued when the buds appear. For exhibition purposes remove the middle bud, mulch the ground with some good rotten soil from an old turf heap, and occasionally give a little manure water.

Astilbe.—Ornamental, hardy herbaceous perennials, with large handsome foliage, and dense plumes of flowers, requiring a peaty soil for their successful cultivation. They may be grown from seed sown in July or August, or may be increased by division. They flower at the end of July. The varieties vary in height, some growing as tall as 6 ft.

Astragalus Alpinus.—A hardy perennial bearing bluish-purple flowers. It will grow in any

decent soil, and can be propagated from seed sown in spring or autumn, or by division. Height, 6 ft.

Astragalus Hypoglottis.—A hardy deciduous trailing plant, producing purple flowers in July. Sow the seed early in spring on a moderate hotbed, and plant out into any garden soil. Height, 3 in.

Astragalus Lotoides.—This pretty little trailer is of the same height as *A. Hypoglottis*, and merely requires the same treatment. It flowers in August.

Astrantia.—This herbaceous plant is quite hardy, and will thrive in any good garden soil, producing its flowers in June and July. Seed may be sown either in autumn or spring. Height, 1-1/2 ft. to 2 ft.

Atragene Austriaca.—Handsome, hardy climbers, which may be grown in any garden soil. They flower in August, and are increased by layers or by cuttings under glass. Height, 8 ft.

Atriplex.—Straggling hardy annuals of very little beauty. Will grow in any soil if sown in spring, and only require ordinary attention. Flower in July. Height, 5 ft.

Aubergine.—See "Egg-Plant."

Aubrietia.—An early spring-blooming hardy perennial. Very ornamental either in the garden or on rock-work, the flowers lasting a long time. An open and dry situation suits it best. May be readily raised from seed, and increased by dividing the roots or by cuttings under a glass. Flowers in March and April. Height 6 in.

Aucuba.—Hardy evergreen shrubs, some having blotched leaves. They look well standing alone on grass plots, and are indifferent to soil or position. Cuttings may be struck in any garden soil under a hand-glass in August, or by layers in April or May. When the male and female varieties are planted together, the latter produce an abundance of large red berries, rendering the plant very showy and ornamental. They bloom in June. Height, 6 ft.

Auricula.—This is a species of primrose, and is sometimes called Bear's Ear from the shape of its leaves. It succeeds best in a mixture of loam and peat, or in four parts rotten loam, two parts rotten cow dung, and one part silver sand; delights in shade, and will not bear too much water. It makes an effective border to beds, and is readily propagated by off-sets taken early in autumn, or in February or March, by division of roots immediately after flowering, or from seed sown in March on gentle heat in firmly pressed light, rich soil, covered with a piece of glass and shaded from the sun till the plants are well up, when sun and air is needed. When large enough to handle, prick them out in a cold frame 6 in. apart, and keep them there through the winter. Take care to press the soil well round the roots of off-sets. October is a good time for making new borders. The half-hardy kinds require the protection of a house in winter. Height, 6 in.

Avena Sterilis.—A very singular hardy-annual ornamental grass, generally known as Animated Oats. Very useful in a green state for mixing with cut flowers. Sow in March or early in April. Height, 3 ft.

Azaleas (*Greenhouse*).—A good soil for these deciduous shrubs is made by mixing a fair quantity of silver sand with good fibrous peat. The plants must never be allowed to become too wet nor too dry, and must be shaded from excessive sunshine. After they have flowered remove the remains of the blooms, place the plants out of doors in the sun to ripen the wood, or in a temperature of 60 degrees or 65 degrees, and syringe them freely twice a day. If they require shifting, it must be done directly the flowers have fallen. Cuttings taken off close to the plant will root in sand under a glass placed in heat. *A. Indica* is a plant of great beauty. Stand it in the open air in summer, in a partially shaded position. In winter remove it to a cool part of the greenhouse. The hardy varieties should receive the same treatment as rhododendrons. Flowers in June. Height, 4 ft.

Azara Microphylla—This hardy evergreen shrub, with its fan-like branches and small dark, glossy leaves, is very ornamental and sweet-scented. It is increased by placing cuttings of ripened wood in sand under glass with a little heat. Height, 3 ft.

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Babianas.—Charming, sweet-scented flowers, suitable for either pot cultivation or the border. In August or September place five bulbs in a well-drained 5-in. pot, using rich, light, very sandy soil; cover them completely, and press the mould down gently. Water very sparingly until the roots are well formed; indeed, if the soil is moist when the bulbs are planted, no water will be needed till the new growth appears above ground. Stand the pots in ashes and cover them with 3 in. of cocoa-nut fibre. When the flower spikes are formed, give weak liquid manure twice a week till the flowers open. Keep them in a temperature of 55 degrees. When the foliage begins to die down gradually, lessen the amount of moisture given. The bulbs while dormant are best left in the pots. For cultivation in the open, choose a warm situation, make the soil light and sandy, adding a good proportion of well-rotted manure, and plant the bulbs 5 in. deep either in autumn or spring. Height, 6 in. to 9 in.

Bahia Lanata.—A hardy herbaceous plant of easy culture from seed sown in spring or autumn in any garden soil. It produces bright orange flowers from June to August. Height, 1 ft.

Bahia Trolliifolia.—This hardy herbaceous perennial will grow in any kind of soil. It flowers in August, and can be increased by division. Height, 1 ft.

Balsams.—The seeds of these tender annuals require to be sown in early spring in a hot-house or a warm frame having a temperature of 65 to 75 degrees. When 2 or 3 in. high, or large enough to handle, prick off singly into small pots, shade them till they are established, and re-pot as they advance in strength in a compost of loam, leaf-mould, sand, and old manure. Give them air when the weather is favourable. The last shift should be into 24-sized pots. Supply them with an abundance of liquid manure, admit as much air as possible, and syringe freely. They must never be allowed to get dry. Secure their stems firmly to sticks. They will flower in the open early in September. Height, 1-1/2 ft. to 2 ft.

Bambusa.—The dwarf-growing Bamboos *Fortunei variegata* and *Viridi-striata* make graceful edgings to borders or paths. The whole family like a rich, loamy, damp soil.

Baneberry.—*See "Actæa."*

Baptisia Australis.—This ornamental hardy perennial makes a good border plant, growing in any loamy soil, and producing its blue flowers in June and July. It can be multiplied by dividing the root. Height, 3 ft.

Barbarea.—*See "Rocket."*

Barberries.—Very ornamental hardy shrubs, bearing rich yellow flowers in spring and attractive fruit in the autumn. Most handsome when trained to a single stem and the head allowed to expand freely. They are not particular as to soil, but prefer a rather light one, and succeed best in a moist, shady situation. Cuttings or layers root freely in the open. They require very little attention, beyond occasionally cutting away some of the old branches to make room for new growth. Height, 1-1/2 ft. to 2 ft.

Bartonia aurea.—Beautiful hardy annuals, the flowers of which open at night and effuse a delightful odour. Sow the seed in autumn on a gentle hotbed; pot off, and protect in a greenhouse during the winter. Plant them out in the open in May, where they will flower in June. Height, 1-1/2 ft.

Bay, Sweet (*Laurus Nobilis*).—This half-hardy evergreen shrub likes a sheltered position. Protection from severe frosts is requisite, especially while it is young. It is more suitable as an isolated specimen plant than for the border. Increased by layers or by cuttings of the roots.

Beans, Broad.—A deep, strong loam is most suitable, but good crops can be obtained from any garden soil. The first sowing should be made in February or March, and in succession to May. A sowing of Beck's Green Gem or Dwarf Fan may even be made in November in rows 2 ft. apart. Other varieties should be planted in rows 3 ft. apart, sowing the seed 3 in. deep and at intervals of 6 in. When the plants have done flowering pinch off the tops, to ensure a better crop; and if the black fly has attacked them, take off the tops low enough down to remove the pests, and burn them at once. Seville Longpod and Aquadulce may be recommended for an early crop, and Johnson's Wonderful and Harlington Windsor for a main one.

Beans, French.—The soil should be dug over to a depth of at least 12 in. and liberally enriched with manure. In the open ground the first sowing may be made about the third week in April, another sowing early in May, and subsequent sowings for succession every two or three weeks until the end of July. Plant in rows 2 ft apart, and the seeds 6 to 9 in. apart in the rows. A sharp look-out ought to be kept for slugs, which are very partial to French Beans when pushing through the soil. For forcing, sow in pots under glass from December to March.

Beans, Runner.—These are not particular as to position or soil, but the best results are obtained by placing them in a deep rich mould where they can get a fair amount of sunlight. Sow, from the second week in May until the first week in July for succession, in rows 6 ft. apart, thinning the plants out to 1 ft. apart in the rows. Protect from slugs when the plants are coming through the ground, and support them with sticks immediately the growth begins to run. Scarlet Runners may be kept dwarf by pinching off the tops when the plants are about 1 ft. high, and nipping off the subsequent shoots when 6 in. long.

Beet.—Land that has been well manured for the previous crop is the best on which to obtain well-shaped roots of high quality. Sow in April and May in drills 18 in. apart, and thin out the plants to about 9 in. apart. Take up for use as wanted until November, when the whole crop should be taken up and stored in dry sand, and in a place where neither moisture nor frost can reach them. When storing them cut off the tails and some portion of the crowns, but be careful not to wound any part of the fleshy root.

Begonias.—A somewhat succulent genus of conservatory plants. They all require a very rich loamy soil containing a little sand; and heat, moisture, and shade are essential to their health. Cuttings 2 or 3 in. long will root readily in spring or summer. Stand the cuttings in the shade and do not over-water them; or they may be raised from seed sown in March in a hot-house or frame having a temperature of 65 degrees. Height, 1 ft. to 3 ft.

Tuberous Begonias should be planted in small pots placed in heat, early in spring, and at intervals of a fortnight for succession, using a compost of equal parts of fibrous loam, leaf-mould, and sand. Press the soil rather firmly so as to promote sturdy growth, and only just cover the top of the tuber. Water moderately till the plants begin to grow freely. Gradually harden off, and plant out the last week in May or early in June, or shift into larger pots for conservatory decoration. Cuttings may be taken in April. The plants may also be raised from seed sown in February or March in a temperature of 65 degrees. Before sowing mix the seed with silver sand, then sprinkle it evenly over a box or pan of moist, fine, light loam and silver sand; cover with a sheet of glass, and keep shaded. Transplant into small pots, and pot on from time to time as the plants increase in size. Plants so treated will flower in June or July. When the leaves of the old plants turn yellow keep the roots quite dry, afterwards turn them out of the pots and bury them in cocoa-nut fibre till January, when they must be re-potted.

Belladonna Lily.—See "Amaryllis."

Bellis Perennis.—See "Daisies."

Benthamia.—An ornamental half-hardy shrub. A profuse bloomer, the flowers of which are followed by edible strawberry-like fruit. Will succeed in any good garden against a south wall. Easily raised from seed or by layers. Flowers in August. Height, 3 ft.

Berberidopsis Corallina.—Distinct and very pretty evergreen climbing shrubs, which prove hardy in the south and west, but need protection in other places. They are not particular as to soil, and may be increased by cuttings.

Bergamot (*Monardia Didyma*).—This hardy perennial will grow almost anywhere, and may be increased by seed or by division of the root. It flowers in *July*. Height, 4 ft.

Beta Cicla.—A hardy annual which succeeds in any common soil. Its dark crimson and yellow flowers are borne in August. Height, 6 ft. It is used as spinach. In Germany the midrib of the leaf is boiled and eaten with gravy or melted butter.

Betonica.—See "Stachys."

Biennials.—These plants take two years to flower, and then they die away altogether. The seed of the hardy varieties is sown thinly in the open border any time between April and June, and the plants transferred in the autumn to the place where they are intended to bloom. Seed is also sown in August and September for flowering the following year. The half-hardy kinds may be sown in May or June. These require protection during winter, such as is afforded by a cold pit, frame, or greenhouse, or the covering of a mat or litter.

Bignonia (*Trumpet Flower*).—This is admirably suitable for a south wall, but it requires plenty of room. It is propagated by cuttings placed in sand, or by cuttings of the root. These should be planted out in the spring, or autumn will do if they are covered with a hand-glass.

Biota.—See "Thuya."

Bird Cherry.—See "Cerasus."

Blackberries.—To obtain good crops plant in a poor, dry soil on raised banks facing south. The bushes should be planted 6 ft. apart.

Bladder Nut.—See "Staphylea."

Blanket Flower.—See "Gaillardia."

Bleeding Heart.—See "Dielytra."

Bocconia Cordata.—Ornamental hardy perennials. They do best on a loamy soil, and may be increased by suckers taken from established plants in the summer and placed in rich soil; or by cuttings planted in sand, in a gentle heat under glass; also by seed sown during the autumn months. They appear to the greatest advantage when grown as solitary plants, away from other tall-growing flowers. The variety *B. Frutescens* has an exceedingly pretty foliage. August is the month in which they flower. Height, 6 ft.

Bog or Marsh Land.—By planting a few of the more distinct species adapted for such positions, bogs or marshes may be made interesting. The following plants are suitable:—*Arundo Donax*, *Bambusa Fortunei*, *Cypripedium Spectabile*, *Dondia Epipactis*, *Drosera Rotundifolia*, *Gunnera Scabra*, *Iris Kaempferi*, *Iris pseud-Acorus*, *Juncus Zebrinus*, *Myosotis Palustris*, *Osmunda Regalis*, *Parnassia Palustris*, *Pinguicula Vulgaris*, *Polygonum Sieboldi*, and *Sarracenia Purpurea*.

Boltonia Asteroides.—This is a hardy perennial which flowers in September. The same treatment that is given to Asters is suitable for this plant. Height, 3 ft.

Bomarea.—A useful greenhouse climber, the flowers of which are valuable for cutting, as they last a long time in water. It thrives best in a mixture of sand, peat, and loam.

Borago Laxiflora.—This very choice Boragewort is a trailing hardy biennial. It produces lovely pale pendent flowers from June to August, will grow in almost any soil, and can be increased by seed or division. Height, 1 ft.

Borecole, Kale, or Curled Greens.—Sow towards the end of March or early in April. Plant out as soon as ready in moderately rich soil in rows 3 ft. apart, and the plants 2 ft. apart in the rows. If the seed is sown thickly, the young plants must be pricked off into another bed until ready for planting, as strong, sturdy plants always produce the best results. They may succeed peas without any fresh manure.

Boronias.—Greenhouse evergreen shrubs. A single plant of *B. Megastigma* is sufficient to perfume a good-sized house. *B. Drummondi*, *Elatior*, *Heterophylla*, and *Serrulata* are all good plants. The pots should be filled with sandy peat and be well drained. They are propagated by cuttings taken at a joint and placed under glass. May is their flowering month. Height, 2 ft.

Bougainvillea.—A greenhouse evergreen climber, thriving best in a loamy soil. It flowers in June, and may be increased by cuttings. Height, 15 ft.

Bousingaultia Basselloides.—A rapidly growing climber, beautiful both in flower and foliage, the former of which is pure white, produced in July in elegant racemes from 6 in. to 8 in. long. It is nearly hardy; very suitable for a cool greenhouse. Any garden soil suits it. Height, 6 ft.

Bouvardias.—Favourite stove plants. They are propagated by pieces of the thick fleshy roots, about 2 in. long, inserted in light, rich, sandy soil, and plunged in a bottom-heat. Plant out in May in rich, light soil, cutting back all the over-vigorous growth, so as to form a well-balanced plant. At the approach of cold weather they may be taken up and potted off, using small pots to prevent them damping off. In a warm greenhouse they will flower all the winter.

Box Edging.—A deep loam suits the box best. Cuttings should be taken early in autumn. Dig a trench, and make the bottom firm and even. Set the young plants thinly and at regular intervals, leaving the tops 1 in. above the surface. Tread the soil firmly against them. Cover with 1 in. of gravel to prevent them growing too luxuriantly. The end of June is a good time for clipping. May be transplanted early in spring or late in autumn. (*See also* "Buxus.")

Brachycome (*Swan River Daisy*).—Beautiful little half-hardy annuals bearing cineraria-like flowers that open well in the border in summer. If well watered in autumn and removed to the greenhouse they will continue to bloom during early winter. Sow the seed as for ordinary half-hardy annuals in rich, light mould, covering them sparingly. Bloom in May. Height, 6 in.

Bravoa Geminiflora (*Twin Flower*).—This hardy bulbous plant bears lovely racemes of coral-coloured flowers in July. A rich loam suits it best. Height, 1 ft.

Briza (*Quaking Grass*).—There are several varieties of this ornamental hardy annual grass. *Briza Gracillis* is slender, and very pretty both in a green and dried state. *Briza Maxima* bears large and handsome panicles. Each variety should be sown in pots, or on a sheltered bed out of doors, early in spring. Height, 1 ft.

Broccoli.—Requires a heavy, deep, rich soil, and liquid manure during growth. For earliest crop sow thinly in beds early in March, giving a little protection if necessary. Successional sowings should be made to the end of June, to produce a constant supply till Cauliflowers are ready. Transplant, when large enough to handle, about 2 ft. from each other. Keep the ground free from weeds, and earth the plants up as they advance in growth. Sow Purple Sprouting Broccoli in May for late spring supplies.

Brodiaea Coccinea.—Handsome plants for rock-work or the border. On a dry, light, sandy soil, with plenty of sunshine, their gorgeous spikes of brilliant scarlet flowers are very attractive in May. The bulbs may be planted in November, and left undisturbed.

Broom.—Hardy shrubs thriving in almost any soil. Cuttings will strike if planted in sand under glass. (*See also* "Genista" and "Spartium.")

Broussonetia Papyrifera.—A very effective deciduous shrub, with large, curiously-cut leaves. It likes an open soil, and is propagated by cuttings. February is its blooming time. Height, 12 ft.

Browallia.—Very handsome half-hardy annuals; will grow readily from seed in any garden soil, but prefer a sandy one. They bloom in July. Height, 2 ft.

Brussels Sprouts.—For a first crop sow early in March, and in April for succession. Transplant as soon as ready into deeply-trenched, well-manured soil, about 2 ft. apart. Hoe well, and keep clear from weeds. For exhibition and early use sow in a greenhouse, or in a frame over a gentle hotbed, about the middle of February; prick off into a cold frame, gradually harden off, and plant out in May.

Bryanthus Erectus.—A hardy evergreen shrub, which will grow in any soil if the situation is shady and damp. It thrives without any sunshine, but will not endure the constant dropping of moisture upon its leaves from trees. Cuttings strike readily. April is its flowering time. Height, 1 ft.

Budding.—Budding consists in raising an eye or bud from one part of a bush or tree and transplanting it to another part, or to any other plant of the same species. The process is not only more simple and rapid than that of grafting, but many leading nurserymen contend that a better union is effected, without the risk of dead wood being left at the junction. It may be performed at any time from June to August, cloudy days being most suitable, as the buds unite better in wet weather. It is chiefly employed on young trees having a smooth and tender bark. Of the various

systems of budding, that known as the Shield is probably the most successful. Make a small horizontal cut in the bark of the stock, and also a vertical one about an inch long, thus forming an elongated T shape. Next select a branch of the current year's growth on which there is a well-formed leaf-bud. Pass a sharp knife 1/2 in. above the bud and the same distance below it, taking about a third of the wood with the bud. If in the process of detaching it the interior of the bud is torn away it is useless, and a fresh bud must be taken. Now hold the bud in the mouth, and with as little delay as possible raise the bark of the stock with a knife, insert the bud, and bind it on with raffia. When the bud begins to grow the binding must be loosened. To prevent the shoots being torn away by the wind a stake may be tied on to the stock, and the new shoot secured to it by means of raffia. Fruit trees are sometimes budded close to the soil on stocks 1-1/2 ft. in height. The buds are rubbed off the stock as soon as they appear, but the stock is not cut away until the following spring.

Buddlea.—Half-hardy, tall, deciduous greenhouse shrubs, delighting in a loamy soil mixed with peat. They may be grown out of doors during the summer, but need the protection of a house in winter.

Bugloss (*Anchusa*).—This showy plant, bearing large blue flowers in June, may be increased by division of the roots into as many plants as there are heads, from slips, or from seed sown in the open border in spring. It is popularly known as Ox-Tongue.

Bulbocodium Trigynum (*Colchicum Caucasium*).—A miniature hardy bulbous plant, which produces in February and March erect flowers about the size of snowdrops. Set the bulbs in sandy loam or leaf-mould, choosing a sunny situation. The bulbs may be divided every other year. Height, 2 in.

Bulbocodium Vernum (*Spring Saffron*).—This bulb produces early in spring, and preceding the foliage, a mass of rose-purple flowers close to the ground. It is perfectly hardy, and valuable for edgings or rock-work. Plant in autumn in light vegetable mould, and in a sheltered, well-drained position. It will not grow in stiff, clay soil. The bulbs may be divided every two years, after the tops have died down. This dwarf plant flowers from January to March. Height, 6 in.

Buphthalmum Salicifolium (*Deep Golden-yellow Marguerite*).—Showy and ornamental hardy perennials. They will grow in any good soil, and flower from May to September; may be increased by suckers. Height, 1-1/2 ft.

Burning Bush.—See "Dictamnus" and "Fraxinella."

Buxus (*Tree Box*).—A useful evergreen shrub which may be grown in any soil or situation. The *B. Japonica Aurea* is one of the best golden plants known for edgings to a walk. The closer it is clipped the brighter it becomes. Increased by suckers or layers.

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Cabbage.—Sow from February to April for an autumn supply, and in July and August for spring cutting. As soon as the plants have made four or five leaves, transplant into soil that has been liberally manured and trenched, or dug deeply, placing them 18 in. or 2 ft. apart, according to the kind grown. Keep the soil well broken up, and give a liberal supply of liquid manure while they are in a growing state. An open and sunny situation is necessary. Among the best varieties for spring sowing are Heartwell, Early Marrow, Little Pixie, Nonpareil, Sugarloaf, and Early Dwarf York. For autumn sowing, Ellam's Dwarf Early Spring, Defiance, and Enfield Market may be recommended.

Coleworts may be sown in June, July, and August for succession, placing them about a foot apart, and cutting before they heart.

Chou de Burghley is of great value for spring sowing, and will be found very useful during autumn and early in winter. This vegetable is sometimes called Cabbage Broccoli, on account of the miniature Broccoli which are formed among its inner leaves towards autumn.

Couve Tronchuda, known also as Braganza Marrow and Portugal Cabbage, should be sown in March, April, and May for succession.

Savoy Cabbage is sown in March or April, and given the same treatment as other Cabbage. Its flavour is much improved if the plants are mellowed by frost before being cut for use.

Red Dutch is used almost solely for pickling. Its cultivation is precisely the same as the white varieties.

Cacalia.—Hardy annuals, remarkable for their awkward-looking stems and discoloured leaves. They grow best in a mixture of sandy loam, brick rubbish, and decomposed dung, well reduced. They require very little water while growing, and the pots must be well drained. Cuttings, laid by for a few days to dry, strike readily. Flower in June. Height, 1-1/2 ft.

Cactus.—A sandy loam with brick rubbish and a little peat or rotten manure suits them. Echinopsis is a good plant for cool houses or windows. During the summer it should be syringed over-head with tepid water, and weak soot water should be given three times a week. It is

propagated by off-sets planted in sand, also by slicing off a portion from the top of the plant and placing it in light, rich, porous loam.

Caladiums.—Favourite hothouse foliage plants, generally grown in peat soil at a temperature of 70 degrees. They require plenty of light while growing, and to be kept moderately moist at the roots. As the leaves lose colour less water should be given, and during winter they must be kept almost dry. When fresh growth begins, shake them out of their pots and put them into fresh mould. In syringing the plants use nothing but the purest rainwater, but the less the leaves are wetted the better for the appearance of the plants. They may be increased by dividing the root stock into as many pieces as there are crowns. These should be planted in very rich, sandy soil, an inch or so below the surface.

Calamintha Grandiflora.—This hardy herbaceous plant has sweetly-fragrant foliage, and bears rose-coloured flowers from May to September. Any loamy soil suits it, and it is easily increased by suckers. Height, 1 ft.

Calampelis.—A species of half-hardy climbing plants of great merit. They are elegant when in flower, and will endure the open air. They should be trained to a south wall, or over a vase, or up a pillar. Any light loamy soil suits them, and they are easily increased by cuttings. Flower in July. Height, 10 ft. (*See also* "Eccremocarpus.")

Calandrinia.—Very pretty hardy annuals. They grow well in sunny places in a mixture of loam and peat, and may be raised from seed sown in the spring or by cuttings placed under hand-glasses. Bloom in July. Height, 6 in. to 1 ft.

Calceolaria.—Many of the varieties are suitable for the greenhouse only. They may be grown from seed, but as this is so small it should not be covered; and in watering them it is best to stand the seed-pans in water so that the moisture ascends, as watering from the top might wash the seed too deeply into the soil. July and August are the two best months for sowing. The half-shrubby kinds make fine bedding plants. They are easily reared from cuttings. These are best taken in October. Put them in light, sandy mould on a well-drained north border; press the earth round them, and cover with a hand-glass. In very frosty weather a mat should be laid over the glass. Pot them off in spring; give plenty of air, and plant them out at the beginning of June, or before, if weather permits.

Calendula (Marigolds).—Very showy hardy annuals. They merely require sowing in the open in autumn for an early display of bloom, or in spring for a later show, but the autumn sowing gives the more satisfaction. Flower during June and July. Height, 1 ft.

Californian Plants.—Great care should be taken not to allow the sun to strike on the collar of any of the plants from California, as they readily succumb if it does so.

Calla.—These showy plants, sometimes called Arum, are worth cultivating. They make handsome pot-plants, bearing fine white flowers in the spring. May be grown from seeds, or roots may be divided. They are quickly increased by off-sets from the root in August or September. Plant the off-sets from the fleshy roots singly in small, well-drained pots of sandy loam with one-fourth leaf-mould or well-rotted manure, and keep them in a very warm situation. Water them well while in growth, scantily after the leaves begin to wither, and afterwards give only enough moisture to keep them alive. Leave the plants in the light while the leaves die off, and then place them in a shed, in complete repose, for a month or so. Re-pot them in October or November, and give plenty of water. They may stand in saucers of water, but this must be changed daily. They flower from May to July. Height, 2 ft.

Callichroa.—A hardy annual which well deserves a place in the garden border, both on account of its dwarf and slender habit and also the colour of its flowers. It is satisfied with any ordinary soil. The seed is raised on a hotbed in March, or in the open in April, and it blooms in the autumn. Height, 1 ft.

Calliopsis.—*See* "Coreopsis."

Callirhoe (Digitata).—Hardy annuals demanding but little attention. The seed is sown in the open in March. Height, 1 ft.

Calochortus Luteus.—This very handsome hardy perennial thrives best in sandy peat with a little loam. It produces yellow flowers in July, and is propagated by offsets from the bulbs. Height, 1 ft.

Caltha.—Early-flowering, showy perennials, all thriving in a moist or boggy situation. *C. Leptosepala* is especially choice, its pure white flowers resembling a water-lily. They may be increased from seed, or by division. Height, 1 ft.

Calthus Palustris Flore-Pleno (Double Marsh Marigold).—This hardy herbaceous perennial is very useful for mixing with cut flowers. It will grow anywhere, but prefers a clayey soil and a boggy situation, and may be increased by dividing the roots in spring. A succession of flowers are borne from April to June. Height, 9 in.

Calycanthus Floridus (Allspice).—This shrub likes an open loamy soil; flowers in July, and is propagated by layers. Height, 6 ft.

Calystegia.—A perfectly hardy climbing convolvulus, and a beautiful plant for covering

arbours, etc., growing 20 ft. to 30 ft. in one season. It thrives in any loamy soil or situation; flowers from May to September, and may be increased by division of the roots.

Camassia Esculenta.—A handsome, hardy, bulbous plant, bearing clusters of beautiful blue flowers in July. It needs a sandy peat border under a north wall, and is increased by bulbs or seeds. Plant the bulbs early in October, 4 in. deep and 5 in. apart. Height, 1-1/3 ft.

Camellias.—The best soil for these beautiful greenhouse evergreens is a mixture of rough peat, plenty of sand, and a little turfy loam. The greenhouse should be kept rather close, at a temperature of 55 degrees to 60 degrees, while the plants are growing; but abundant syringing is necessary at all times. Induce a vigorous growth of wood, and let this be well matured by exposure to the sun and free ventilation. Old and straggling plants may be renovated by cutting them hard back as soon as they go out of flower, and placing them in a warm house where a moist atmosphere is maintained. This will induce them to break. Comparatively little water should be given for some time after they are cut back. When the state of the roots require the plants to be re-potted, remove as much of the old soil as possible without injuring them, and put them into the smallest sized pots into which they can be got, with fresh soil. This may be done after the last flower has fallen, or after the buds have fairly commenced to push. The plants may be placed out of doors at the beginning of June, and returned to the greenhouse in October. There are several varieties suitable for growing in the open. These should be provided with a soil, 2 ft. deep, composed of peat, leaf-mould, and cows' dung. The roots should always be kept moist and cool, and the plants disturbed as little as possible. A top dressing of fresh soil may be given each winter, and the plants protected from frost by binding straw round the stems.

Campanula.—A showy genus of plants, mostly hardy perennials, which need no special treatment. They are readily raised from seed, or division of roots. The less hardy kinds may be sown on a hotbed or in the greenhouse, and when large enough potted off. *Campanula Mayii* is a grand plant for hanging baskets, and also grows well trained up sticks in a pyramidal form. A rich, gritty soil suits them all. The tall-growing varieties make fine pot-plants. Flower in July. Height, 1 ft. to 5 ft.

Canary Creeper (*Tropaeolum Canariense*).—This is eminently suitable for trellis-work or for walls. Its elegant foliage and bright yellow flowers make it a general favourite. It may be raised from seed on a hotbed in spring, gradually hardened off, and planted out in May. Height, 10 ft.

Candytuft (*Iberis*).—Very pretty hardy annuals. Sow the seed in autumn in a light, rich soil, or in spring if a less prolonged flowering season will give satisfaction. Bloom in May or June. Height, 1 ft.

Canna (*Indian Shot or Hemp*).—For pot-plants on terraces, gravel walks, and such like places, few things can equal and none surpass Cannas. They are half-hardy perennials, and may be increased from seed or by dividing the roots late in autumn, allowing them first to partially dry. File the tough skin off one end of the seed, and steep it in hot water for a few hours before it is sown, then stand it in a hot place till it has germinated. Harden off and plant out, or shift into larger pots in June, using a rich, light soil. Lift and store the roots in autumn in the same way as Dahlias. Different kinds flower at various seasons, so that a succession of bloom may be had throughout the year. Height, 2 ft. to 10 ft.

Cannabis Gigantea (*Giant Hemp*).—This half-hardy Hemp is grown for its ornamental foliage, and is treated as above described. Height, 6 ft.

Canterbury Bells.—Showy hardy biennials, which may be raised from seed sown in the spring. Transplant in the autumn to the border where they are intended to flower. The seed may also be sown in a sheltered position in August or September. Flower in July. Height, 2 ft.

Cape Primroses.—See "Streptocarpus."

Caprifolium.—See "Honeysuckle."

Capsicum.—Sow early in March in well-drained pots of rich, light, free mould; cover the seed with 1/2 in. of soil, and keep it constantly moist at a temperature of 65 degrees. When strong enough to handle put two or three plants in a 5-in. pot, and replace them in warmth. Keep them rather close till established, then shift them into 7-in. pots. When established remove them to a cold frame and harden off. Plant out at the end of May in a warm situation. Keep them well supplied with water in dry weather and syringe the leaves. By stopping the shoots they become nice, bushy shrubs. Flower in July. Height, 1-1/2 ft.

Cardamine Pratensis (*Cuckoo Flower, or Milkmaid*).—This hardy perennial thrives in a moist, shady situation. It produces its purple flowers from May to August, and is easily propagated by seeds or division. Height, 1-1/2 ft.

Cardamine Trifolia.—A hardy herbaceous plant; will grow in any soil, flowers in May, and is easily raised from seed. Height, 1-1/2 ft.

Cardoons.—Sow two or three seeds together in clumps 1 ft. apart, in trenches prepared as for Celery, in April or May. When 6 in. high pull up the superfluous plants, leaving the strongest one

in each case. When they have attained the height of 1-1/2 ft, tie the leaves lightly to a stake and earth-up the stem. Keep them well supplied with water, adding a little guano. They will be ready for use in September. Another sowing may be made in June for a spring crop.

Carduus (*Milk Thistle*).—Coarse hardy annuals; somewhat ornamental, but are hardly more than weeds. They grow freely from seed, and flower from June to August. Height, 2 ft. to 4 ft.

Carex Japonica.—This is a graceful and very beautiful variegated grass, striped green, silver, and gold, and makes a fine decoration for the table. It will grow in any moderately moist soil, and bears dividing. Sow in spring.

Carlina.—Ornamental, thistle-like, hardy perennials, which will grow in any ordinary soil. Flowers are borne from June to September. Seed may be sown as soon as it is ripe. Height, 9 in. to 2 ft.

Carnations.—These are divided into three classes, but they are all said originally to come from the clove: (1) Flakes, which are striped with one colour and white; (2) Bizarres, those streaked with two colours and white; (3) Picotees, which have each petal margined with colour on a white or yellow ground, or dotted with small spots. For pot culture, about the end of March put two roots in an 11-in. pot, filled with light, turfy loam, well drained (too much moisture being injurious), pressing the earth firmly round the roots. Stand them on a bed of ashes in a sheltered position, and when the flower-stems appear, stake and tie up carefully. As the buds swell thin out the weakly ones. To prevent them bursting unevenly put an india-rubber ring round the bud, or tie it with raffia. They will flourish in the open borders even in towns if planted in light loam, and may be propagated by *layers* at the end of July or beginning of August. Choose for this purpose fine outside shoots, not those which have borne flowers. Cut off all the lower leaves, leaving half a dozen near the top untouched. Make incisions on the under sides of the layers, just below the third joint. Peg down, and cover the stems with equal quantities of leaf-mould and light loam. Do not water them till the following day. The young plants may be separated and potted off as soon as they have taken root—say, the end of August. They may also be increased by *pipings*. Fill the pots nearly to the top with light, rich mould and fill up with silver sand. Break off the pipings at the third joint, then in each piping cut a little upward slit, plant them pretty thickly in the sand, and place the pot on a gentle hotbed, or on a bed of sifted coal ashes. Put on the sashes, and keep the plants shaded from the sun till they have taken root, then harden off gradually, and place each of the young plants separately in a small pot. Carnations may also be grown from seed sown in spring. When the seedlings have made six or eight leaves, prick them out into pots or beds. They will flower the following year. The beds must be well drained, as stagnant wet is very injurious to them.

Carnation Margaritae.—May be sown in heat during February or March, pricked out when strong enough, and planted in the open in May or June.

Carpenteria Californica.—The white flowers of this evergreen shrub, which make their appearance in July, are delicately fragrant. The plant is most suitable for a cool greenhouse, but does well in the open, in warm, well-drained situations. When grown in pots the mould should consist of two parts turfy loam, one part peat, and a little sharp sand. It may be increased by seeds or by cuttings planted in sandy soil, with a medium bottom heat.

Carrots.—To grow them to perfection carrots require a deep, rich, sandy soil, which has been thoroughly trenched and manured the previous autumn. For the main crop the seed should be sown in March, either broadcast or in rows 18 in. apart. A calm day must be chosen for sowing, as the seed is very light and liable to be blown about. It has also a tendency to hang together, to obviate which it is generally rubbed into some light soil or sand previously to being scattered. Thin out to a distance of from 4 to 7 in., according to the kind grown. For early use the French Horn may be sown on a hotbed in January and February. Keep the surface of the ground well open with the hoe.

Cassia Corymbosa.—This stove shrub is an evergreen. It should be grown in a mixture of loam and peat, and may be increased by cuttings planted in sand under glass in a little heat. It flowers in July. Height, 3 ft.

Castor Oil Plants.—See "*Ricinus*."

Catananche.—Pretty hardy biennials that will grow in almost any soil, and may be increased by seed or division. They bloom in August. Height, 2½ ft. to 3 ft.

Catchfly.—See "*Silene*."

Cathcartia Villosa.—A beautiful Himalayan poppy, possessing a rich, soft, hairy foliage and yellow flowers, borne in succession from June to September. Any light, rich soil suits it, but it requires a sheltered position. It is propagated by seeds sown in spring. Height, 1½ ft.

Cauliflowers.—Sow thinly in pans or shallow boxes early in February and March on a gentle bottom-heat. Make a larger and the main sowing in the open ground in March, April, and May for autumn cutting. A sowing should also be made in August for spring and summer use. These latter should be pricked into a frame or under a hand-glass during the winter, and in spring planted out so as to stand 30 in. apart. When the heads appear break some of the large leaves down over them to afford protection, and during the whole of their growth pour plenty of water round the stems in dry weather. They require a thoroughly rich and well-tilled soil to grow them to

perfection.

Ceanothus.—A genus of handsome and ornamental evergreen shrubs. They are free-flowering and suitable for the conservatory or outdoor decoration if placed in warm situations. They flourish best in peat and loam, and are increased by cuttings planted in sand and subjected to gentle heat. Height, 3 ft. to 6 ft.

Cedronella.—Ornamental hardy perennials; will grow in any soil, but require a little protection in the winter. They produce their deep purple flowers in June. Height, 3 ft.

Cedrus Deodora.—A beautiful and graceful conifer, its arched branches being thickly set with long grey-coloured or whitish-green leaves. In its young stage it makes an exquisite specimen for the lawn. It is the best of all the Cedars for such a purpose. The usual method of propagating it is by grafting it on to the common Larch.

Celery.—Sow in February or early in March on a mild hotbed for the earliest crop. Prick the seedlings off into shallow boxes as soon as they are large enough to handle, and keep them rather close and warm until they are established. Towards the end of March prick them out in rows in a frame, setting them 6 in. apart each way, and early in May transfer to rather shallow trenches, protecting them from night frosts. For main and late crops sow in a cold frame in April and plant out in June or July, 9 in. apart, in trenches 3 ft. distant from each other, 9 in. wide, and 18 in. deep, pressing the soil firmly round the roots. Earthing up should be delayed until the plants are nearly full grown, and should be done gradually; but let the whole be completed before the autumn is far advanced. When preparing the trench plenty of manure should be dug into the soil. Water liberally until earthed up to ensure crisp, solid hearts, and an occasional application of liquid manure will benefit the plants. During winter protect from frost with straw, or other suitable material.

Celosia (*Feathered Cockscomb*).—Sow the seed in early spring in a warm frame; prick off singly into small pots, and re-pot as they advance in strength in a compost of loam, leaf-mould, old manure, and sand. Their final shift should be into 24-sized pots. Give them abundance of liquid manure, never allowing them to become dry, and syringe freely. These half-hardy annuals, rising to the height of 3 ft. and bearing fine spikes of flowers in July and August, make fine pot-plants for table decoration. They may be planted in the open, in June, choosing a warm, sheltered situation and rich, loamy soil.

Centaurea.—The hardy annual and biennial kinds merely require to be sown in the open in the autumn. The half-hardy ones must be sown on a slight hotbed, where they should remain till strong enough to be planted in the border. Cuttings of the perennials should be inserted singly in 3-in. pots filled with sandy loam, placed in a shady, cool frame till established, and then watered very carefully. The different varieties vary from 6 in. to 2 ft. in height, and flower from June to August.

Centaureidium Drummondii.—A blue hardy annual which may be sown in the open in spring.

Centranthus.—Ornamental hardy annuals. Sow in the open border in March in any good, well-drained soil. They flower in June. Height, 1-1/2 ft.

Cephalaria (*Yellow Scabious*).—Strong-growing hardy perennials, suitable for backs of borders. They succeed in any garden soil, and are propagated by seed or division of root. Height, 3 ft. to 5-1/2 ft.

Cephalotaxus (*Podocarpus Koraiana*).—Handsome conifers of the Yew type. These shrubs are quite hardy, and in favoured localities will produce berries. They succeed best in a damp, shady spot, and may be increased by cuttings planted in heavy loam.

Cerastium Biebersteini.—A hardy trailing perennial which will grow in any light soil, and may be increased by suckers. It flowers in June. Height, 6 in.

Cerasus Padus (*Bird Cherry*).—An ornamental tree; useful in the shrubbery in its earlier stages, as it will grow in any soil. It may be increased by seed, budding, or grafting; flowers in April. Height, 35 ft.

Cerinth.—Hardy annuals, suitable for any ordinary soil, and needing merely ordinary treatment. A grand plant for bees. Height, 1 ft.

Cestrum.—Charming conservatory plants, flowering early in spring. Cuttings may be taken in autumn, placed in small pots in a light compost of peat and sand, and given a little bottom-heat. The young plants may be topped to form bushy ones. Re-pot before the roots have filled the small pots, using two parts loam, one part peat, and one part sharp sand. *C. Parqui* is suitable for the open if planted in a sheltered position.

Chamaepeuce.—Half-hardy perennial Thistle plants of little merit. Any soil suits them, and

they may be increased by seed or division. Flower in June. Height, 2 ft. to 3 ft.

Chamaerops (*Chusan Palm*).—Fine greenhouse plants, delighting in a rich, loamy soil. Height, 10 ft.

Cheiranthus.—See "Wallflower."

Chelidonium.—This hardy perennial will flourish in any garden soil; flowers in May, and may be increased by division. Height, 2 ft.

Chelone.—Charming hardy herbaceous plants. Succeed well in a mixture of peat and loam or any rich soil. Increased by division of root, or by seed treated like other hardy perennials. They are very effective for the centre of beds, or in groups. Bloom in July. Height, 3 ft.

Cherries.—A light, rich soil is the one that Cherries succeed in best, though they will grow in any fairly good dry ground. The position should be open, but at the same time sheltered, as the blossoms are liable to be cut off by spring frosts. The planting may be done at any time during November and the beginning of March, when the ground is in a workable condition. Cherries are often worked upon the Mahaleb stock. As they have a tendency to gumming and canker, the knife should be used as little as possible, but where pruning is necessary, let it be done in the summer. If gumming occurs, cut away the diseased parts and apply Stockholm tar to the wounds. Aphides or black-fly may be destroyed by tobacco dust and syringing well with an infusion of soft soap. Morello succeeds on a north wall. Bigarreau, Waterloo, Black Eagle, Black Tartarian, May Duke, White Heart, and Kentish are all good sorts. Bush trees should stand 10 ft. apart, standards 30 ft.

Cherry (*Cornelian*).—See "Cornus Mas."

Cherry Pie.—See "Heliotrope."

Chervil.—For summer use sow in March, and for winter requirements in July and August, in shallow drills 6 or 8 in. apart. Cut for use when 3 or 4 in. high. The tender tops and leaves are used in soups and stews, to which they impart a warm, aromatic flavour. They likewise give piquancy to mixed salads.

Chestnuts.—To raise trees from seed sow the nuts in November, about 2 in. deep. When two years old they may be transplanted to their permanent site. The only pruning they require is to cut away any branches which would prevent the tree forming a well-balanced head.

Chicory.—Sow in May or June in drills of rich soil, and thin out to 6 in. apart. In autumn lift the roots and store them in dry sand. To force leaves for salads, plant the roots closely together in boxes or large pots, with the tops only exposed, using ordinary soil; place in a temperature of 55 degrees, and keep in the dark. Long blanched leaves will soon appear, ready for use.

Chilli.—Same treatment as Capsicum.

Chimonanthus Fragrans (*Japan Allspice*).—This delightfully fragrant hardy shrub, known as the Winter Flower, produces its blooms in January before the leaves appear. Should sharp frost set in, protection ought to be given to the flowers. The plant requires a fairly good soil, and is most at home when trained against a wall. It is generally propagated by means of layers. Height, 6 ft.

Chinese Sacred Narcissus (*Oriental Lily, Joss Flower, or Flower of the Gods, the Chinese emblem of good luck*).—This is a very beautiful variety of the Polyanthus Narcissus, and is grown to bloom at the advent of the Chinese New Year. It is very fragrant and free blooming, and is generally flowered in an ornamental bowl of water, the bulb being surrounded with pretty pebbles to keep it well balanced. It may also be grown in a pot of mould, kept in a dark place for about ten days, then placed in a sunny position and supplied with water. It flowers from six to eight weeks after planting.

Chionanthus Virginica (*Fringe Tree*).—A curious shrub which is best raised from seed. It succeeds in any soil, and bears white flowers in July. It will grow to the height of 20 ft. or more.

Chionodoxa Luciliae (*Glory of the Snow*).—A pretty hardy spring-flowering bulbous plant. The blossoms, from five to six in number, are produced on gracefully arched stems, 4 to 8 in. high, and are nearly 1 in. across, star-like in form, and of a lovely blue tint on the margin, gradually merging into pure white in the centre. Fine for growing in clumps. Plant the bulbs in autumn in equal parts of loam, peat, and sand. It succeeds fairly well in the open, but reaches perfection in a cold frame, where the flowers will be produced in March. Height, 6 in.

Choisya Ternata (*Mexican Orange*).—A pretty evergreen wall plant, bearing sweet-scented white flowers in July. The bush is round, and extremely ornamental when grown in the shrubbery. It delights in a mixture of peat and loam, and is propagated by cuttings placed in sand under a handglass, or, better still, by layers of the lower branches in March, detaching them in the autumn. While young it makes a fine pot-plant. Height, 6 ft.

Chorozemas.—These Australian plants delight in rich turfy peat mixed with fibrous loam, leaf-mould, and coarse sand. When freshly potted they should be given a warm part of the greenhouse and watered cautiously till they are in full growth, when a little clear liquid manure may be given twice a week. May be shifted at any time except from October to Christmas. Propagated by cuttings about 1 or 2 in. long of half-ripened young wood taken in July or August, and inserted in

sand under a glass. When the pots are full of roots shift the plants into larger sizes. They bloom nearly all the year round, especially in the winter and spring. The plants have rather a rambling habit, and are usually trained over balloon or pyramidal trellises; but this trouble can be spared by cutting them back freely and employing a few light sticks to keep them within bounds.

Christmas Rose.—See "Helleborus."

Chrysanthemum.—The Chrysanthemum will grow in any good mould, a naturally good soil being often preferable to an artificial one. Where the ground is not in good condition a compost may be made of one-half rich loam and one-fourth each of well-rotted manure and leaf-mould, with sufficient sand to keep it porous. Cuttings taken in November or December make the finest exhibition plants. Pot them singly in 2-in. or 3-in. pots; stand them on coal ashes in a cold frame, and re-pot them in March or April in 6-in. pots, making the soil moderately firm. When they attain the height of 6 in. pinch off the extreme point of the shoot, which will induce the growth of side-shoots. Shift the plants from time to time into larger pots, until at the end of May they receive their final shift into 10-in. pots, after which they must not on any account be stopped. In June they may be placed in a sheltered and partially shaded part of the open border, standing the pots on pieces of slate to prevent the ingress of worms. Syringe the leaves each day and give the roots a liberal supply of liquid manure. When the flower-buds begin to show colour, discontinue the manure water. Thin out the flower-buds, leaving two or three only of the strongest on each stem. At the end of September they must be removed to a cool greenhouse to flower. Where there is no greenhouse a canvas structure may be erected to protect them from the cold. Good plants for the border may be raised from cuttings in March or April. These should be kept close in a frame until rooted, then gradually hardened off, and planted in rich soil. Syringing with soot-water twice a week until the flower-buds appear will darken the leaves and deepen the colour of the flowers.

Chrysogonum Virginianum.—A free-flowering, hardy, herbaceous plant, best grown in loam and peat. Its deep-golden, star-shaped flowers are produced from June to September. Cuttings of ripened wood planted in sand and subjected to moist heat will strike. It may also be increased by dividing the root. Height, 1 ft.

Cichorium Intybus.—This is a hardy herbaceous plant producing blue flowers in July. It will grow in any soil and needs no special treatment. Seeds may be sown either in autumn or spring. Height, 2 ft.

Cimicifuga.—These hardy herbaceous plants will flourish in any good garden soil and are easily raised from seed, or they may be increased by dividing the roots. Various species produce their flowers from May to September. Height, 1 ft. to 3 ft.

Cinerarias.—These grow well in a soil composed of equal parts of rich loam, leaf-mould, and thoroughly rotted horse-dung, liberally mixed with sharp sand. They are increased by seed, cuttings, or off-sets. The seed should be sown as soon as it is ripe and covered with the lightest layer of the finest soil; or it may be sown during March on a slight hotbed. Keep the young plants shaded from the sun, and as soon as they can be handled put them into 3-in. pots. Return them to the hotbed and keep them shaded till established, then gradually harden them off, and towards the end of May they may be planted in the open, choosing a sheltered situation. The first flower-stem should be cut out close to the bottom, but the side-shoots may either be reduced or not. At the end of September place them in a cool frame to bloom during the following month. They require to be well supplied with manure water. As soon as the plants have done flowering, cut them down, and keep them well supplied with water, and in March shake them out of their pots and plant each sucker separately. Other sowings may be made in April and May. To obtain cuttings, when the plants have flowered cut them down, and when they have again grown large enough take the cuttings and plant them in pots filled with the above compost, putting a layer of silver sand on the top. When the cuttings have made shoots 3 in. long, pinch off the tops to make the plants grow bushy. Re-pot when the roots are well grown, but before they get matted, and give occasionally a little liquid manure. Keep a good look-out for green fly, and as soon as this nuisance appears fumigate the plants with tobacco paper. An excess of fumigation is injurious. Those that have bloomed in pots may be planted in the north border of the garden in July, where they may shed their seed, from which early plants will be produced. They may also be increased by off-sets. If the old plants are cut down and kept well watered they will throw up suckers, which may be separated and potted off into thumb pots, transplanting into larger ones when required. They must *always* be kept shaded from the sun. A cool frame suits them in summer, and being nearly hardy, should never be subjected to a forcing temperature, sufficient heat to keep away frost and damp being all that is necessary.

Cinnamon Plant.—This is a stove or greenhouse plant, and requires a loam and peat soil. Cuttings of the ripe wood strike freely.

Cissus Orientalis.—Useful climbing plants which delight in a light, rich soil. They are increased by cuttings planted under glass and kept in a gentle, moist heat.

Cistus (Rock Rose).—A compost of loam and peat suits these beautiful evergreen shrubs. They may be increased by layers, ripe cuttings covered with a hand-glass, or seed. Though the plants are pretty hardy it is advisable to afford them protection during severe frosts. June is their flowering month. Height, 3 ft. to 6 ft.

Citrus Japonica.—A greenhouse evergreen tree, requiring a rich loamy soil. Very little water should be given it while in a growing state. It is generally budded on an orange or lemon tree and

plunged in a bottom-heat. June is its flowering season. Height, 5 ft.

Cladanthus.—The annuals may be sown in the open in April to flower in July. The greenhouse evergreens may be propagated by cuttings under glass. These produce flowers in June.

Clarkia.—These hardy annuals make a pretty display in the borders during summer. Seed ripens plentifully, and merely requires sowing in the open in March, or in September if protected in winter. The bloom lasts from June to September. Height, 18 in.

Claytonia Sibirica.—A hardy herbaceous plant which yields light yellow flowers in June. It is not particular as to soil, and may be raised from seed sown either in autumn or spring. It stands division of the root. Height, 4 ft.

Clematis (*Virgin's Bower*).—These plants like a dry situation. They will grow in smoky districts, and may be increased by cuttings of firm side-shoots under a glass in summer or by layers in September. With the protection of a greenhouse they come into flower early in spring. They are the most beautiful of all flowering hardy climbers. The stove and greenhouse varieties are best planted in loam and peat, though they will thrive in any light soil. Any good garden soil suits the hardy kinds. The herbaceous varieties are increased by dividing the roots early in spring. They bloom at various periods. After they have ceased to flower, the Jackmanni and Viticella sections should be cut down to within 9 or 12 in. of the ground. The Patens and Florida do not require pruning; those of the Lanuginosa should be cut back moderately, but not too close. A good dressing of leaf-mould and manure should be dug in about November. Heights vary from 2 ft. to 20 ft. (*See also* "Traveller's Joy.")

Cleome.—The species of this genus are very pretty and free flowering, some being half-hardy climbers notable for their foliage. They like a rich, light soil. Cuttings of the stove kinds root freely under a glass. Some of the annual species require to be sown in a hotbed frame or in a hot-house, then potted off and placed with tender annuals. The hardier ones may be sown on a hotbed, and afterwards planted out in a sheltered position. They flower in May, June, and July. Heights vary from 6 in. to 8 ft.

Clethra Alnifolia.—This hardy deciduous shrub bears in September deliciously scented pure white flowers on the side-shoots of the previous year's growth. It needs a light soil and a dry, sunny situation. It may be propagated by cuttings placed under glass in sandy loam, or by suckers taken when the leaves have fallen, but is more generally increased by layers. Height, 3 ft.

Clianthus.—A genus of very elegant, free-flowering, evergreen greenhouse shrubs. They flourish in the border of the conservatory (or against a south wall if protected from cold) in an equal mixture of loam, peat, and sand. Cuttings root freely in the same soil under glass. Seed sown early in spring produce flowers the first year, in May. Height, 3 ft. to 4 ft.

Clintonia.—Very pretty half-hardy annuals; useful for beds, edging, pots, or rock-work. They produce an abundance of Lobelia-like flowers in August. Sow the seed in the open in spring. Height, 6 in.

Clitoria.—A greenhouse climbing or trailing plant, which thrives in a mixture of loam, peat, and sand. Cuttings will strike in heat, but it is more readily grown from seed.

Clivias (*Caffre Lilies*).—Most beautiful evergreen plants for the greenhouse. The soil most suitable for them is a compost of leaf-mould, loam, and sand. Give a liberal supply of water when in full growth, but from September to February keep them only moderately moist. Shade from strong sunshine, and keep the temperature at from 60 to 70 degrees. They will not bear much disturbance. Seed may be sown in bottom-heat early in spring, or they may be increased by suckers.

Cobæa Scandens.—This rapid climber is well adapted for the conservatory, but it will thrive in the open air if the root is protected during the winter. If planted against a rough wall its tendrils will catch in the crevices and support it without any assistance. It requires plenty of room and a rather poor soil, otherwise it runs to leaf instead of to bloom. The tops of the shoots should be constantly pinched off, to induce thickness of growth. Cuttings of firm side-shoots taken in summer will root under glass in a little moist heat; but it is best raised from seed, sown sideways, in a hotbed in March. Its blue and purple flowers are produced in August. Height, 10 ft. to 20 ft.

Cob Nuts.—*See* "Filberts."

Cockscomb.—These tender annuals should be sown on a moderate hotbed in March or April, in pans of leaf-mould and sand, covering with 1/4 in. of soil. When a couple of inches high place them in small pots, replace them on the hotbed, and give shade till they have taken fresh root. When the weather is favourable let them have a moderate amount of fresh air. Afterwards shift them into larger pots, and when the combs are full grown place them in the greenhouse, taking care not to allow any damp to lodge on them, at the same time supplying them well with water and all the air possible. Height, 9 in. (*See also* "Celosia.")

Codonopsis.—These hardy perennials are best grown in sandy peat and loam. They are easily raised from seed or cuttings, and produce their flowers in July and August. Height, 1 ft.

Coix Lachryma (*Job's Tears*).—A half-hardy, annual, ornamental grass bearing clusters of beautiful pearl-like seeds. Sow in a warm spot in April, barely covering the seed with fine soil,

and keep the surface of the ground moist till germination is ensured. Height, 1-1/2 ft.

Colchicum (*Autumn-Flowering Crocus*).—Plant the bulbs in February in light, loamy soil, placing them 2 in. deep and 3 in. apart. They are readily increased by off-sets from the bulb. September is their flowering season. Height, 3 in. (*See also* "Bulbocodium.")

Coleus.—Tender perennial shrubs of some merit, requiring the protection of a greenhouse. Keep the plants root-bound and near the glass, with a good supply of heat and moisture. They succeed best in a mixture of loam and peat. Cuttings of shoots 3 in. long planted in sand, covered with a glass, and plunged in heat 60 to 70 degrees, will strike. Pot off singly in loam and sand. Bloom in June or July. Height, 2 ft. to 3 ft.

Colletia.—Ornamental evergreen shrubs. A mixture of peat and loam, with a sheltered position, is their delight. Cuttings will strike in sand if covered with glass. They produce their flowers in July. Height, 2 ft. to 3 ft.

Collinsia.—Most elegant hardy annuals, doing well in any garden soil. The seed is sown in autumn for early flowering, and in spring for a later display. Bloom May to August. Height, 1 ft.

Collomia.—Hardy annuals, possessing little beauty. Treat as *Collinsia*. Flower in July. Height, 1 ft. to 2 ft.

Colt's-foot.—This hardy perennial flowers before the leaves appear. It grows best in a moist, clayey soil, and may be increased by pieces of the running root.

Columbine.—*See* "Aquilegia."

Colutea Arborescens (*Bladder Senna*).—A shrub with Acacia-like leaves and producing yellow Pea-shaped flowers in July, followed with bladder-shaped seed vessels. It will grow in any soil, and may be raised either from seed or cuttings taken in autumn. Height, 10 ft.

Commelina Sellowina (*Blue Spider Wort, or Day Flower*).—A pretty greenhouse climber, bearing cobalt-blue flowers. It should occupy a sunny position, and be watered freely from March to September, after which very little should be given.

Commelina Tuberosa.—Perfectly hardy plants, bearing in June blue or white flowers the size of a shilling. The bulbs may be planted in spring in any garden soil; the plants are increased by off-sets. Height, 1-1/2 ft.

Compost Heap.—Get a heap of dead leaves and press and jam them down as closely as possible. Then take as much manure, in appearance, as you have dead leaves, and for each cartload have two bushels of unslaked quicklime and some earth. Now spread upon the ground, in some out-of-the-way corner, a layer of the dead leaves, upon which sprinkle a layer of lime, and over that a thin layer of earth. Next lay on a covering of manure, then a layer of leaves, and one of lime and earth as before, and proceed in this way till all the materials are used up. It will be well, however, to give the heap a good watering whenever you come to the layer of leaves. This slakes the lime and hastens the decomposition of the vegetable matter. After letting it stand for about six weeks, begin at the top of the heap and turn it completely over, so that what was at the bottom will be at the top. Repeat this operation from time to time at intervals of six or seven weeks, until it has become perfectly friable and will powder through a garden-fork like dust. It will then be ready for use. This compost is invigorating to flowers of all kinds, and is so ready for them to assimilate.

Comptonia Asplenifolia.—This ornamental deciduous shrub is quite hardy, but requires a light, sandy loam or peat soil and a shady situation. It is increased by layers. Blooms in April. Height, 4 ft.

Cone Flower.—*See* "Echinacea."

Conifers.—Conifers (so called because they bear cones in place of ordinary seed) are mostly of tall growth, yet among the class are many low—growing evergreens well adapted for the lawn or border. Indeed, any of the specimens may be utilised in this way, but of course must be removed from the shrubbery or border before they attain undue proportions. They are hardy, and, generally speaking, not particular as to soil or situation. Firs, Pines, Cedars, etc., come under this heading, and mention is made in other parts of this work of those most suitable for the amateur's requirements.

Convallaria Prolificans.—This is one of the most beautiful hardy perennials known. It has large, deep-green foliage, with erect and much-branched flower-stems. The flowers are white, internally flushed rose; are very fragrant, and are produced from May to September. The plant will grow in any ordinary soil, and may be increased by dividing the root. Height, 2-1/2 ft.

Convolvulus (*Morning Glory*).—Showy plants. The tender species are well adapted for the stove or conservatory, and are best grown in loam and peat: cuttings strike freely in sand under a glass. The half-hardy annual kinds should be sown on a gentle hotbed in February, and when large enough transferred to the open; or they may be sown in the open in April. Hardy kinds merely require sowing in the open, early in spring. The stove and greenhouse annuals and biennials require to be sown in heat, and treated as other stove and greenhouse annuals and biennials. Flowering season, May to July. Height, 6 in. to 15 ft.

Coral Plant.—See "Erythrina."

Corchorus.—See "Kerria."

Cordyline.—A stove evergreen shrub, which may be grown in any light, vegetable mould or in peat and loam, and is easily increased by suckers. It flowers in spring. Height, 3 ft.

Coreopsis.—Very pretty and long-flowering. They all like a light, rich, and sandy soil. Cuttings of the stove kinds root freely under glass. Hardy perennials may be divided at the roots. The annuals may be sown either in the autumn or in March; they bear transplanting. Longipes flowers in April; Grandiflora in August. Useful as cut flowers. Height, 1-1/2 ft. to 3 ft.

Cornel.—See "Cornus."

Cornflower.—See "Cyanus."

Corn Salad (*Lamb's Lettuce*).—Sow in drills—the plants to stand 6 in. apart—from March till August, in well-drained sandy loam. Autumn sowings will stand the winter and prove useful in early spring. It must be gathered young.

Cornus Canadensis (*Canadian Cornel*).—A pretty herbaceous plant, suitable for moist parts of rock-work. It is very hardy, likes a light soil, and produces flowers from June to August. The roots may be divided in autumn, or in the early part of spring. Height, 8 in.

Cornus Mas (*Cornelian Cherry*).—This hardy deciduous shrub does well in common soil if a fair amount of moisture be given. Its yellow flowers are produced on bare stems from February to April. It may be increased by seeds, cuttings, or layers, autumn being the time to propagate.

Coronilla.—The greenhouse shrubs should be grown in peat and loam. They are raised by seeds and by cuttings. Most of the hardy perennials need protection in winter, therefore they are best grown in pots. These are propagated by seed or division. The annuals need no special treatment.

Coronilla Iberica.—A pretty creeping hardy perennial suitable for rock-work, on which its bright yellow flowers are very attractive during June and July. It thrives best in a mixture of peat and loam, and may be increased by seeds or division of the roots. Height, 6 in.

Correa Cardinalis.—An evergreen greenhouse shrub. Place in equal parts of sand and loam, and propagate by cuttings, which should have plenty of room, as they are liable to damp off. July is its flowering season. Height, 4 ft. C. Magnifica is also a capital plant.

Cortusa Matthioli.—This ornamental hardy herbaceous plant thrives best in a mixture of peat and loam. It is advisable to give protection to the roots in winter. It may be increased by seeds or by division of the roots. It makes a good pot-plant, and produces flowers in May and June. Height, 1 ft.

Corydalis (*Fumitory*).—These low-growing perennials are suitable for dry positions on rock-work. They are not particular as to soil, and may be increased by division of roots, while some scatter seed in abundance. Their flowering period extends over many months. Height, 6 in. to 1 ft.

Cosmea Bipinnata.—A very pretty half-hardy annual which flowers in July. Sow the seed early in spring on a slight hotbed covered with glass, and transplant to the flower border at the end of May. Height, 2 ft.

Cosmos.—Pretty plants, the flowers resembling a single Dahlia. They are mostly hardy, but some need protection. The annuals should be raised on a hotbed in February and be planted out in May. The perennials, too, are brought forward in heat. Some flower in June, others in September. Height, 1 ft. to 3 ft.

Cotoneaster.—Evergreen shrubs which will grow in any soil and are easily increased by layers. C. Hookeriana attains the dimensions of small trees, and produces a profusion of white flowers and bright crimson berries. C. Simonsii is largely used as a hedge. Height, 6 ft. to 8 ft. C. Rupensis is a small-leaved, prostrate perennial species, bearing white flowers from May to August, followed by red berries. Height, 3 in.

Cotyledon Chrysantha (*Umbilicus*).—A choice Alpine succulent which thrives in a sandy loam, or in well-drained pots of the same soil. It flowers from May to August, and is multiplied by cuttings, which must be left to dry for a few days in a sunny place. Flowers are produced from May to August. Height, 3 in.

Cowslips.—Well-known hardy perennials. These require the same treatment as Primulas. Plant in a mixture of loam and peat, and divide as soon as the bloom has died off. Height, 6 in.

Cowslips, Cape.—See "Lachenalia."

Crambe Cordifolia (*Tournefort*, or *Sea Cabbage*).—This hardy herbaceous plant is suitable for a wild garden. It likes a good, rich soil, and is easily increased by seed or division. August is its flowering period. Height, 3 ft.

Crane's Bill.—See "Geranium Argentium."

Crataegus Pyracantha (*Fire Thorn*).—This hardy, ornamental shrub will grow in any soil. It should be planted early in spring on a south or south-west wall, and may be increased by seeds, by budding, or by grafting. The profuse brilliant orange-coloured berries of the *C. Lelandii* (*Mespilus*) ensures it a place on walls and trellises. A sunny position gives best results. Prune in March.

Creeping Jenny.—See "*Lysimachia Nummularia*."

Crepis (*Hawkweed*).—An interesting hardy annual. It merely requires sowing in spring, and will grow in any soil. The flowers are produced in June. Height, 1 ft.

Cress.—Sow at intervals of a week from March to September in the open ground, and during the winter months in frames. A shady position is most suitable. By these frequent sowings, and by often cutting over such as readily renew a bottom growth, a constant succession of tender shoots is obtained.

Crocus.—Among our earliest spring flowers. These will grow in any garden soil, but prefer rich, sandy earth. Plant in October or November, 3 in. deep and 2 in. apart. Take the roots up every second year, and plant the small off-sets in a nursery bed for two years, when they will be fit for the beds or borders. Protect the bulbs from mice, as they are very partial to them, especially in winter.

Indoor Culture.—Select strong bulbs of the seedling varieties, and plant them in succession, commencing early in autumn, in good, rich, sandy soil. A liberal supply of water is necessary during the blooming season, but perfect drainage must be secured. They grow well in bowls filled with wet moss or sand. Height, 6 in. (See also "*Colchicum*."

Crotons.—Fine-foliaged hothouse plants. A mixture of peat and sandy loam suits their growth, and they require a good amount of light to properly colour their leaves, with a night temperature of 70 degrees.

Crowea Saligna.—Charming greenhouse evergreen shrubs, which send forth their purple flowers in September. They grow best in loam and peat. Cuttings may be struck in sand under bell-glasses. Height, 3 ft.

Crown Imperials.—See "*Fritillarias*."

Crucianella Stylosa.—A hardy perennial. Sow in August or September in a sheltered spot to stand the winter. The seed may also be sown from March to midsummer, and the plants moved in autumn to the place where they are to bloom. Their delicate pink flowers are produced in July. Height, 1 ft.

Cuckoo Flower.—See "*Cardamine*."

Cucumbers.—A rich, loamy soil is most suitable for their growth. Sow frame varieties in a heat of 75 degrees or 85 degrees during February and March for summer use, and when the plants are of sufficient size transplant to a well-prepared hotbed. Sow again in September for winter use. The hardy or ridge cucumbers (which are not suited for frame or hothouse culture) should be raised in a frame or hot-bed in April, and planted out about the middle of May in a warm border on strawed ridges prepared with good stable manure, placing a hand-glass over each plant until it is well established.

Cunila Mariana (*Dittany*).—This hardy perennial produces heads of pretty purple flowers from July to September. It is not particular as to soil, and can easily be increased by division. Height, 1 ft.

Cuphea.—Shrubs of a rather pretty description. The stove varieties require a sandy loam to grow in, and may be propagated by cuttings. The annuals should be sown on a gentle hotbed, and when strong enough potted off and kept in the greenhouse; they should not be moved into the open before the end of May. The perennial species if sown early make good bedding plants the first year; they need protection in the winter.

Currants.—*Black*.—A rich, deep soil and a moist situation, together with partial shade, are most suitable for their growth. They succeed better as bushes than as espaliers or trained to walls. Cuttings of the previous year's growth are taken in autumn and planted firmly 1 ft. by 6 in. apart. In two years shift every alternate plant so as to allow room for expansion, and plant out finally to a distance of 5 ft. In pruning the bushes, remember that the fruit is borne on the young wood, therefore only sufficient should be cut away to allow of the admission of air and sunshine and the further growth of young branches. A portion of the old wood should be removed each year. Mulch the roots, and keep the plants supplied with water in dry seasons. Baldwin's Black, Ogden's Black, Black Naples, Lee's Prolific, James' Prolific, and Old Black are among the best.

Red and White.—An open, sunny position is needed. The soil that suits them best is a deeply-manured, stiff loam. They are readily raised from cuttings—which should be as long and strong as possible—taken in autumn. Cut away all the eyes except the three uppermost ones, and plant firmly in rows 1 ft. by 6 in. apart. Transplant at the end of the second year to a distance of 5 ft. apart. While the plants are young cut out all the top centre branches, cutting always to an outgrowing bud, so as to give a cylindrical form to the bush. In further pruning leave the leading shoots untouched, but shorten all others to 4 in. or 6 in., and cut out all old, mossy wood.

Towards the end of June is a good time for cutting the young wood away. The fruit is produced on spurs. In the autumn of each year carefully dig in a good dressing of half-rotted manure, in such a manner as not to injure the roots. Among the leading red varieties are the following:—Champagne, Cherry, Chiswick Red, Houghton Castle, Raby Castle, and Red Dutch. Of the white fruit the White Dutch and the Cut-leaved White are the leaders. In plantations they should stand from 4 ft. to 6 ft. apart.

Currants, Flowering.—See "Ribes."

Cyanthus Lobatus—A small, but very beautiful procumbent perennial, well adapted to fill moist places on rock-work if the situation is open and sunny. A mixture of vegetable mould and sand suits it, and it is best increased by cuttings placed in moist peat. It flowers in the autumn, the flower-stems being from 6 in. to 1 ft. in length.

Cyanus (*Cornflower*).—Very pretty and free-blooming hardy annuals. Sow the seed in the open in autumn for an early display of flowers, or in March for a later one. Thin out to 2 ft. apart. Bloom in July. Height, 2 ft. to 3 ft.

Cyclamen.—Charming winter and spring blooming bulbous greenhouse plants, which thrive in a mixture of sandy loam and vegetable mould. They require a moist atmosphere and a uniform temperature not lower than 50 degrees. They may be increased by seed sown in slight heat as soon as it is ripe. Plant the bulbs in October, also in February and March, placing them so that the crown is level with the top of the pots. One full-sized bulb is sufficient for a 6-in. pot, which must be provided with good drainage and placed on a layer of coal ashes that is kept constantly moist. Water moderately till growth begins, then increase the supply. Give a little liquid manure, in a weak state, if a large quantity of flower-buds appear. When the blooming season is over, plunge the pots in a shady, well-drained border, and when the leaves start afresh turn the plants carefully out of the pots, so as not to injure their roots, and re-pot in fresh soil. *C. Persicum* flowers in February, and *C. Neapolitanum* in April. *C. Europeum* is a hard variety, thriving in any situation. It produces sweetly-scented flowers throughout July and August. It does best when planted under trees, or in partial shade on rock-work, in well-drained, good loamy or peaty soil mixed with a fair proportion of brick rubble. Plant the corms in September 3 in. apart, and 1-1/2 in. deep. Height, 6 in. to 9 in.

Cydonia (*Pyrus*).—These hardy plants are well adapted for trellis-work, but are more effective when grown as bushes, and flower more freely than when trained to the wall, the bloom often lasting to the winter. They will grow in any soil, and are increased by suckers. Height, 4 ft. and upwards.

Cyperius Alternifolius.—A stove grass which will grow in any soil, but requires a plentiful supply of water. It is increased by dividing the roots. Height, 2 ft.

Cypress (*Cupressus*).—Among these useful conifers *C. Lawsoniana* has no superior as a single specimen for the decoration of the lawn. Of free growth and perfectly hardy, it succeeds in almost any soil or situation. *C. Fraserii* is also hardy, of erect habit, and of a rich glaucous hue. When it attains a good size it is very ornamental. The beautiful silver variegated variety *Argenteo Variegata* deserves a place in every shrubbery. *Nana Alba Maculata* is a dwarf globular plant, the slender branches of which are tipped with white, giving it the appearance of being partly covered with snow. *Pygmea* is a compact dwarf-growing variety suitable for the centre of small beds and for rock-work. Japan Cypresses are elegant little shrubs, one of the finest being *Retinospora Ericoides*, whose peculiar violet-red leaves contrast charmingly with light green plants. Any of the above may be increased by cuttings. They succeed best in a rich, deep loam, and are improved by thinning out the branches where too thick, and pinching out the stronger shoots where too thin, so as to encourage new growth.

Cypripedium (*Hardy Ladies' Slipper Orchid*).—This plant is of the simplest culture and is well adapted for pots, ferneries, or rock-work. It is most at home in a well-drained yet moist peaty soil, and kept in a frame or on a shady border, where it will bloom in June. Protect from frost and heavy rains, but never allow the roots to get dry. Height, 1 ft.

Cytisus.—Elegant hardy shrubs with finely-cut leaves and terminal racemes of Pea-shaped flowers in July. They will grow in any soil, and are readily raised from seed or layers. Height, 3 ft. to 4 ft.

D

Daffodils.—These will grow in any good, cool, moist, well-drained garden soil if sand be put round their roots, but thrive best in a moderately rich loam. They may remain in the ground for years, for large bulbs produce the finest flowers. When the flowering is over the leaves must be allowed to die down, not cut off. Plant from September to December. The top of the bulb should be about 3 in. below the surface, according to its size; 10 in. apart is a good distance. Daffodils are also suitable for pot culture. Plant three to six bulbs, according to size, in a 4-in. or 5-in. pot, using a compost of two parts fibrous loam, one part leaf-mould, and one part sand. Place the pots on a bed of ashes, and cover with 4 in. of cocoa-nut fibre. As soon as top growth has commenced, remove the plants indoors, and give plenty of light and air to prevent them being drawn. Daffodils

likewise make a good display when planted on a lawn.

Dahlias.—These attractive plants require a deep, friable soil, not over rich. They may be grown from seed sown on a hotbed in March and lightly covered with fine mould. As soon as they are up give all the air which can with safety be given. When the seedlings are large enough pot them off singly in the smallest-sized pots or round the edges of 6-in. ones. Plant them out at the end of May, 1 ft. apart; they will flower at the end of August. Any that turn out very good had better be propagated by cuttings from the young tops, to save the kind in case the roots should die. When flowering is over take up the young bulbs and treat them as directed afterwards for old tubers.

Another way to propagate them is to place the old tubers in soil over a hotbed early in March. When the shoots are a couple of inches high the tubers may be taken up and divided with a sharp knife. Pot off separately. Water them occasionally with liquid manure, made from guano and powdered charcoal, well mixed with rain water, and plant them out early in May. Give them plenty of room, and tie the branches securely to stakes firmly fixed in the soil. When they have become good bushy plants put a layer of half-rotted manure round each plant. As soon as frost turns their foliage brown take them up, cut off the roots, leaving about 6 in. of stem attached, and plunge them into a box of sand, chaff, or ashes, and preserve them from damp, frost, and heat during the winter.

Daisies (*Bellis Perennis*).—These pretty, little hardy perennials are very useful as edgings. To grow them to perfection the ground should be highly manured, and the roots divided every year, planting them out 6 in. apart in a cool, shady situation. October is a suitable time for transplanting. They flower continuously from February to July. Height, 6 in.

Dandelions.—Dandelions on lawns, etc., may be killed by cutting them down as low as possible, and putting a little gas-tar or a pinch of salt on the wound. Or they may be dug up and blanched for mixing with salad. In this case plant six roots in an 8-in. pot, and place an inverted flower-pot over the whole, in order to exclude the light; the plants are sometimes blanched in the open by covering them with old tan or fine ashes. The flowers must be kept picked off, for they soon run to seed, and if unattended to become troublesome.

Daphne.—Beautiful shrubs, mostly evergreens, bearing elegant flowers followed by bright-red poisonous berries. *D. Mezereum* is the most common variety, and is very suitable for the front of shrubberies. The Chinese variety *D. Odorata* is too tender for outdoors, but makes a fine ornament for the greenhouse. The dwarf kinds, bearing fragrant pink flowers, are rather tender, but are very useful for rockeries occupying sheltered positions. They all need a peaty soil, and may be increased by grafting on to the common Spurge Laurel. Different varieties flower at various periods, from February to October. Height, 9 in. to 6 ft, but the majority are from 2 ft. to 3 ft. high.

Datura.—Ornamental half-hardy annuals. The seeds of all the species must be sown on a hotbed early in spring. When the plants are strong enough transplant them in the border, where they will bloom more freely than in pots. The seeds of *D. Ceratocaula* will sometimes remain several years in the ground before they germinate. They flower in July. Height, 2 ft. to 3 ft.

Day Flower.—See "*Commelina*."

Day Lily.—See "*Hemerocallis*."

Delphinium (*Larkspur*).—The gorgeous spikes of flowers produced by these plants render them invaluable for the border. They like a deep soil, highly enriched. The perennials may be divided at the root in autumn, care being taken not to injure the young fleshy sprouts. The annuals are readily raised from seed. The quickest way to grow the perennial varieties from seed is to sow in a frame with a slight bottom-heat, at any time from March to August; but sowings made in the open from April to June will succeed. Keep the ground moist, and shade from the sun till the plants are up, then transplant to nursery beds for the summer, afterwards transferring them to their final quarters. Flower in June and July. Height, 1-1/2 ft. to 6 ft.

Dentaria Digitata (*Toothwort*).—This tuberous hardy perennial grows well in old leaf-mould, and is very suitable for the base portion of rock-work, where it can obtain both shade from the midday sun and moisture. It is readily increased by cutting the roots into pieces about 1-1/2 in. long, and replanting them where they are intended to bloom, putting 1 in. or so of sand round them. They flower in May. Height, 1-1/2 ft.

Desfontania Spinosa.—A fine, evergreen wall shrub with holly-like leaves, and long, pendulous scarlet and orange flowers in June. It grows best in a compost of loam, peat, and sand, with a south or west aspect. It is propagated by cuttings under glass. Height, 10 ft.

Desmodium Canadense.—This is a fine border hardy perennial, producing long racemes of rosy-purple flowers in June or July. It prefers a soil of sandy loam and peat, and may be increased by seed or by cuttings planted in sand and subjected to heat. Height, 4 ft.

Desmodium Pendulaeflorum.—A hardy evergreen shrub, flowering in July. It thrives in sandy loam and peat. Cuttings planted in sand with a little bottom-heat and under glass will strike. Height, 6 ft.

Deutzia.—A beautiful conservatory shrub, bearing in spring a large quantity of flowers resembling the snowdrop. A peaty soil suits it. It is pretty hardy. Height, 3 ft.

Devil-in-a-Bush.—See "Nigella."

Dianthus.—Very beautiful and fragrant flowers. The genus embraces Carnations, Pinks, Picotees, and Sweet Williams. The soil most suitable for them is a light, loamy one, mixed with a little rotten dung and sand. It is well to confine the rarer kind to pots, so as the better to protect them in winter. They are propagated by layers, cuttings, or division of roots. If the cuttings are taken about the middle of June, and placed under glass on a gentle hotbed, they will be ready in about three weeks to plant out in the open. The annuals and biennials merely require sowing where they are intended to bloom. Flower in July. Height, 1-1/2 ft. to 2 ft.

Dictamnus (*Burning Bush*).—See "Fraxinella."

Dielytra Spectabilis (*Venus's Car, Bleeding Heart, or Lyre Flower*).—One of the most elegant hardy perennials for forcing for table decorations, or cutting for vases. The graceful, pendent branches are laden with beautiful red or purple heart-shaped flowers; these, combined with the delicate green of the foliage, give them a conspicuous place among plants. Out of doors in summer, among shrubs or herbaceous plants, they are exceedingly attractive. Let them be planted in tufty groups in a warm, sheltered border of rich, light soil. They may be increased by division of the root, as in the Dahlia, or by cuttings. Height, 3 ft.

Digitalis (*Foxglove*).—Very showy, hardy, perennial border plants. They will grow in any garden soil, and are readily raised from seed, which, if sown in the autumn, will produce flowers the following June and July. Height, 1 ft. to 3 ft.

Digitata.—See "Callirhoe."

Dimorphantus (*Aralia Sinensis*).—The Dimorphantus Mandschuricus is one of the noblest of deciduous shrubs, the foliage being very large and much divided. Any soil is suitable for its growth, and it may be propagated by cuttings of ripe wood, taken at a joint and planted on a shaded site. It produces its flowers at midsummer. Height, 4 ft. to 6 ft.

Dimorphanthea Ecklonis.—This plant is not perhaps quite hardy, still it may be grown out of doors in a sheltered, sunny situation. It grows well in sandy loam and leaf-mould, and requires a good deal of moisture in the summer months, though from autumn till spring it should be kept on the dry side. During winter it is safest to afford it protection. It is generally raised from cuttings late in summer, which are kept through the winter in small pots in the greenhouse.

Diphylleia Cymosa.—A very pretty bog plant which blooms from June to August. Plant in rich, light soil, and give plenty of water. It is propagated by division. Height, 9 in.

Diplacus Glutinosus (*Hard-wooded Mimulus*).—This elegant greenhouse shrub is an evergreen which delights in a rich, sandy loam. It flowers in June, and is increased by cuttings. Height, 3 ft.

Diplopappus.—Dwarf-growing evergreen shrubs of pretty habit. The golden stems and leaves of *D. Chrysophylla* render that variety specially attractive. A sandy loam is most suitable for their growth. They require the warmest situation the garden affords, and to be protected during the winter. Cuttings strike readily. They flower in August. Height, 2 ft.

Disbudding—The object of Disbudding is to prevent the growth of branches which, from their position, would be useless to the tree, and would consequently have to be cut away later on. The process is both simple and expeditious. The trees are gone over once a week during the spring, and the useless buds are rubbed off with the thumb, taking off first those which are most unfavourably situated. The work should be done gradually, so as not to give any check to the tree.

The term is also applied to the pinching out of flower-buds, such as those of the Chrysanthemum, so as to give more room and strength to the remaining blooms.

Disemma.—Splendid evergreen climbers, suitable either for the greenhouse or in a sheltered position out of doors. Plant in rich, loamy soil mixed with peat, and, if grown in the open, give protection to the roots during the winter. They flower in July, and may be increased by cuttings planted in sand under glass. Height, 20 ft. to 30 ft.

Dittany.—See "Cunila."

Docks, to Kill.—Cut the weeds down to the ground, and run a skewer dipped in vitriol through the roots.

Dodecatheon.—A hardy perennial, which is very ornamental when in flower. It grows best in a loamy soil, and is easily increased by dividing the roots. Blooms in May. Height, 1 ft.

Dog's-Tooth Violets.—See "Violets."

Dolichos Lablab.—Half-hardy annuals. The seed should be sown in spring in pots placed in heat, and kept in the hothouse till May, when the plants may be set out in a sheltered position, placing sticks for them to run up, in the like manner to Beans. Flower in July. Height, 6 ft.

Dondia Epipactis.—A very pretty and extremely hardy little perennial, suitable for either pot culture or rock-work. It thrives in peat or leaf-mould, and likes a moist position. Strong clumps may be divided in February, but it is rather shy at being moved. It flowers in May. Height, 6 in.

Doronicum (*Leopards Bane*).—An ornamental hardy perennial. It will grow in any garden soil, and may be propagated from seed sown either in the autumn or spring, or by dividing the root. It produces its flowers in May. Height, 1-1/2 ft.

Draba.—Pretty dwarf Alpine plants which bloom during April and May; very suitable for rock-work. They flourish in a compost of loam and peat, and may be propagated by seed or division. Height, 1-1/2 in. to 3 in.

Dracaena Indivisa.—A stove evergreen shrub much valued for its foliage and as a table plant. It requires a light, loamy soil and plenty of light. Cuttings stuck in tan or peat and sand, and provided with strong heat, will strike. It flowers in June. Height, 3 ft.

Dracocephalum (*Dragon's Head*).—Ornamental plants, mostly bearing lilac or blue flowers. Many of the half-hardy kinds are grown in pots, so that they may the more readily be removed to the greenhouse in winter. The perennials are propagated by dividing the roots. The annuals are increased from seed sown in March or early in April. They like a rich, light soil, and come into bloom in June and July. Height, 1 ft. to 2 ft.

Dracophyllum.—Greenhouse evergreen shrubs of an ornamental character. The pots should be filled with an equal mixture of sand and peat. They are propagated by planting the young shoots in sand, covering them with a hand-glass, and plunging them in heat. They flower in June. Height, 2 ft.

Dragon's Head.—See "Dracocephalum."

Dryas Octopetala (*Mountain Avens*).—A prostrate, creeping perennial which bears white Anemone-like flowers from July to September. It thrives in peat, and is increased by seeds, cuttings, or division. Not being quite hardy, protection should be afforded during winter. Height, 6 in.

Dutchman's Pipe—See "Aristolochia."

E

Earwigs, to Trap.—An inverted flower-pot, containing a little dry moss or hay, placed on a stick, forms a good trap for these pests. They will also congregate in any hollow stems of plants that may be laid about. They may be destroyed by shaking them into boiling water.

Eccremocarpus (*Calampelis*).—These climbing half-hardy perennials will grow in any garden soil, a light, loamy one being preferable. Sow the seed in autumn on a slight hotbed, pot off, and winter in a greenhouse. The plants will be ready to turn out on a warm south wall in April or May. Cut them down in the autumn, and cover the roots with dry leaves: they will shoot up again in the spring. The foliage is dark and Clematis-like; the flowers are borne in clusters, are tube-shaped, and bright orange-scarlet in colour. They are increased by cuttings.

Echeveria.—Choice greenhouse evergreen shrubs. They grow best in a sandy loam, with a little peat, mixed with pulverised brick rubbish. Water must be given cautiously. Young plants may be taken off the parent in October and pressed firmly, but without bruising them, in light, rich soil. Cuttings should be left for a few days to dry before planting. They flower in autumn. In winter keep them in a cold frame, and as dry as possible. Height, 1 ft. to 2 ft.

Echinacea Purpurea (*Purple Cone Flower*).—A stately hardy perennial, very pretty when in flower, but hardly suitable for cutting purposes. It likes a rich, light, loam soil and plenty of sunshine. The roots may be divided in spring, after growth has fairly started. It blooms during September and October. Height, 2-1/2 ft.

Echinops (*Globe Thistle*).—Coarse perennial plants, of stiff growth. Any soil suits them, and they may be increased by dividing the roots. They bloom in July. Height, 4 ft.

Echium Creticum.—A scarlet-flowering hardy annual which should be grown wherever bees are kept. Sow in spring in any garden soil. Height, 1-1/2 ft.

Edelweiss.—See "Gnaphalium."

Edraianthus Dalmaticus.—A charming little herbaceous perennial which proves quite hardy in our climate, and well deserves a place in the rockery. Plant in deep, rich loam, and cover the surface of the crown with 1/2 in. of coarse sand. It may be propagated from off-sets, taken with as much root as possible as soon as flowering ceases. Winter the young plants in a cold frame, and do not give them too much water, or they will rot. They will bloom in July and August. Height, 4 in.

Egg-Plant (*Aubergine*).—The fruit of the egg-plant is edible. The seed is sown in March or April in pots of well-drained, light, rich soil, and placed in a cucumber frame or on a hotbed with a temperature of 75 degrees. When the plants are fairly up they are potted off separately, and when they have started into growth the points are pinched out, so as to induce a bushy habit. It is necessary to keep the roots well supplied with water. When the fruit is set, the growth is stopped at the first joint beyond it. They are mostly treated as greenhouse pot-plants, but may be grown

in the open if planted on a south border, in ridges like those made for cucumbers, and covered with hand-glasses till established. The Aubergine is a tender annual. Height, 2 ft.

Eggs of Insects, to Destroy.—Into 3 gallons of water stir 1/4 peck of lime, 1/2 lb. of sulphur, and 1/2 lb. of tobacco. When settled, syringe the trees and walls with the clear liquid. More water may be added afterwards.

Eichhornia Crassipes Major.—A pretty and curious plant which may be grown in bowls of water like the Chinese Lily. The stalks are bladders about the size of a greengage, which enable the plant to float. The flowers are soft lilac-rose in colour, and sparkle as if polished, each one being about 2 in. in diameter. A little soil at the bottom of the bowl is beneficial. It will flourish out of doors in summer.

Elder.—See "Sambucus."

Eleagnus.—Effective variegated shrubs which prove perfectly hardy in the south of England. They grow in any ordinary soil, and are increased by cuttings. Height, 10 ft.

Elsholtzia Cristata.—Hardy annuals of great value where there are bees, the flowers being very sweet. Sow in the open in spring. Height, 1 ft.

Empetrum.—Small hardy evergreen shrubs requiring an elevated and exposed position, and a dry, barren soil. They flower in May, and are propagated by layers. Height, 1 ft.

Endive.—Sow at intervals from May till the end of August, but the principal sowing, to stand the winter, should be made the first week in August, giving the plants the protection of a frame. When the early sown ones are 2 in. high transplant them to a rich nursery bed. When 4 in. high lift them carefully, with the soil round the roots, and place them in drills about 3 in. deep and 1 ft. apart each way. Water well immediately after planting, and keep the soil moist.

Epacris.—Pretty Heath-like shrubs. They like a sandy peat soil, and plenty of moisture. The pots in which they grow should be provided with ample drainage and stood in a larger-sized pot, with wet moss between the two. As soon they have done blooming cut them back freely, and when the fresh shoots are 2 or 3 in. long, pot them off, placing them in a close, cool pit for three or four weeks. Gradually harden off, then place them in a sunny situation out of doors, and remove them to the conservatory in October. They only need sufficient heat to keep out the frost. Cuttings of the young wood placed in sand with a little bottom-heat will strike.

Epigaea Repens (*Creeping Laurel*).—This creeper is hardy and evergreen, and its flowers possess a delicious fragrance. It may be grown in loam and sandy peat or in leaf-mould with a little sand added, in a well-sheltered and moist situation; and may be propagated by layers, in the same manner as Carnations. It flowers in April. Height, 6 in.

Epilobium Angustifolium.—An ornamental herbaceous plant which may be grown in any common soil from seed sown in autumn, or may be increased by division of the roots. It puts forth its flowers in July. Height, 4 ft.

Epimedium.—An elegant hardy perennial, suitable for shaded borders or rock-work. The best soil for it is sandy peat. It flowers between April and June, and is increased by dividing the root. Height, 1 ft.

Eragrostis Elegans (*Love Grass*).—One of the best of our hardy, annual, ornamental grasses. Sown in March, it will reach perfection in August or September. Height, 1 ft.

Eranthis Hyemalis.—See "Winter Aconite."

Eremurus Robustus.—This hardy perennial bears tall, handsome spikes of sweetly-scented, peach-coloured flowers in May. It will grow in any ordinary soil, and is easily propagated by young plants from the roots. Height, 1 ft.

Ericas (*Heaths*).—It is useless to attempt to grow these beautiful shrubs unless proper soil is provided. The free-growing kinds thrive best in good black peat and require large pots. The dwarf and hard-wooded kinds must be provided with sandy peat, and the pots thoroughly well drained. They need less water than the free-growing kinds. They all want a good deal of air, and must not be crowded too closely together. Protect from frost and damp. Cuttings off the tender tops of the shoots planted in sand under glass will strike. The cuttings of the stronger-growing kinds should be somewhat longer. As soon as rooted, pot off singly, place in a close frame, and harden off by degrees. The hardy sorts grow in a sandy peat, and may be increased by layers or by cuttings. They bloom at various times. Height, 6 in. to 4 ft. (See "Heaths, Greenhouse.")

Erigeron.—Very handsome hardy perennials, producing a copious display of bloom. They will grow in any soil, and may be increased by division or by seed sown between March and July, or in August or September. They flower at the end of July. Height, 1 ft.

Erinus.—The hardy perennial kinds bloom in March, the greenhouse varieties in May. The latter are very pretty. They all like a sandy soil, and may be increased by seed or by division. Height, 6 in. to 9 in.

Eriogonum.—These pretty, hardy, herbaceous plants bloom in June. They grow best in a compost of loam and peat, and are easily raised from seed. Height, 1-1/2 ft.

Eriostemon.—Greenhouse evergreen shrubs. Grow in sandy peat with a little loam added. Cuttings will strike in sand. They flower in May and June. Height, 2 ft. to 3 ft.

Erodium.—An extensive genus of very beautiful plants, mostly hardy. They will grow in any soil, and merely require ordinary treatment. The bloom is produced in June or July. Height, 4 in. to 1 ft.

Eryngium.—A very ornamental and beautiful kind of Thistle. They are mostly quite hardy, and will grow in any garden soil, though they thrive best in a light, sandy one. The greenhouse and frame varieties should be grown in pots, so that they can be easily housed in winter. They are readily increased by seed or division, and produce their flowers in July. Height, 1 ft. to 4 ft.

Erysimum.—Flowers of little merit. The herbaceous kinds thrive in common soil, but do best in a mixture of loam and peat. They may be increased by cuttings placed under glass. The annuals and biennials merely need sowing in the open during autumn. They bloom in June and July. Height, 1-1/2 ft. to 2 ft.

Erythrina Crista Galli (*Coral Plant*).—A showy, summer-blooming greenhouse plant. Place it in turfy loam enriched with old manure. It may be transferred to the garden in the summer, and when the wood is ripe cut it back and keep it dry till spring. Cuttings taken at a joint, with the leaves left on, may be struck in sand.

Erythronium Dens-Canis (*Dog's Tooth Violets*).—See "Violets."

Escallonia.—Handsome, half-hardy, evergreen shrubs, possessing rich glaucous leaves and bunches of tubular flowers. A peat and sandy loam soil suits them best. They may be planted against, and trained to, a south wall, but need protection from frost. The laterals may be cut back fairly close in March to encourage new growth. They may be propagated by layering in the autumn, or by suckers taken in the spring. Height, 3 ft.

Eschscholtzia.—Pretty hardy annuals, especially during August, when they are in flower. Any rich soil suits them. Easily raised from seed sown on a gentle hotbed in spring, and afterwards transplanted to the border. They flower longest if sown in autumn, but the young plants need protection through the winter. Height, 1 ft.

Eucalyptus Citriodora.—A useful window or greenhouse plant, with small, oblong, bright green leaves, furnished with appendages that emit an odour resembling the Lemon-scented Verbena. It is of easy cultivation, growing freely from seed sown in slight heat. Height, 4 ft.

Eucalyptus Globulus.—A greenhouse everlasting tree, commonly known as Blue Gum. It delights in a mixture of peat, loam, and sand. Cuttings, which should not be too ripe, root in sand under glass. It may be grown from seed sown, in a temperature of 65 degrees, from February to April. It flowers in June.

Eucharidium.—Pretty little hardy annuals, nearly allied to the Clarkia. The seed may be sown in autumn for early flowering, or in spring for blooming in July. Height, 1 ft.

Eucomis Punctata.—A fine, autumn-blooming plant, bearing long spikes of fragrant creamy-white flowers and curiously-spotted stems. It may be grown in any rich soil. Height, 2 ft.

Eucryphia Pinnatifida.—A dwarf evergreen shrub with flowers resembling a white St. John's Wort. It grows best in a compost of loam and peat, and is propagated by cuttings planted in sand, and subjected to heat.

Eugenia Ugni.—An evergreen shrub which produces white flowers in May, succeeded by round, edible berries. It should be grown in loam and peat. Ripened cuttings may be struck in sand under glass. Height, 4 ft.

Eulalia Japonica.—A hardy perennial Giant Grass. It is very handsome as single specimens on lawns, or used in groups on the margins of shrubberies. The flower panicles in their first stage have erect branches, but as the flowers open these curl over gracefully, resembling a Prince of Wales feather. Height, 6 ft.

Euonymus Radicans Variegata.—A hardy evergreen shrub which, given a sunny situation, will grow in any soil, though a rich, sandy one is preferable. It may be increased by layers, by seed, by cuttings of ripe wood taken early in autumn and planted in the shade, or by dividing strong roots. May is its time to flower. Height, 6 ft. Other varieties of the Euonymus, or Spindle Tree, are equally hardy, and easy to propagate.

Eupatorium Odoratum.—A greenhouse shrub which bears sweet-scented white flowers in August, continuing in bloom for a long while. It may be planted out at the end of May, but must be lifted before the frost comes. When flowering ceases, give less water and prune hard back. It grows well in peat and loam, and is increased by seed or by cuttings of the young shoots in spring in bottom-heat. Pinch back freely until the end of July, leaving all growth after that period. Height, 2-1/2 ft.

Euphorbia.—An elegant class of plants. The stove and greenhouse varieties are generally succulent, and require but little water, while the hardy kinds need plenty of moisture. Any rich, light soil suits them, but for the tender, succulent plants it should be mixed with brick rubbish. Best grown from seed, though the roots may be divided. Height, 2 ft.

Eurya Latifolia Variegata.—A fine, variegated, large-leaved evergreen, very suitable for covering a low wall, or for conservatory decoration. It delights in a compost of loam and peat, and is propagated by cuttings planted in a sandy soil on gentle heat. Height, 2 ft.

Eurybia.—Very pretty flowering shrubs for walls, borders, or rockeries. They require a light, rich soil, and may be increased by seeds sown early in spring on a gentle hotbed. Height, 2 ft.

Eutaxia Myrtifolia.—Pretty evergreen shrubs, suitable for the greenhouse. They thrive best in a mixture of peat and loam, and require the pots to be well drained. To have nice bushy plants they must be pinched back well. Cuttings will strike in sand under glass. They flower in August. Height, 1-1/2 ft.

Eutoca.—Exceedingly pretty hardy annuals. Sow the seed in light soil early in spring where it is to flower, and thin out so that the plants have plenty of room. They bloom in July. Height, 1-1/2 ft.

Evening Primrose.—*See* "Oenothera."

Everlasting Peas.—*See* "Peas, Everlasting."

F

Fabacea.—*See* "Thermopsis."

Fatsia Japonica.—*See* "Aralia."

Feather Grass.—*See* "Stipa Pennata."

Fennel.—Sow the seed in April, cover lightly with fine mould, and when the plants are strong enough set them out 1 ft. apart. Cut off the flower-stalks as soon as they appear, to prevent them running to seed. The bed will last for years. (*See also* "Ferula.")

Fenzlia.—Elegant half-hardy annuals. Sow the seed on a peat soil. If this be done in autumn, they will flower in April or May; if sown in spring, they will bloom in autumn. Height, 6 in.

Ferns.—Most Ferns delight in a loose soil, an abundance of moisture, and a warm, humid atmosphere. The stove and greenhouse kinds are best cultivated in a mixture of sandy loam and peat. The hardy kinds grow best among rock-work or in a shady border: a light, sandy soil suits them. They may be increased by dividing the roots.

Ferns from Seed.—Collect the spore-fronds towards the end of summer, just as the spore-cases begin to open. Place them on a sheet of paper in a box for a few days, keeping it in a dry place. Most of the spores will fall out, the others may be rubbed out with the hand. These spores will keep good a long time, but are best sown within a year. Fill the pots with good heavy loam, water freely, and apply a coating of charcoal, coarse sand, and sphragnum moss, rubbed through a fine sieve. Damp the surface, sow the spores thinly, and cover with glass. Keep the soil moist by standing the pots for a time each day up to their rim in water. No surface water should be given. Stand the pots in a warm, light place in the greenhouse, but keep them shaded from the sun. When the surface is covered with growth, prick out into pans or boxes, using a rich, light soil. When they are large enough pot them off singly in thumb-pots, re-potting as soon as these are filled with roots.

Ferraria.—*See* "Tigridia."

Ferula (*Giant Fennel*).—Strong-growing, hardy, herbaceous plants. *F. Gigantea* has bright, glistening foliage, changing to a brilliant orange, and attains a height of 8 ft or 10 ft. *F. Tingitana* is very stately and graceful, growing 4 ft. high. They are easily raised from seed, will grow in any garden soil, and flower in August and September.

Festuca.—An annual ornamental grass, which is grown best on a loamy soil. Sow the seed in March, and keep moist till it germinates. Height, 1 ft.

Feverfew.—This hardy perennial will grow in any soil and ripen its seed freely. Young plants, obtained by sowing the seed early in spring, are very useful for edgings; when planted alternately with, or in proximity to, *Lobelia* a pretty effect is produced.

Ficaria Grandiflora.—A hardy perennial which thrives well when planted under the shade of trees. It is increased by separating the tubers in autumn, and produces its flowers in May. Height, 6 in.

Ficus Elastica (*India-rubber Plant*).—This thrives well in any light, rich soil, or in loam and peat. Keep it moderately moist throughout the winter, using tepid water. In summer any of the artificial manures may be used. Sponge the leaves once a week to free them from dust, and keep the plant well sheltered from draughts. Cuttings with uninjured leaves will root in autumn in sand with a bottom-heat of 65 or 75 degrees; or the cuttings may be taken in spring, stem-rooting the slips. It flowers in May, and sometimes attains the height of 20 ft.

Fig Palm.—*See* "Aralia."

Figs.—Though in some parts of our country Figs are cropped on standards, as a rule they require to be trained on a wall having a southern exposure. The soil should be a fairly good loam mixed with old mortar and crushed bones, but no manure is needed. The end of March or the beginning of April is the most favourable time for planting. The trees should be firmly set, and the surface of the soil kept moist until they are established. Manure may be given—preferably in a liquid state—when heavy crops of fruit are being borne. Old and exhausted wood may be cut away in April, but the knife must be used sparingly. The branches should be trained to a distance of 10 in. apart, and the fruit-bearing shoots may be pinched back with the thumb and finger at the end of August. The fruit is borne on the previous year's growth. They may be increased by layers, by suckers, or by cuttings of the young wood placed in sand and plunged in a bottom-heat under glass. Brown Turkey, Black Ischia, Yellow Ischia, White Marseilles, Brunswick, and St John's are all good varieties for open-air cultivation, or for growing in houses.

When grown under glass, Figs may be trained on trellises near the roof of the house, or may be planted in tubs or pots, not allowing too much root-room. At starting the temperature in the day should be about 60 degrees, and at night 55 degrees. More heat can be given as the plants advance, keeping up a moist atmosphere, but taking care not to give too much water to the roots. By pinching off the points of the shoots when they have made five or six leaves a second crop of fruit will be obtained. Use the knife upon them as little as possible. When the fruit begins to ripen admit air, and as soon as it is gathered give liquid manure to the roots every other day to encourage a second crop. When the plants are at rest they need hardly any water.

Filberts and Cob Nuts.—These Nuts will succeed on any soil that is not cold or wet. The bushes should be planted in October, when the leaves have nearly all fallen. Make the soil firm about the roots and give a mulching of stable manure. At the beginning of April the old and exhausted wood may be cut away, as well as any branches that obstruct light and air. Encourage well-balanced heads to the bushes by cutting back any branch that grows too vigorously, and remove all suckers as they make an appearance, except they are required for transplanting. The crop is produced on the small wood. The best method of propagation is by layers in November or any time before the buds swell in spring. The process is simple, it merely requiring a notch to be made in a branch of two or three years' growth, which is then pegged down 2 or 3 in. below the surface. The following autumn it may be cut away from its parent, pruned, and planted. They may also be grown from nuts sown in autumn and transplanted when two years old. In Kent the bushes are kept low and wide-spreading, by which means the harvest is more readily reaped. On a fairly good soil they should stand from 10 to 14 ft. apart. Lambert's Filberts, Frizzled Filberts, Purple Filberts are good varieties, the former two bearing abundantly. Among the best of the Cobs may be mentioned the Great Cob and Merveille de Bollwyller.

Fire Thorn.—See "Crataegus."

Flea Bane.—See "Inula" and "Stenactis."

Flower-Pots, Sizes of.—Various practices prevail at different potteries, but the appended names and sizes are generally adopted. In every case the inside measurement is taken.

Inches Inches

SIZES. across Top. Deep.

Thimbles 2 2
 Thumbs 2-1/2 2-1/2
 Sixties (60's) 3 3-1/2
 Fifty-fours (54's) 4 4
 Forty-eights (48's) 4-1/2 5
 Thirty-twos (32's) 6 6
 Twenty-fours (24's) 8-1/2 8
 Sixteens (16's) 9-1/2 9
 Twelves (12's) 11-1/2 10
 Eights (8's) 12 11
 Sixes (6's) 13 11
 Fours (4's) 15 13
 Threes (3's) 17 13
 Twos (2's) 18 14

Foam Flower.—See "Tiarella."

Fontanesia Phylliraeoides.—This shrub will grow in any soil, but needs protection in severe weather. It may be propagated by layers or by cuttings planted under glass. August is its time for flowering. Height, 10 ft.

Forget-me-not.—See "Myosotis."

Forsythia.—Any good soil suits these pretty shrubs. F. Suspensa thrives best under greenhouse treatment, but F. Viridissima is quite hardy. The former flowers in March, the latter in February. They may be increased by layers or cuttings. Height, 10 ft.

Foxglove.—See "Digitalis."

Fragaria Indica (Ornamental Strawberry).—A rich or peaty mould suits this half-hardy perennial. It may be saved through the winter by protecting the roots, but seed sown in spring

will generally fruit the same year. It flowers in July. Height, 1 ft.

Francoa.—Hardy perennials bearing white flowers from June to September. They like a good, warm soil. The only way of raising them is from seed. They require a slight protection in winter. Height, 2-1/2 ft.

Fraxinella (*Dictamnus*).—This ornamental hardy perennial is commonly known as the Burning Bush. It succeeds in any garden soil, and is easily raised from seed, which ripens freely. If the flowers are rubbed they emit a fine odour. It blooms in June. Height, 3 ft.

Freesia.—Remarkably pretty and graceful Cape flowers, possessing a most agreeable perfume. The plants grow about 9 in. high and produce six or eight tubular flowers on a stem. They are easily cultivated in a cool greenhouse, frame, or window, and are invaluable for cutting, the long sprays lasting from two to three weeks in water. The bulbs should be planted early in the spring in rich, very sandy soil, and given the protection of a cold frame in the winter. By successional plantings they may be had in bloom from January to May. Put six to twelve bulbs in a 4-in. or 8-in pot, place in a sunny position in a cold frame, and cover with damp cinder ashes to keep them fairly moist. When growth has begun and the pots are full of roots, remove the covering of ashes, but keep the pots in the frame, giving a little ventilation when the weather is mild, and watering carefully when the soil appears dry. Protect from frost by a covering of mats. For early flowering remove the plants to a warm greenhouse when the flower spikes appear, keeping them as near the glass as possible. When the buds are developed an occasional application of weak liquid manure will prove beneficial.

Fremontia Californica.—A beautiful and somewhat singular wall shrub, with large yellow flowers. Any soil is suitable for it, but a south or west aspect is indispensable.

Fringe Tree.—See "Chionanthus."

Fritillarias (*Crown Imperials, or Snake's Head Lilies*).—Soil, sandy loam, or well-drained, deep, rich mould. Plant in the open ground in autumn; take the bulbs up as soon as the leaves decay, and preserve them in a rather moist place. Increased by off-sets taken from the old roots every third year. They are not so suitable for pot culture as for outdoor decoration. They are quite hardy, and flower in the spring, bearing clusters of pendent bell-shaped flowers surrounded with tufts of fresh green leaves.

F. Meleagris are of dwarf, slender growth, and bear in early spring elegant pendent flowers of various shades netted and marked with darker colours. These are suitable for either the border or pots. Plant in autumn.

Fruit Trees, the Pruning of.—Cut away all growths that have an inward tendency, and do not allow any shoot to cross over or come in contact with another; also keep the centres of the trees or bushes open. The fruit of trees thus treated is not so liable to be blown down by the wind, and the sun can more readily ripen it. If the ground is poor a dressing of rotted manure worked into the soil will be beneficial to the roots.

Fuchsias.—These like a warm and moist atmosphere. The hardy sorts do well out of doors in rich, light soil. On the approach of frost cut them down and cover the roots with 3 or 4 in. of coal dust, ashes, or moss. Remove the ashes in April and thin out the shoots in May. They will also grow well from cuttings taken off the old wood as soon as they are 1 in. long, inserted in sand and placed under glass, or plunged in dung at a temperature of 60 degrees. Cuttings will also strike in loam and leaf-mould. If grown in pots, take them indoors before the frosty weather begins, and give them very little or no water at all during the winter. Keep them in a cool place, yet free from frost. Re-pot them in the spring, trimming the branches and roots, and making a compost for them of one-half mellow yellow loam, one quarter leaf-mould, and one quarter old manure. Place them in a frame with bottom-heat, and water and syringe them moderately while they are growing. When they are in full growth never give them plain water, but always plenty of liquid manure.

Fumitory.—See "Corydalis."

Funkia.—Ornamental plants which delight in a deep, light soil and a warm, moist situation, without which they will not flower. They are increased by division (which should not be too severe) and bloom in July and August. Height, 1 1/2 ft.

Furze.—Enjoys a sandy soil. Increased by cuttings taken in spring or autumn and placed in a shady border under hand-glasses. It is of evergreen habit, and forms a dense and highly ornamental hedge. (See also "Ulex.")

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Gages.—The cultivation of Gages is similar to that of Plums. In the open they may be grown as dwarfs or pyramids, and in orchard-houses as gridirons, cordons, or in pots. The chief points to observe are to thin the branches in order to admit plenty of light into the middle of the tree, thus inducing the production of a plentiful supply of fruit spurs, and to occasionally lift and root-prune the tree if growing too strong. Among the choicest sorts are: Bonne Bouche (producing its fruit at

the end of August), Coe's Golden Drop (end of September), Old Green Gage (August), Guthrie's Late Green Gage (September), M'Laughlin's Gage (end of August), Oullin's Golden Gage (end of August), and Reine Claude de Bavay (beginning of October).

Gaillardia (*Blanket Flower*).—Very ornamental flowers, which will grow in any common soil, but thrive most in a light, rich one. Seeds of the annual kinds are sown in the spring. The perennials are increased by dividing the roots. Bloom in July. Height, 1 ft. to 2 ft.

Galanthus.—See "Snowdrops."

Galax Aphylla (*Wand Plant*).—The Heart-shaped Galax is a charming little plant for rock-work. It is perennial, and does not lose the old leaves till the new ones appear. A rich, light mould is required for its growth, and its situation should be a somewhat shady one. Its flowers are borne in July and August, on stalks 1 ft. or more high. The plant may be increased by taking up a strong clump, shaking it apart, and transplanting at once. (*See also* "Shortia.")

Galega (*Goats Rue*).—Ornamental hardy perennials, requiring plenty of room. They are readily increased by seed or division of the root, and flower in July. Height, 3 ft. to 4 ft.

Galium.—This hardy herbaceous plant blooms in July. It will grow in any soil, and can be increased by division of the root. Height, 1 ft.

Gardenias.—Plant in a hothouse in fibrous peat mixed with a large proportion of sand. Give plenty of heat and moisture during growth, with a thin shade to keep off the sun's midday rays. Lower the temperature as soon as growth is completed, and in the middle of summer stand the plants out in the open for a week or two for the wood to ripen. Height, 3 ft.

Garlic.—Plant small cloves from February to April in rows 9 in. apart and 6 in. from each other in the row. Lift them when the leaves die down, dry them in the sunshine, and store in an airy, cool shed.

Garrya Elliptica.—A hardy evergreen shrub, which is very suitable in its early stages for pot-culture. A light, loamy soil is what it likes. Cuttings taken in August and placed in sand under a hand-glass will strike freely, but it is most readily increased by layers. In October it bears graceful yellowish-green tassels of flowers from the ends of its shoots. Height, 6 ft.

Gasteria Verrucosa.—This plant grows best in pots of turfy loam and leaf-mould, to which has been added a little old mortar. Good drainage is essential. Water freely in summer, and keep just moist in winter. Keep the foliage clean by sponging. Give plenty of light, and during warm weather turn the plants out of doors.

Gastrolobium.—Elegant evergreen shrubs which flower in April and May. They are most suitable for adorning the greenhouse, and grow best in a soil of loamy peat and sand. Cuttings of half-ripened wood planted under glass will take root. Height, 2 ft.

Gaultheria.—Dwarf, creeping evergreen shrubs, having dark foliage and producing white flowers in May, June, or July. They require to be grown in peat, and are increased by layers. *G. Procumbens* is suitable for rockeries, as it only grows to the height of 6 in. *G. Shallon* attains the height of 2 ft.

Gaura Lindheimeri.—This free-flowering, hardy, herbaceous plant will thrive in any light, rich soil. It bears elegant spikes of white flowers from May onwards, followed by red bracts in September, and is readily propagated by seeds. Height, 4 ft.

Gazania Splendens.—A showy greenhouse plant. It may be planted in the open in warm positions, but will require protecting in winter. Grow it in peat and loam. Cuttings will strike if placed in sand under glass. It flowers in July. Height, 1 ft.

Genethyllis.—Greenhouse evergreen shrubs which thrive best in sandy loam and peat. Cuttings of the young wood planted in the same soil and plunged in heat will take root. Their flowering season is in August. Height, 3 ft.

Genista (*Broom*).—*G. Canariense* is an exceedingly ornamental and free-flowering greenhouse shrub. It should be planted in a mixture of loam, peat, and sand. Young cuttings inserted in sand under a glass take root readily. It blooms in June. Height, 2 ft. Hardy species of *Genista* may be placed in the front of shrubberies. They are increased by seeds or by layers.

Gentians.—The herbaceous kinds do best in a light, rich soil, such as loam and peat mixed with vegetable mould. The annuals are raised from seed sown as soon as it is ripe; if left till spring before it is sown it will probably not come up till the second year. The perennials are increased by dividing the roots. Both of the latter kinds do best in a dry, sandy soil. *Gentiana Acaulis*, or *Gentianella*, is very suitable for edgings, or for rock-work; it is an evergreen creeper, and bears large trumpet-shaped flowers of rich ultramarine blue. All the Gentians need plenty of free air, and some of them moisture at the roots. Bloom in July. Height, 4 in. to 2 ft.

Geranium Argentium (*Silvery Crane's-Bill*).—This hardy perennial alpine is very effective on rock-work, especially in front of dark stones; but provision must be made for its long tap roots. A rich, deep loam suits it well. Its seeds germinate freely when sown in peat and sand. Flowers are borne from May to July. Height, 6 in.

Geraniums.—Take cuttings in July or August, and let them be to partially dry for twenty-four hours before planting. When rooted pot them off in 60's, and keep them under glass during the winter at a temperature of 55 degrees. If the cuttings are taken in September put three or four slips in a 48-size pot. In the spring they should be re-potted singly and hardened off as early as possible. A suitable soil for them is made by mixing two parts of good turfy loam, one of leaf-mould, one of well-decomposed cow-dung, and a good proportion of silver sand. Bone dust is an excellent addition to the soil. Old plants stripped of their leaves may be packed in sand during the winter, and re-potted in spring.

Gerardia.—These hardy perennials form pyramidal bushes bearing Pentstemon-like flowers, thickly set and varying in colour from light pink to dark purple. A peat soil suits them best. They may be propagated by cuttings placed under glass, but are best grown from seed. July is their flowering season. Height, 1 ft. to 2 ft.

German Seeds.—These require to be sown in a cold frame in seed-pans, in the greenhouse, or under a handglass, in good, rich compost, composed of old turf, leaf-mould, some well-rotted manure, and silver sand. The seeds should be sown thinly and watered sparingly. Sow early in April, and transplant in the middle or end of May in rich soil. Water occasionally with weak liquid manure.

Gesneria.—Handsome greenhouse perennials. They thrive in any light, rich soil. Cuttings will strike readily either in sand or soil if placed under glass in heat. They may also be raised from seed sown in a temperature of 75 degrees in March or April. They flower in October. Height, 18 in.

Geum.—Very handsome hardy perennials. They grow well in any light, rich, loamy soil, and may be increased either by seeds or by dividing the roots. *G. Coccineum* is extremely pretty. Flower in July. Height, 18 in.

Gherkins.—Sow the seed the first week in April in small pots, and cover it lightly with fine soil. Plunge the pots in a hotbed covered with a frame. When grown to nice little plants, remove them to a cold frame to harden, and plant them out on a warm border towards the end of May. When the fruit begins to form, give liquid manure twice a week. For pickling they must be cut while small.

Gilia.—Extremely pretty and free-flowering hardy annuals, deserving of a place in every garden. They are very suitable for small beds. They should be sown in the open early in spring. *G. Tricolour* may be sown in autumn. Bloom in July. Height, 1 ft.

Gillenia Trifoliata.—The Three-Leaved Gillenia is a hardy herbaceous perennial which is very useful as a cut flower for the decoration of vases, etc. It should be grown in large clumps, delights in a deep, moist soil and partial shade, and may be propagated by dividing the roots early in spring. It lasts in bloom from June to August. Height, 1 ft.

Gladiolus.—Dig the ground out to a depth of 1 ft. or 15 in.; put in a layer of leaf-mould or rotted manure, and then 4 or 5 in. of earth mixed with sand; insert the bulbs (6 in. from the surface and 9 in. apart), cover them with 1 in. of sand, and fill up with earth. In frosty weather cover with a thick layer of litter. Give plenty of water when they begin to throw up their flower-stems. They may be planted at any time between December and the end of March. If planted late in the season, a depth of 3 or 4 in. is enough. The roots must be kept dry in winter. They are increased by off-sets, taken when the bulbs are removed from the ground after the leaves have turned yellow. These should be planted at once in well-drained earth. If early flowers are required, plant the old bulbs in pots (three to six bulbs being placed in a 5-in. pot) any time between December and March. Give them frame culture up to the second week in May, when they may be transferred to the border. The flowers are invaluable for vase decoration.

Glaucium Flavum Tricolor (*Hardy Horn Poppy*).—The large, brilliant, orange-red flowers of this plant are very effective in the border, and the bloom is continuous during the greater part of the summer. The seed is rather slow to germinate, but when sown in the open ground in autumn, it blooms from June to August; when sown in early spring it flowers from July to September. Height, 2 ft.

Glaux Maritima (*Sea Milkweed*).—A pretty little hardy trailing plant bearing flesh-coloured flowers in June and July. It grows in sandy loam, and is raised from seed sown in spring. Height, 3 in.

Globe Amaranthus (*Gomphrena*).—This tender annual is well known for its clover-like heads of everlasting flowers. It will grow in any rich soil, but to produce really fine plants, much attention must be given to shifting, watering, etc. Increased by seed in the same manner as other tender annuals. Blooms in July. Height, 1 ft.

Globe Flower.—See "Trollius."

Globe Thistle.—See "Echinops."

Globularia Trichosantha.—A pretty dwarf perennial rock-plant bearing pale blue flowers in May and June. It is hardy, thrives in light, sandy soil, and is increased by either seeds or cuttings planted in sand. Height, 6 in. The greenhouse varieties of *Globularia* grow best in loam and peat.

Glory of the Snow.—See "Chionodoxa."

Gloxinias.—A very ornamental family of tuberous-rooted hothouse plants. They are of two classes, the drooping and the erect. Pot at any time during January and March in a mixture of equal quantities of loam, peat, and sand, with the addition of a little vegetable soil, and place in a warm (60 degrees), moist temperature, where they can be favoured with a little shade. In summer supply the roots plentifully with water, but give them very little in winter. Overhead watering is likely to rot the leaves and flowers. *G. Maculata* is increased by division. The leaves of most of the others, if taken off close to the stem, and planted, will soon make young plants. They may be raised from seed sown from March to July in a hothouse or frame having a temperature of 65 to 75 degrees. They flower in June, and on into September. Height, 6 in. to 1 ft.

Glycine.—See "Wistaria" and "Apios."

Gnaphalium (*Edelweiss*).—Hardy everlasting flowers, which are covered with a woolly substance. They may be grown in any light, rich soil. The shrubby and herbaceous kinds may be increased by cuttings or division. The annuals are easily raised from seed. They flower in July. Height, 1 ft.

Goat's Rue.—See "Galega."

Godetia.—Very pretty hardy annuals, that may be grown in any garden soil. Sow in the autumn for early flowering, or in spring for later blooms. July is their ordinary season of coming into flower. Height, 1-1/2 ft. to 2 ft.

Golden Feather.—Hardy annual foliage plants. They are not particular as to soil, and are easily raised from seed sown early in spring. They bloom in July. Height, 1 ft.

Golden Rod.—See "Solidago."

Gompholobium.—Delicate greenhouse evergreen shrubs requiring a soil of sandy loam and peat and but little water. They flower in June, and are propagated by cuttings planted in sand under glass. Height, 2 ft.

Gomphrena.—See "Globe Amaranthus."

Gooseberries.—From the middle of October to the end of November is the best time for planting. To produce good crops the soil should be rich, deep, and well drained. The position should be somewhat cool and sheltered, and a liberal quantity of liquid manure is beneficial. In dry seasons mulching may be resorted to with advantage. Cuttings are taken in autumn as soon as the leaves begin to fall. Select strong shoots about 1 ft. long. Cut the bottom end straight across, just below a joint, and with a sharp knife remove all the buds or eyes from the base to within a couple of inches of the top, so as to prevent the formation of suckers. Plant the shoots firmly 3 in. deep, in rows 1 ft. apart and 6 in. apart in the rows, on a north border. At the end of the second season cut back all leading shoots to two-thirds of their length. In after years remove weak and superfluous branches, as also any that are growing near the ground, but plenty of young wood must always be left on the bushes. The pruning may be done either in spring or autumn. The following varieties may be recommended:—Red, White, and Yellow Champagne, Wilmot's Early Red, Golden Drop, Ironmonger, and Warrington Red for dessert; while for preserving and culinary purposes Old Rough Red, Conquering Hero, Favourite, Broom Girl, British Crown, Ironsides, Lady Leicester, Thumper, Green Walnut, Leader, and Moreton Hero may be classed among the leading varieties. When grown in bush form ample room must be allowed between each to enable one to get round the bushes to gather the fruit.

Gooseberry Caterpillar.—To prevent caterpillars attacking Gooseberries syringe the bushes with a decoction of common foxglove (*Digitalis*), or dust the leaves with Hellebore powder. If the caterpillar has begun its attack, sprinkle some fresh lime below the bushes, and shake the bushes vigorously, so that the insects are dislodged.

Gorse.—See "Ulex."

Gourds.—Sow at the end of March or the beginning of April on a slight hotbed; pot off when the plants are sufficiently advanced, and transplant to the open border in June. They are well adapted for arbours, trellis-work, or sloping banks. The following are among the most ornamental:—*Abobra Viridiflora*, *Benincasa Cerifera* (Wax Gourd), *Bryonopsis Erythrocarpa*, *Coccinea Indica* (scarlet fruit), *Cucumis Anguinus* (Serpent Gourd), *Cucumis Dipsaceus* (Teasel Gourd), *Cucumis Dudaim* (Balloon Gourd), *Cucumis Erinaceus* (Hedgehog Gourd), *Cucumis Grossularoides* (Gooseberry Gourd), *Cucumis Perennis*, *Cucurbita Argyrosperma*, *Cucurbita Melopepo*, *Cyclanthera Explodens* (Bombshell Gourd), *Cyclanthera Pedata*, *Eopepon Aurantiacum*, *Eopepon Vitifolius*, *Lagenaria Clavata* (Club Gourd), *Lagenaria Enormis*, *Lagenaria Leucantha Depressa*, *Lagenaria Leucantha Longissima*, *Lagenaria Plate de Corse*, *Lagenaria Poire a Poudre*, *Lagenaria Siphon*, *Luffa Cylindrica*, *Luffa Solly Qua*, *Melothria Scabra*, *Momordica Balsamina*, *Momordica Charantia*, *Momordica Elaterium*, *Mukia Scabrella*, *Scotanthus Tubiflorus*, *Trichosanthes Anguina*, *Trichosanthes Coccinea*, *Trichosanthes Colubrina*, and *Trichosanthes Palmata*.

Grafting.—The objects of Grafting are to bring a bush or tree into an earlier state of bearing than it would do naturally; to produce good fruit from an inferior plant; and to save space by putting dwarf scions on to rampant-growing trees. By the process of uniting strong-growing trees

to those of a weaker nature their exuberance is checked, and weaker ones are improved by being worked on those of a stronger growth. Whatever form of Grafting is adopted, the inner layers of the bark of the stock or tree on which the operation is performed, must be brought into direct contact with the inner layers of the bark of the branch which is grafted, or, as it is called, the scion. This scion should be a branch of the early growth of the previous year's wood, and should be in the same state of vegetation as the stock. If the scion is in a more advanced state than the stock, its growth may be stopped by cutting it off and burying it in the earth under a north wall until the stock has advanced sufficiently in growth. Grafting of all kinds is best done in March, when the sap is flowing freely. Many methods of Grafting are adopted, the following being the principal:—

Whip or Tongue Grafting is suitable for almost any description of trees. Saw the stock off level at any desired height, then make a deep upward slanting cut through the bark at the top 2 or 3 in. in length, and in the middle of the cut turn the knife downwards and cut out a thin wedge-shaped socket. Next cut the scion in a similar manner so that it will fit exactly into the incision of the stock, bringing the bark of each into direct contact. Bind it firmly in position, and cover it over, from the top of the stock to the bottom of the scion, with grafting wax or clay. When the scion and the stock are united, which is demonstrated by the former making growth, remove the wax and cut away all shoots that may be produced on the stock.

In the French mode of Grafting known as the Bertemboise, the crown of the stock is cut at a long level, about 1 in. at the top being left square, and an angular piece is cut away in which the scion is inserted. It is then bound and waxed over.

Theophrastes or Rind Grafting is used where a tree has strong roots but inferior fruit. The branches are cut off about 1-1/2 or 2 ft. from the main stem. A sharp cut 2 or 3 in. in length is made down the bark of the branches, and the lower parts of the scion, selected from a superior tree, having been cut into tongues resembling the mouth-piece of a flageolet, the bark of the branches is lifted with a knife, and the tongues of the scions are slipped in, bound, and waxed.

Side Grafting is useful where it is desired to replenish the tree with a fresh branch. A T-shaped cut is made in the stem of the tree, extending to the inner bark; the scion is prepared by a longitudinal sloping cut of the same length as that in the stem, into which it is inserted, and the two are bound together and treated like other grafts.

Approach Grafting is the most favourable method of obtaining choice varieties of the vine, or of growing weak sorts on roots of a stronger growth. The scion is generally grown in a pot. A portion of the bark is cut from both scion and stock while the vine is in active growth, and the two wounded parts brought into contact, so that they fit exactly. They are then tied together, and moss (kept constantly wet) is bound round the parts. The union may be completed by the following spring, but it is safer to leave the cutting down of the stock to the point of union and the separation of the scion from the potted plant until the second spring.

Grafting Wax (*Cobbetts*), **etc.**—Pitch and resin four parts each, beeswax two parts, tallow one part. Melt and mix the ingredients, and use when just warm. It may be rolled into balls and stored in a dry place.

Clay bands are frequently employed for excluding the air from wounds caused in the process of grafting. These are liable to crack, unless the clay is well kneaded and mixed with wood ashes or dry horse droppings.

Grapes.—The cultivation of Grapes in the open in our cloudy and changeable climate cannot be looked forward to with any certainty of success. Two successive favourable seasons are indispensable—one to ripen the wood, and the next to ripen the fruit. Nevertheless, the highly ornamental foliage of the vine entitles it to a place on our walls, and every facility should be afforded for the production of a chance crop of fruit. The soil most suited to the growth of the vine is a medium loam, with which is incorporated a quantity of crushed chalk and half-inch bones. It should be given a south aspect, and be liberally supplied with water in dry seasons. April is the best time to plant it, spreading the roots out equally about 9 in. below the surface of the soil, and mulching with 3 or 4 in. of manure. Should mildew set in, syringe the vine with a mixture of soapsuds and sulphur. To secure a continuance of fruit, cut out some of the old rods each year as soon as the leaves fall, and train young shoots in their places. Last year's shoots produce other shoots the ensuing summer, and these are the fruit-bearers. One bunch of grapes is enough for a spur to carry. Professional gardeners cast off the weight of the bunches, and allow 1 ft. of rod to each pound of fruit. Tie or nail the bunches to the trellis or wall, and remove all branches or leaves that intercept light and air.

The vine may be increased by layers at the end of September. Cut a notch at a bud, and bury it 4 or 5 in. deep, leaving two or three eyes above ground. It may also be propagated by cuttings, about 1 ft. in length, of the last year's growth, with 1 in. of old wood attached, taken the latter end of February. Plant these deep in the ground, leaving one eye only above the surface. Both the Black Hamburg and Royal Muscadine ripen as well as any in the open.

It is under glass only that Grapes can be brought to perfection. Here a night temperature of 55 to 65 degrees, with a rise of 5 or 10 degrees in the day, should be maintained, the walls and paths damped once or twice a day, and the vine syringed frequently until it comes into bloom, when syringing must cease, and a drier atmosphere is necessary; the moisture being reduced by degrees. As the grapes ripen, admit more air, and reduce the heat, otherwise the fruit will

shrive. After gathering the grapes syringe the vine frequently to clear it from spiders or dust, and keep the house cool to induce rest to the plant. The fruit may be preserved for a long while in a good condition by cutting it with about 1 ft. of the rod attached, and inserting the cuttings in bottles of water in which a piece of charcoal is placed: the bottles to be placed in racks nailed on to an upright post in any room or cellar where an equable temperature of 45 or 50 degrees can be kept up. The system of pruning adopted is that known as spur pruning (*see* "Pruning"). Mrs. Pearson is a very fine variety, and produces very sweet berries; the Frontignan Grizzly Black and White are also delicious.

Grasses, Natural—

AGROSTIS STOLONIFERA (*Creeping Bent Grass*).—Useful for damp meadows.

ALOPECURUS PRATENSIS (*Meadow Foxtail*).—Strong-growing and very nutritious.

ANTHOXANTHUM ODORATUM (*True Sweet Vernal*).—Hardy and gives fragrance to hay.

AVENA FLAVESCENS (*Yellow Oat Grass*).—Fine for sheep; grows freely on light soils.

CYNOSURUS CRISTATUS (*Crested Dogstail*).—Suitable for any soil.

DACTYLIS GLOMERATA (*Cocksfoot*).—Strong and coarse-growing; cattle are fond of it.

FESTUCA DURIOUSCULA (*Hard Fescue*).—Dwarf-growing; excellent for sheep.

FESTUCA ELATIOR (*Tall Fescue*).—Useful for cold, strong soils.

FESTUCA OVINA (*Sheep's Fescue*).—Fine for dry, sandy soils.

FESTUCA OVINA TENUIFOLIA (*Slender Fescue*).—Suitable for mountain pastures.

FESTUCA PRATENSIS (*Meadow Fescue*).—Good permanent grass for rich, moist soil.

PHLEUM PRATENSE (*Timothy, or Catstail*).—Suitable for strong soils; nutritious and hardy.

POA NEMORALIS (*Wood Meadow Grass*).—Good for poor soils.

POA PRATENSIS (*Smooth-stalked Meadow Grass*).—Grows well on light, dry soil, and also in water-meadows.

POA TRIVIALIS (*Rough-stalked Meadow Grass*).—Fine for damp soil.

Grasses, Ornamental.—Fine for mixing in a green state with cut flowers, or in a dried condition for the decoration of vases, winter bouquets, etc. To have them in perfection gather them while quite fresh, with the pollen on them. Cut with as long stems as possible, arrange lightly in vases, and keep them in the dark till they are dried and the stems become stiff. The Grasses may be divided into two sections, viz., those for bouquets or edgings, and those grown in the border or on lawns for specimen plants. The class is numerous, but the following (which may be found described herein under alphabetical classification) may be mentioned:—

For bouquets and edgings: *Agrostis*, *Anthoxanthum*, *Avena*, *Briza*, *Coix Lachryma*, *Eragrostis*, *Festuca*, *Hordeum Jubatum*, *Lagurus*, and *Stipa Pennata*. For specimen plants: *Eulalia*, *Gynerium*, *Panicum*, *Phalaris*, and *Zea*.

Gratiola Officinalis.—This hardy herbaceous plant bears light blue flowers in July. A rich, moist soil is its delight. It is propagated by dividing the roots. Height, 1 ft.

Green Fly.—Fumigate the infected plants with tobacco, and afterwards syringe them with clear water; or the plants may be washed with tobacco water by means of a soft brush.

Grevillea.—Handsome greenhouse shrubs, which require a mould composed of equal parts of peat, sand, and loam. Give plenty of water in summer, a moderate amount at other seasons. Ripened cuttings may be rooted in sand, under a glass. Young plants may also be obtained from seed. They bloom in June. Their common height is from 3 to 4 ft., but *G. Robusta* attains a great height. *Grevilleas* will grow well in windows facing south.

Griselinia Littoralis.—A dwarf-growing, light-coloured evergreen shrub, which will thrive near the sea. It requires a light, dry soil, and may be increased by cuttings.

Guelder Rose.—*See* "Viburnum."

Guernsey Lily (*Nerine Sarniense*).—Soil, strong, rich loam with sand, well drained. Plant the bulbs deeply in a warm, sheltered position, and let them remain undisturbed year by year. Keep the beds dry in winter, and protect the roots from frost. They also make good indoor plants, potted in moss or cocoa-nut fibre in September, or they may be grown in vases of water.

Gumming of Trees.—Scrape the gum off, wash the place thoroughly with clear water, and apply a compost of horse-dung, clay, and tar.

Gunnera Manicata (*Chilian Rhubarb*).—This hardy plant bears large leaves on stout foot-stalks, and is very ornamental in the backs of borders, etc. Planted in a rich, moist soil, it will flower in August. It can be propagated by division. Height, 6 ft.

Gunnera Scabra.—Has gigantic leaves, 4 to 5 ft. in diameter, on petioles 3 to 6 ft. in length. It

prefers a moist, shady position, and bears division. Makes a fine addition to a sub-tropical garden, where it will flower in August. Height, 6 ft.

Gynerium (*Pampas Grass*).—This unquestionably is the grandest of all grasses, and is sufficiently hardy to endure most of our winters. It is, however, desirable to give it some protection. It requires a deep, rich, alluvial soil, with plenty of room and a good supply of water. Plants may be raised from seed sown thinly in pots during February or March, barely covering it with very fine soil, and keeping the surface damp. Plant out at end of May. They will flower when three or four years old. The old leaves should be allowed to remain on till the new ones appear, as they afford protection to the plant. It may be increased by division of the root. Height, 7 ft.

Gypsophila.—Of value for table bouquets, etc. They will grow in any soil, but prefer a chalky one. The herbaceous kinds are increased by cuttings; the annuals are sown in the open either in autumn or spring. They bloom during July and August. Height, 1 ft. to 3 ft.

H

Habrothamnus.—These beautiful evergreen shrubs require greenhouse culture, and to be grown in sandy loam and leaf-mould. The majority of them flower in spring. Height, 4 ft. to 6 ft.

Halesia Tetraptera (*Snowdrop Tree*).—This elegant shrub will grow in any soil, and may be propagated by cuttings of the roots or by layers. The pendent white flowers are produced close to the branches in June. Height, 8 ft.

Hamamelis (*Witch Hazel*).—An ornamental shrub which will grow in ordinary soil, but thrives best in a sandy one. It is increased by layers. May is its season for flowering. Height, 12 ft. to 15 ft. *H. Arborea* is a curious small tree, producing brownish-yellow flowers in mid-winter.

Harpalium Rigidum.—A hardy perennial, producing very fine yellow flowers in the autumn. It will grow in any good garden soil, and may be propagated by seed sown in early autumn, or by division of the roots. Height, 3 ft.

Hawkweed.—See "*Crepis*" and "*Hieracium*."

Heartsease.—See "*Pansies*."

Heaths, Greenhouse.—For their successful growth Heaths require a well-drained soil, composed of three parts finely pulverised peat and one part silver sand, free ventilation, and a careful supply of water, so that the soil is always damp. If they suffer a check they are hard to bring round, especially the hard-wooded kinds. Some of the soft-wooded Heaths, such as the *H. Hyemalis*, are easier of management. After they have flowered they may be cut hard back, re-potted, and supplied with liquid manure. The stout shoots thus obtained will bloom the following season. (See also "*Ericas*.")

Hedera.—See "*Ivy*."

Hedychium Gardnerianum.—A hothouse herbaceous plant, delighting in a rich, light soil, plenty of room in the pots for the roots, and a good amount of sunshine. In the spring a top-dressing of rich manure and soot should be given. From the time the leaves begin to expand, and all through its growing stage, it needs plenty water, and an occasional application of liquid manure. The foliage should not be cut off when it dies, but allowed to remain on all the winter. While the plant is dormant keep it rather dry and quite free from frost. It may be increased by dividing the roots, but it blooms best when undisturbed. July is its flowering month. Height, 6 ft.

Hedysarum.—Hardy perennials, requiring a light, rich soil, or loam and peat. They may be raised from seed, or increased by dividing the roots in spring. *H. Multijugum* bears rich purple flowers. Height, 6 in. to 3 ft.

Heleniums.—The *Pumilum* is a very pretty hardy perennial that may be grown in any soil, and increased by dividing the roots. It produces its golden flowers in August. Height, 1-1/2 ft. *H. Autumnale* is also easy to grow, but flowers a month later than the *Pumilum*, and attains a height of 3 ft. *H. Bigelowi* is the best of the late autumn-flowering species, producing an abundance of rich yellow flowers with purple discs. Flowers in August. Height, 3-1/2 ft.

Helianthemum Alpinum (*Rock Roses*).—These hardy perennials are best grown in sandy loam and peat, and may be increased by cuttings placed under glass in a sheltered situation. Bloom in June or July. Height, 1 ft.

Helianthus (*Sunflowers*).—The tall variety is a very stately plant, suitable for the background or a corner of the border. Well-grown flowers have measured 16 in. in diameter. The miniature kinds make fine vase ornaments. They grow in any garden soil, and are easily increased by seed raised on a hotbed in spring and afterwards transplanted. The perennials may be propagated by division of the root. They produce their flowers in August. Height, 3 ft. to 6 ft.

Helichrysum.—Fine everlasting hardy annuals, that grow best in a mixture of three parts peat and one part sandy loam. May be readily raised from seed sown in a cold frame in March, or cuttings taken off at a joint will strike in peat and sand. Bloom during July and August. For winter

decoration the flowers should be gathered in a young state, as they continue to develop after being gathered. Height, 1 ft. to 6 ft, but most of them are 2 ft. high.

Heliophila.—Pretty little hardy annuals, thriving best in sandy loam and peat. Sow the seed early in spring in pots placed in a gentle hotbed, and plant out in May. They flower in June. Height, 9 in.

Heliopsis.—This hardy perennial is useful for cutting purposes, the flowers being borne on long stalks, and lasting for two or three weeks in water. It is not particular as to soil, and may be increased by dividing the roots. Height, 5 ft.

Heliotrope.—Commonly called Cherry Pie. Sow the seed early in spring in light, rich soil in a little heat, and plant out in May. The best plants, however, are obtained from cuttings taken off when young, in the same way as Verbenas and bedding Calceolarias. They are very sensitive to frost. Flower in June. Height, 1 ft.

Helipterium.—A half-hardy annual, bearing everlasting flowers. It should receive the same treatment as Helichrysum. Blooms in May or June. Height, 2 ft.

Helleborus (*Christmas Rose*).—As its name implies, the Hellebore flowers about Christmas, and that without any protection whatever. The foliage is evergreen, and of a dark colour. When the plant is once established it produces flowers in great abundance. The plants of the white-flowered variety should be protected with a hand-light when the flower-buds appear, in order to preserve the blossoms pure and clean. Any deeply-dug rich garden soil suits it, and it is most at home under the shade of a tree. It prefers a sheltered situation, and during the summer months a mulching of litter and an occasional watering will be beneficial. Readily increased by division in spring or seed. Height, 1 ft.

Helonias Bullata.—A pretty herbaceous plant, bearing dense racemes of purple-rose flowers from June to August. It grows best in peat, in a moist position. It can be raised from seed or increased by division of the roots. Height 1-1/2 ft.

Hemerocallis (*Day Lily*).—Old-fashioned plants of great merit. Planted in large clumps they produce a grand effect. They are easily grown in any common garden soil, and bloom in July. Height, 3 ft. H. Kwanso has handsome, variegated foliage.

Hemp.—See "Canna" and "Cannabis."

Hepatica.—This enjoys a rather light, sandy soil and a shady situation. The roots should be taken up and divided every second year. Well adapted for surrounding beds or clumps of Rhododendrons. Flowers in March. Height, 4 in.

Heracleum.—Coarse hardy biennials, that may be grown in any kind of soil, and are readily raised from seed. They flower at midsummer. Height, 2 ft. to 4 ft.

Herbs.—Thyme, Marjoram, Chervil, Basil, Burnet, Hyssop, Savory, etc., should be sown early in spring, in dry, mild weather, in narrow drills about 1/2 in. deep and 8 or 9 in. apart, covered evenly with soil, and transplanted when strong enough. Mint is quickly increased by separating the roots in spring, and covering them with 1 in. of earth. Sage is propagated by slips of the young shoots taken either in spring or autumn. If planted in light soil and in a sunny position it produces very fragrant flowers. Chives should be planted 6 or 8 in. apart: they are increased by division in spring. Penny Royal, like mint generally, will grow from very small pieces of the root; it needs to be frequently transplanted, and to be kept from a damp condition. Rosemary will grow from cuttings planted under glass in a shady spot. Thyme likes a light, rich soil, and bears division. Sorrel will grow in any soil, and the roots should be divided every two or three years. Chamomile roots are divided and subdivided in spring. Herbs should be harvested on a fine day, just before they are in full bloom. Tie them up in small bunches and hang in the shade to dry, then wrap in paper and store in air-tight vessels, or rub the leaves to a powder and keep in tightly-corked bottles. They will retain their strength for a long time.

Herbs, the Uses of Sweet and Pot.—

ANGELICA.—A biennial. Leaves and stalks are eaten raw or boiled; the seeds are aromatic, and used to flavour spirits.

ANISE.—Leaves used for garnishing, and for seasoning, like fennel; the seeds are medicinal.

BALM.—A hardy perennial. Makes a useful tea and wine for fevers.

BASIL, Sweet and Bush.—Half-hardy annuals. The leaves and tops of the shoots, on account of their clove-like flavour, are used for seasoning soups and introduced into salads.

BORAGE.—Hardy annual. Used for salads and garnishing, and as an ingredient in cool drinks; excellent also for bees.

CHAMOMILE.—A hardy perennial. Flowers used medicinally.

CARAWAY.—A biennial. Leaves used in soups, and the seeds in confectionery and medicine.

CHERVIL.—An annual. Useful for salads.

CHIVES.—Hardy perennial. The young tops used to flavour soups, etc.

CORIANDER.—A hardy annual. Cultivated for garnishing.

DILL.—A hardy perennial. Leaves used in soups and sauces, also in pickles.

FENNEL.—Hardy perennial. Used in salads and in fish sauce, also for garnishing dishes.

HOREHOUND.—Hardy perennial. Leaves and young shoots used for making a beverage for coughs.

HYSSOP.—Hardy evergreen shrub. Leaves and young shoots used for making tea; also as a pot herb.

LAVENDER.—Hardy perennial. Cultivated for its flowers, for the distillation of lavender water, for flavouring sauces, and for medicinal purposes.

MARIGOLD, Pot.—Hardy annual. Flowers used in soups.

MARJORAM, Sweet or Knotted, and Pot.—Hardy annuals. Aromatic and sweet flavour. Used for stuffings and as a pot herb; leaves dried for winter use.

RAMPION.—Hardy perennial. Roots used as a radish; they have a nutty flavour.

ROSEMARY.—Hardy ornamental shrub. Sprigs used for garnishing and the leaves in drink.

RUE.—Hardy evergreen shrub. Leaves used for medicinal drinks; useful for poultry with croup.

SAGE.—Hardy perennial. Decoction of leaves drunk as tea; used also for stuffing, meats, and sauces.

SAVORY, Summer.—Hardy annual. Used for flavouring soups and salads.

SAVORY, Winter.—Hardy evergreen shrub. Its aromatic flavour makes it valuable as a pot herb.

SCURVY GRASS.—The small leaves are eaten as watercress.

SKIRRET.—Hardy perennial. Sweet, white, and pleasant; the tubers are boiled and served up with butter.

SORREL, Broad-Leaved.—Hardy perennial. Imparts an acid flavour to salads and soups.

THYME, Broad-Leaved.—Hardy perennial. Young leaves and tops used for stuffing, also in soups and sauces.

TARRAGON.—Hardy perennial. For flavouring vinegar; also used in salads, soups, and pickles.

WORMWOOD.—A hardy shrub. Beneficial to horses and poultry, and is used for medical purposes.

Herniaria Glabra.—These dwarf carpeting plants are of easy culture. Grow from seed in spring and transplant into sandy soil. Height, 1-1/2 in.

Hesperis.—See "Rocket."

Heuchera.—Very neat, but not showy, hardy American perennials. They may be grown in any ordinary light garden soil, are increased by dividing the root, and bloom in May. Height, 1 ft. to 2 ft.

Hibbertia Dentata.—An evergreen twining plant, requiring a greenhouse for its cultivation and a soil of sandy loam and peat. It flowers in July, and is increased by cuttings taken in spring or summer and kept under glass. Height, 6 ft.

Hibiscus Africanus.—A handsome hardy annual Mallow. Sow in March in slight heat, and plant out in May 10 in. apart. Grows best in a mixture of loam and peat. Blooms in June. Height, 2 ft.

Hibiscus Syriacus (*Rose of Sharon*).—A hardy, deciduous, autumn-flowering shrub, which will grow in common soil, and may be propagated by seeds, layers, or cuttings planted under glass. Height, 6 ft.

Hieracium (*Hawkweed*).—A free-growing hardy perennial, suitable for a sunny bank or border. It is not particular as to soil. From June to September it produces orange-brown flowers. It grows freely from seed, and the roots bear division. Height, 1-1/2 ft.

Hippeastrums.—See "Amaryllis."

Hippocrepis.—Very pretty hardy trailing perennials, covered from May to July with golden Pea-shaped flowers. They will grow in any light, sandy soil, and may be increased by cuttings, which root readily under glass. Height, 3 in. to 6 in.

Hippophae.—Ornamental shrubs, thriving in ordinary soil, and increased by layers or cuttings of the roots. *H. Rhamnoides* (Sea Buckthorn) flowers in May. Height, 12 ft.

Holboellia Latifolia.—See "Stauntonia Latifolia."

Holly (*Ilex*).—This pleasing hardy evergreen shrub thrives best on a deep, sandy loam, but will grow in any good soil, provided the position is dry. It succeeds well in the shade. Cuttings of young shoots having 1 in. of the old wood attached will strike root, but the plant is of very slow growth, and takes at least four years to grow into a good bush. Choice varieties may be grafted or budded on to the common sorts in June or July. To grow Holly from seed, gather the berries when ripe, crush them, and mix them up with a little sandy loam, bury them in a hole 3 ft. deep, and cover with litter. Dig them up and sow them in March. Big bushes are best moved at the end of August, mixing the earth to a puddle before planting. The less pruning they receive the better. They may be trimmed in spring.

Hollyhock.—May be raised from seed or cuttings. Sow the seed about the second week of March in very rich soil, and cover it with 1 in. of dry earth. In June (having soaked the bed thoroughly overnight) remove the young plants to a nursery-bed, setting them 6 in. apart. Press the earth firmly round the roots, and water plentifully until settled. In the autumn plant them where they are to bloom. Cuttings may be taken as soon as the flowers appear, or from the old plants in autumn. Each joint having an eye will furnish a plant. Select side branches having two or three joints and leaves. Cut the shoots through just under the lower joint, leaving the leaf entire; cut it also about 2 in. above the joint. Plant in equal parts of loam, gritty sand, and leaf-mould; shelter from the sun, and sprinkle them every day in fine weather with water. If the cuttings are taken in autumn pot them off in 60-sized pots, and keep them in a cold frame till the spring, when they may be planted out. Flowers in August. Height, 6 ft.

Homerias.—Beautiful little South African plants. For out-door cultivation plant the bulbs in a dry, warm situation, from October to January, 3 in. deep, and the same distance apart, in rich, light, well-drained soil, and protect them from heavy rains with a good layer of leaves. For pot culture put four or five bulbs in a 5-in. pot, place in a cold frame, and cover with cocoa-nut fibre until the growth appears. Water moderately, and when the flowers fade abstain from supplying moisture. The bulbs are not quite hardy, therefore they should be removed indoors before frosts appear.

Homogyne Alpina.—Hardy herbaceous plants flowering in April. Any soil is suitable for them, and they may be increased by division. Height, 6 in.

Honesty (*Lunaria*).—Interesting hardy biennials. When dried, the shining seed-pods make a handsome addition to winter bouquets, mixed with ornamental grass. Any common soil suits them. Sow the seed any time from April to June, and transplant them to the border in the autumn for flowering the following May. Height, 1-1/2 ft. to 3 ft.

Honeysuckles.—These rapid twiners thrive in any loamy soil, and may be increased by putting down layers in the autumn, after the leaves begin to fall. They can also be propagated by cuttings taken in the autumn and planted in a shady, sheltered spot. *Caprifolium Brachypoda* and the evergreen *C. Sempervirens* are handsome, free-flowering kinds, suitable for almost any situation. *C. Aurea-reticulata* has beautifully variegated leaves, which render it very ornamental. Height, 6 ft. to 8 ft.

Hop.—A useful hardy climber for covering verandahs, summer-houses, etc. Plant in rich, loamy soil, and increase by dividing the roots. (*See also "Humulus Japonicus."*)

Hordeum Jubatum (*Squirrel-tail Grass*).—A very pretty species resembling miniature barley. Sow seed in March, covering it very lightly, and keep the surface of the soil moist till the grass appears. Height, 1-1/2 ft.

Horminum Pyrenaicum.—This hardy perennial produces erect white flowers with blue corolla in June or July. It will grow in any ordinary soil, but needs protection in winter, as it is apt to be injured by damp. It may be propagated either by seed or division. Height, 1-1/2 ft.

Horn Poppy.—*See "Glaucium."*

Horseradish.—Plant in October or February in deep, rich soil; or it may be grown on a heap of cinder-ashes, or on any light ground through which the roots can make their way readily. The best way to increase it is by slips taken from the roots. It requires little or no attention beyond pinching out the tops when running to seed and keeping the ground hoed.

Hotbeds, to Make.—Take dead leaves and stable-straw, with the dung, in the proportion of two double loads for a three-light frame. Turn it over four or five times during a fortnight, watering it if it is dry. Then mark out the bed, allowing 1 ft. or more each way than the size of the frame. Shake the compost well up, and afterwards beat it down equally with the fork. Place the frame on the bed, leaving the lights off for four or five days to allow the rank steam to escape. Keep a thermometer in the frame, and as soon as the temperature falls below 70 degrees apply a lining of fresh dung to the front and one side of the bed, and when this again declines, add another lining to the back and other side, and so on from time to time as occasion requires. The mats used for covering the frames in frosty weather should be made to fit the top, and not hang over the sides.

Houseleek.—*See "Sempervivum."*

Houstonia Coerulea.—These hardy little evergreens are more generally known as Bluets. They make charming ornaments for rock-work, planted between large stones, but in this position they need protection from severe frosts. When planted in pots and placed in a cold frame they

show to most advantage. A mixture of leaf-mould and sand, and a moist but well-drained situation is what they delight in. They bloom continuously from April to July. Height, 3 in.

Hovea Celsi.—A greenhouse shrub, which is evergreen and elegant when in flower in June. A sandy loam and peat soil is most suitable, and it may be increased by cuttings planted in sand under a hand-glass. Height, 3 ft.

Humea.—A remarkably handsome and graceful plant, the leaves of which when slightly bruised yield a strong odour. It is equally suitable for the centre of beds or large borders, and placed in pots on terraces or the lawn it is very effective. The seed should be raised on a gentle hotbed, then potted off and kept in the greenhouse till the second year, when it may be turned out into a warm situation. It generally succeeds better in such a position than in the greenhouse. Flowers in July. Height, 6 ft. to 8 ft.

Humulus Japonicus.—(*Japanese Hop*).—A hardy annual Hop of rapid growth, the leaves of which are splashed with white. Useful for covering arbours, verandahs, etc. A deep, loamy soil suits it best. Increased by seed sown in gentle heat in February, and gradually hardened off. Flowers in July. Height, 20 ft.

Hutchinsia Alpina.—This small alpine creeper is a profuse bloomer, its glistening white flowers being produced at all seasons. It grows in moist vegetable mould, and bears transplanting at any season. Care, however, is required to prevent its roots over-running and choking other things. Height, 2 in.

Hyacinths.—May be grown in pots, in glasses, or in beds and borders. The soil should be rich and light. Good loam mixed with old manure and a little leaf-mould and sand suits them very well. If intended to be grown in pots the best time to begin potting is early in September, putting more in at intervals of two or three weeks until the end of December. One bulb is sufficient for a 5-in. or 6-in. pot, or three may be placed in an 8-in. pot. The soil under the bulb should not be pressed down. The top of the bulb should be just above the surface. Place the pots on a bed of ashes in a cold frame, put a small inverted pot over the top of the bulb, and cover the whole with cocoa-nut fibre or cinder-ashes to the depth of about 4 in. In about a month roots will have formed with about 1 in. of top growth. The plants may then be taken out, gradually exposed to the light, and finally removed to the conservatory or sunny window. The doubles do best in pots.

For growing in glasses select the firmest and best-shaped bulbs. Those with single blossoms are preferable, as they are of stronger constitution than the doubles. Fill the glasses with pure pond or rain water, so that the bulbs just escape touching it, and put a piece of charcoal in each glass, and change the water when it becomes offensive, taking care that the temperature is not below that which is poured away. Stand the glasses in a cool, dark place for three or four weeks until the roots have made considerable progress, then gradually inure to the full light. September is a good time to start the growth.

When planted in beds or borders, place the bulbs about 4 in. deep and 6 in. apart, putting a little silver sand below each one. This may be done at any time from October till frost sets in. They succeed fairly well in any good garden soil, but give greatest satisfaction when the ground is rich and light.

Hyacinthus (*Muscari*).—A very hardy race of spring-flowering bulbs. Though the varieties are very dissimilar in appearance, they all produce a good effect, especially when planted in good large clumps. Plant from September to December. A sandy soil suits them best. The following are well-known varieties:—*BOTRYOIDES* (*Grape Hyacinth*).—Very pretty and hardy, bearing fine spikes of deep, rich blue flowers in compact clusters on a stem 6 to 9 in. high. Sweet-scented, and blooms about May. The *Alba*, or white, variety is also sweet-scented.

Hyacinthus—*continued*.

CANDICANS (*Galtonia*).—The white Cape Hyacinth, or Spire Lily. A hardy, summer-flowering, bulbous plant 3 ft. to 4 ft. in height, gracefully surmounted with from twenty to fifty pendent, bell-shaped snow-white flowers. Thrives in any position and equally suitable for indoor or outdoor decoration.

MOSCHATUS (*Musk Hyacinth*).—Bears very fragrant purplish flowers.

PLVMOSUM (*Feather Hyacinth*).—A fine, hardy, dwarf plant suitable for any soil. Its massive sprays of fine blue flowers, arranged in curious clusters, 5 to 6 in. in length, resemble much-branched slender coral.

RACEMOSUM (*Starch Hyacinth*).—Rich dark-blue or reddish-purple flowers. Very free-flowering and fine for massing. It is similar to the Cape Hyacinth, but flowers in denser spikes.

Hydrangea.—This shrub delights in a moist, sheltered position and rich soil. It may be increased at any time from cuttings of the young side-shoots, 2 or 3 in. long, under glass, in sandy soil. The old stems will also strike if planted in a sheltered situation. The plants should be cut back when they have done flowering, and protected from frost; or they may be cut down to the root and covered with manure. They are well suited for the front of shrubberies, and also make fine plants for pot cultivation. The flowers are produced in June and July. Height, 3 ft.

Hymenantha Crassifolia.—Ornamental evergreen shrubs, thriving best in a compost of loam and peat. They are increased by cuttings planted in sand and subjected to a little heat.

Height, 6 ft.

Hymenoxys.—Pretty little hardy annuals that may be easily raised from seed sown early in March in any garden soil. They bloom in June. Height, 1 ft.

Hypericum (*St. John's Wort*).—Favourite dwarf shrubs. Any soil suits the hardy kinds, but they prefer shade and moisture. These may be increased by seed or division. The greenhouse varieties thrive best in a mixture of loam and peat. Young cuttings placed in sand under glass will strike. July is their flowering season. Height, 1-1/2 ft. to 2 ft.

I

Iberis.—See "Candytuft."

Ice Plants.—See "Mesembryanthemum."

Ilex.—See "Holly."

Impatiens Sultani.—Half-hardy perennials. May be raised from seed sown early in spring on a hotbed, or later on in a shady spot in the open border; greenhouse culture, however, is more suitable. They bloom in August. Height, 1 1/2 ft.

Incarvilleas.—Ornamental hardy herbaceous plants, of easy culture. They are suitable for the border or the rockery, and will grow in any soil if not too dry and exposed. The tuberous roots may be planted at any time in autumn, 4 in. deep. I. Delavayi makes a fine solitary or lawn plant, its leaves being from 1 to 3 ft. long; the soft rose-pink, Mimulus-shaped flowers, which are carried on stout stems well above the foliage, appearing in May. Care should be taken not to disturb it in spring, and it is advisable to cover the roots in winter with a pyramid of ashes, which may be carefully removed at the end of April. Incarvilleas may be propagated by seed sown, as soon as it is ripe, in light, well-drained soil, giving the young plants protection in a frame during the first winter, with enough water merely to keep them moist. Height, 2 ft.

Indian Corn.—See "Zea."

Indian Shot.—See "Canna."

India-rubber Plants.—See "Ficus."

Indigofera.—Beautiful evergreen shrubs. I. Australis has elegant, fern-like foliage and racemes of pink or purple Pea-shaped flowers in April. I. Decora Alba bears its white flowers in July. They require a sandy loam or peat soil, and greenhouse culture. Cuttings of the young wood planted in sand under glass will strike. Height, 2 1/2 ft.

Insects on Plants.—To destroy insects on plants wash the plant with Tobacco-Water (*which see*). Or put 1 oz. of quassia chips in a muslin bag, pour on some boiling water, and make it up to 1 gallon; dissolve 1 oz. of soft soap, add it to the chips, and stir well. Use it two or three times during spring and early summer.

Inula Royleana (*Fleabane*).—A hardy perennial which flowers in November. It will grow in any garden soil, and can be increased by seeds, or by division of the roots. Height, 3 ft.

Ionopsidium.—These hardy annuals grow freely in any rich, damp soil; a shady position is indispensable. Height, 1/8 ft.

Ipomoea.—These beautiful climbing plants are very suitable for covering trellis-work, or for the pillars or rafters of the stove-house. The seed is generally sown in April on a hotbed or under glass, and the young plants set out in the border of the house in May in light, rich soil. Success is mainly secured by allowing plenty of root-room. The perennial kinds are increased from cuttings taken from the small side-shoots placed in sand in a brisk bottom-heat. If grown in the open they often shed their seed, and come up year after year with but little attention. They make a good contrast to Canariensis. The Ipomoea Horsfalliae, with its bright scarlet flowers, has a lovely appearance, but must be treated as a stove evergreen. This is propagated by layers, or by grafting on some strong-growing kind. It thrives in loam and peat mixed with a little dung, and flowers in July or August. Height, 6 ft. to 10 ft.

Ipomopsis.—A very beautiful half-hardy biennial, but difficult to cultivate. Some gardeners steep the seed in hot water before sowing it; but the best way seems to be to sow it in July in 3-in. pots in equal parts of sandy peat and loam, ensuring good drainage, and place it in a cold frame, giving it very little water. When the leaves appear, thin out the plants to three or four in each pot. Replace them in the frame for a week or so, then remove them to a light, airy part of the greenhouse for the winter. During this period be careful not to over-water them. In spring shift them into well-drained 4-1/2-in. pots, using the same kind of soil as before, and taking great care not to injure the roots; still give the least possible amount of water. If plenty of light and air be given, they will flower in July or August. Height, 2 ft.

Iresines.—Take cuttings of these greenhouse plants in autumn; insert them thinly in 48-size pots filled with coarse sand, loam, and leaf-mould, and place in a uniform temperature of 60 or 70

degrees. When they have taken root place them near the glass. Height, 1-1/2 ft.

Iris.—The Iris is the orchid of the flower garden; its blossoms are the most rich and varied in colour of hardy plants. For cutting, for vases, table decoration, etc., it is exceedingly useful, as it is very free-flowering, and lasts a long time in water. It thrives in almost any soil, though a sandy one suits it best, and is strikingly effective when planted in clumps. It soon increases if left undisturbed. The English Iris blooms in June and July, bearing large and magnificent flowers ranging in colour from white to deep purple, some being self-colours, while others are prettily marbled. The German Iris is especially suitable for town gardens. The Spanish Iris blooms a fortnight before the English. Its flowers, however, are smaller, and the combinations of colours very different. The Leopard Iris (*Pardanthus Chinensis*) is very showy, its orange-yellow flowers, spotted purple-brown, appearing in June and July. They are quite hardy. The best time for planting them is October or November, selecting a sunny position. Height, 1-1/2 ft.

Isopyrums—Hardy herbaceous plants of great beauty, nearly related to the Thalictums. They will grow in any ordinary soil, but flourish best in vegetable mould, and in a moist, yet open, situation. They are readily raised from seed, or may be propagated by division of the roots in autumn. They flower in July. Height, 1 ft. to 1-1/2 ft.

Ivy (Hedera).—A deep, rich soil suits the common Ivy; the more tender kinds require a lighter mould. To increase them, plant slips in a north border in sandy soil. Keep them moist through the autumn, and plant them out when well rooted. The following are the principal choice sorts:—Aurea Spectabilis, palmate-leaved, blotched with yellow; Cavendishii, a slender-growing variety, leaves margined with white, with a bronzy shade on the edge; Conglomerata, crumpled leaves; Elegantissima, slender-growing, with silvery variegated leaves; Irish Gold-Blotch, large leaves, blotched with yellow; Latifolia Maculata, large white-blotched leaves; Lee's Silver, silver variegated; Maderiensis Variegata, leaves broadly marked with white; Marmorata, small leaves blotched and marbled with white; Pupurea, small leaves of a bright green changing to bronzy-purple; Rhomboides Obovata, deep green foliage; Rhomboides Variegata, greyish-green leaves, edged with white; and Silver Queen, a good hardy variety.

Ixias.—Plant out of doors from September to December, in a sunny, sheltered position, in light, rich, sandy soil. For indoor cultivation, plant four bulbs in a 5-in. pot in a compost of loam, leaf-mould, and silver sand. Plunge the pot in ashes in a frame or cold pit, and withhold water until the plants appear. When making free growth remove them to the conservatory or greenhouse, placing them near the glass, and give careful attention to the watering. Ixias are also known under the name of African Corn Lilies.

J

Jacobaea (Ragwort).—May be raised from cuttings in the same way as Verbenas, and will grow freely from seeds sown in autumn or spring. It delights in a rich, light soil. The purple Jacobaea is a great favourite of the public. Flowers in August. Height, 1 ft.

Jacob's Ladder.—See "Polemonium."

Jasione Perennis (Sheep Scabious).—A hardy perennial which produces a profusion of heads of blue flowers in June, and continues to bloom till August. It enjoys a peat soil, and should have the protection of a frame during the winter. It can be propagated by seeds, cuttings, or division. Height, 1 ft.

Jasminum.—These are favourite plants for training over arbours or trellis-work, and for growing against walls. The hardy kinds will flourish in ordinary soil. The stove and greenhouse sorts should be provided with a mixture of sandy peat and loam. They may all be increased by cuttings of ripened wood planted in a sandy soil under glass. *J. Nudifolium* produces an abundance of bright flowers after its leaves have fallen, and is very suitable for town gardens. *J. Unofficinale* is likewise adapted for town, bearing confinement well, and has very sweet flowers. *J. Revolutum* needs protection in severe weather. They bloom in July. Height, 12 ft.

Job's Tears.—See "Coix Lachryma."

Jonquils.—These are quite hardy, and may be grown in the open in the same manner as Hyacinths. Five or six bulbs in a 5-in. pot make a very pretty bouquet. They are excellent early flowers, and very odoriferous. Plant in autumn, placing sand round the bulbs. Best not disturbed too often. The leaves should not be cut off when withering, but allowed to die down. They bloom in April. Height, 1 ft.

Joss Flower.—See "Chinese Sacred Narcissus."

Juniper (Juniperus).—These useful conifers prefer dry chalk or sandy soils, but will thrive in any ground that is not too heavy. *J. Japonica*, *Sabina*, and *Tamariscifolia* do well on steep banks and rock-work. They may be propagated by seeds, grafting, or by cuttings of firm young shoots planted in a sandy compost, kept shaded, and covered with a hand-glass.

K

Kadsura Japonica.—This is a beautiful creeper for a south or west aspect. It thrives best in loam and sandy peat. Cuttings may be struck in sand, placed under a glass, and subjected to heat.

Kale.—See "Borecole."

Kalmia Latifolia.—This hardy, dwarf evergreen shrub is deservedly a great favourite. It produces a wealth of flowers in large clusters. It requires to be grown in peat or good leaf-mould, and needs pure air. It is increased by pegging down the lower branches, which soon become rooted. The flowers are produced from June to August. Height, 2 ft.

Kalosanthes.—Showy greenhouse succulent plants. A light, turfy loam is suitable for them, and they may be increased by placing cuttings of the young shoots in a sandy soil on a slight hotbed in spring. Pinch them back so as to produce a bushy growth, and give support to the heavy heads of bloom. The cuttings should be left for twenty-four hours to dry before they are planted. The plants require very little water, and they flower in July. Height, 6 in. to 1 ft.

Kaulfussia.—Sow this pretty hardy annual in April in the open border, or in March in slight heat. It may also be sown in autumn for early flowering. It will succeed in any light soil, blooming in July. Height, 6 in.

Kennedyia Marryattæ.—A greenhouse evergreen twining plant of a very beautiful order, which thrives best in a compost of sandy loam and peat. Cuttings of the young wood planted in sand, and having a bottom-heat, will strike. It produces its flowers in May. Height, 4 ft. Other varieties of Kennedyas range from 2 to 10 ft. They all need to be well drained and not to stand too near the pipes.

Kerria (*Corchorus*).—Beautiful hardy shrubs, which may be grown in any garden soil, and can be propagated by cuttings of the young wood, taken at a joint, and placed under glass. They flower at midsummer. Height, 4 ft.

Koelreuteria Paniculata.—This is an ornamental tree bearing long spikes of yellow flowers in July. It will grow in any soil, but requires a sheltered position, and may be increased by layers or root cuttings. Height, 10 ft.

Kohl Rabi (*Turnip-rooted Cabbage*).—Though mostly grown as a farm crop, this vegetable is strongly recommended for garden cultivation, as it is both productive and nutritious, and is delicious when cooked while still very small and young. Sow in March, and transplant to deeply-dug and liberally manured ground, at a distance of 15 in. from each other.

L

Lachenalia. (*Cape Cowslips*).—Charming greenhouse plants for pot or basket culture. Pot in December in a compost of fibrous loam, leaf-mould, and sand; place as near the glass as possible, and never allow the soil to become dry, but maintain good drainage, and only give a little water till they have produced their second leaves. No more heat is required than will keep out the frost.

Lactuca Sonchifolia. (*Sow Thistle-Leaved Lettuce*).—An ornamental, but not handsome, hardy perennial, with leaves 1 ft. in length and 9 in. in breadth. It is of neat habit and enjoys the sunshine. A deeply-dug, sandy loam suits it, and it may be increased by seed or division of the roots. The flowers are produced from September till frost sets in. Height, 2 ft.

Ladies' Slipper Orchid.—See "Cypripedium."

Lady's Mantle.—See "Alchemilla."

Lagurus Ovatus.—This hardy annual is commonly known as Hare's-Tail Grass. It is distinctly ornamental, producing elegant egg-shaped tufts of a silvery-white hue, and is fine for ornamenting bouquets. Sow in March, and keep the ground moist till the seed germinates. Height, 1 ft.

Lallemantia Canescens.—Bees are very fond of this blue hardy annual, which may readily be grown from seed sown in the spring. Height, 1 ft.

Lamium.—These plants are mostly of a hardy herbaceous description and of little value. They will grow well in any kind of soil, flowering from March to July, according to their varieties, and can be propagated by seed or division. Height, 6 in. to 1 ft.

Lantana.—These dwarf, bushy, half-hardy perennial shrubs bear Verbena-like blossoms. They like a dry and warm situation and rich, light soil. The seed is sown in March to produce summer and autumn blooming plants. If cuttings are placed in sand, in heat, they will take root easily. Height, 1 ft. to 1-1/2 ft.

Lapageria Rosea.—A beautiful climbing plant which bears large rose-coloured flowers in May.

It can be grown in any light, rich soil, but a compost of leaf-mould, sand, and peat suits it best. It makes a very desirable greenhouse plant, and can be increased either by cuttings or by division. Lapagerias require partial shade, plenty of water, and good drainage. Height, 10 ft.

Lardizabala Bibernata.—This climbing shrub has fine ornamental foliage. It is most suitable for a south or west aspect, where it proves hardy; in other positions protection should be afforded. It will grow in any good soil. May is the month in which it flowers. Height, 20 ft.

Larkspur.—The Stock-flowered Larkspur is of the same habit as the Dutch Rocket, but has longer spikes and larger and more double flowers. The Hyacinth-flowered is an improved strain of the Rocket. Among other of the hardy annual varieties may be mentioned the Candelabrum-formed, the Emperor, and the Ranunculi-flowered. They are charming flowers for beds or mixed borders, and only require the same treatment as ordinary annuals, when they will flower in June. Height, 1 ft. to 2-1/2 ft. For perennial Larkspurs, see "Delphinium."

Lasiandra.—Stove evergreen shrubs, flourishing best in a mixture of equal parts of loam, peat, and sand. They are propagated by cuttings of the young wood, plunged in heat. July is their flowering month. Height, 5 ft.

Lasthenia.—A hardy annual of a rather pretty nature, suitable for flower-beds or borders. Autumn is the best time for sowing the seed, but it may also be sown early in the spring. It blooms in May. Height, 1 ft.

Lathyrus.—Handsome plants when in flower, the larger kinds being well adapted as backgrounds to other plants in the shrubbery, where they will require supports. They may be planted in any garden soil, and can be increased by seed, and some of the perennial kinds by division of the root. *L. Latifolia* (Everlasting Pea) flowers in August, other varieties at different times, from May onwards. Height, 1 ft. to 8 ft.

Laurel.—Laurels will grow in any good garden soil. They are grown both as bushes and standards, and require but little attention beyond watering. The standards are produced by choosing a young Portugal plant and gradually removing the side-shoots on the lower part of the stem, and when the desired height is reached a well-balanced head is cultivated, any eyes that break out on the stem being rubbed off with the thumb. *Lauro Rotundifolia* is beyond dispute the best of all Laurels; it is of free growth and of dense habit, and its leaves are roundish and of a lively green. (See also "Epigaea.") All Laurels may be propagated by cuttings and by layers, the latter being the plan usually adopted.

Laurestinus.—See "Viburnum Tinus."

Laurus.—See "Bay, Sweet."

Lavatera.—The greenhouse and frame kinds grow in any light soil, and are increased by cuttings of the ripened wood, under glass. The hardy herbaceous species grow well in any common soil, and are propagated by seeds or division. The annuals are sown in the open in spring. Some bloom in June, others as late as August. Height, 2 ft. to 5 ft.

Lavender (*Lavandula Spiced*).—A hardy shrub whose sweetly-scented flowers, which are produced in August, are much prized. A dry, gravelly soil is what it likes best. Young plants should be raised every three years. It is readily propagated from seed sown in spring. Cuttings about 8 in. long, taken in autumn and planted 4 in. deep under a hand-light or in a shaded, sheltered position, will strike. Height, 1-1/2 ft.

Lawns—To make or renovate Lawns sow the seed on damp ground during March or April, if possible, but in any case not later than September, as the young plants are easily ruined by frost. Rake the seed in lightly, afterwards roll with a wooden roller, and carefully weed the ground until the grass is well established. To form a thick bottom quickly on new Lawns sow 60 lbs., or 3 bushels, to the acre; for improving old ones, 20 lbs. per acre. Frequent cutting and rolling is essential to success. If the grass is inclined to grow rank and coarse it will be much improved by a good dressing of sand over it; if it has an inclination to scald and burn up, sprinkle it with guano or soot just before a shower of rain. An accumulation of moss upon a lawn can only be cured by under-draining.

Lawns, Shrubs for.—See "Shrubs for Lawns."

Layering.—See under "Carnations."

Ledum (*Labrador Tea*).—Low-growing American evergreen shrubs, thriving best in sandy peat, and may be increased by layers.

Leek.—Sow early in March, and prick out the plants in rich soil, in a sheltered position, to strengthen. As soon as they are large enough, plant them out in very rich, light ground in drills 6 in. between each plant and the rows 18 in. apart. For large exhibition Leeks sow in boxes in February, under glass. Plant out in June in trenches 15 in. wide and 18 in. deep, with plenty of old manure at the bottom of the trench and 6 in. of good light mould on the top of it. Gradually earth up as the stems grow. Water liberally in dry weather, and give a little weak liquid manure occasionally.

Leontopodium.—Hardy perennials, succeeding best in peat soil. They are most suitable for rock-work, and may be increased by seed or division of the roots. Bloom is produced in June.

Height, 6 in.

Leopard's Bane.—*See* "Doronicum."

Leptosiphon.—Charming hardy annuals which make nice pot-plants. The seed should be sown in rich, light soil—peat for preference. If this is done in autumn they will flower in April and May; if sown in spring they will bloom in autumn. They are very attractive in beds or ribbons, and also on rock-work. Height, 3 in. to 1 ft.

Leptospermum.—Neat greenhouse evergreen shrubs, most at home in equal portions of loam, peat, and sand. Cuttings may be struck in sand under glass. They flower in June. Height, 4 ft. to 5 ft.

Leschenaultia.—Elegant greenhouse shrubs, delighting in a mixture of turfy loam, peat, and sand. They are evergreen, flower in June, and are propagated by cuttings of the young wood under glass. Height, 1 ft.

Lettuce.—Sow early in February on a slight hotbed, and prick out into a well-manured and warm border, having the soil broken down fine on the surface. For early summer supplies sow outdoors in March, and at intervals till the middle of September for later crops. Some of the plants raised in September should be wintered in a cold frame, and the remainder transplanted to a dry, sheltered border, or protected with hand-lights. The June and July sowings may be made where the plants are intended to remain. They should stand from 6 to 9 in. apart. A north border is a suitable position in the summer months, as they are less exposed to the sun, and do not run to seed so quickly. The Cos Lettuce requires to be tied up to blanch; this should be done ten days before it is wanted for use. Cabbage Lettuce does not need to be tied.

Leucanthemum (*Hardy Marguerites*).—Same treatment as Chrysanthemum.

Leucojum (*Snowflake*).—Also known as St. Agnes' Flower. Handsome plants. The flowers are pure white, every petal being tipped with green, dropping in a cluster of from six to eight blooms, each nearly 1 in. long. They grow freely in almost any soil, sandy loam being preferable. Increased by off-sets from the bulb, or by seed as soon as it is ripe. The spring snowflake blooms in March, the summer variety in June. The latter is a much more vigorous plant than the former. Height, 12 in. to 18 in.

Leucophyton Browni.—A popular white-foliaged bedding plant, which may be increased by dibbling cuttings in sandy soil and placing them in a cool frame.

Lewisia Rediviva.—This makes a pretty rock-plant. It is a perennial and quite hardy, but requires plenty of sun. During April and May it produces large flowers varying in colour from satiny rose to white. The most suitable soil is a light loam mixed with brick rubbish. It is increased by division of the root, or it may be raised from seed. Height, 3 in.

Leycesteria Formosa.—Ornamental plants, the flowers resembling Hops of a purple colour. They will grow in any soil, but need protection in winter. They are multiplied by cuttings. Height, 3 ft.

Liatris Pycnostachya.—A curious old herbaceous perennial, now seldom met with, sending up late in summer a dense cylindrical purple spike 2 ft. high. It needs a rich, light, sandy soil, and to be protected during the winter with a thick covering of litter. The roots may be divided in the spring. Height, 3 ft.

Libertia Formosa.—The narrow foliage and spikes of pure white flowers, produced in May and June, render this hardy perennial very ornamental. The soil should consist of equal parts of loam and peat. It is propagated by dividing the roots. Height, 1 ft.

Libonia Floribunda.—This is a winter-flowering plant, and is easily grown in a cool greenhouse. It is very useful for table decoration, its slender red and yellow tubes of bloom being very effective, but it does not do to keep it for any length of time in a room where there is gas. When flowering has ceased, encourage new growth by giving it plenty of water, air, and sunlight. The new shoots should be cut back in May, and the tips of them used as cuttings, which strike readily in good mould. Height, 2 ft.

Ligustrum (*Privet*).—*L. Ovalifolium* is a handsome hardy evergreen, of very rapid growth, and one of the best ornamental hedge plants in cultivation, especially for towns or smoky situations. *L. Japonicum* is likewise ornamental and hardy: *Tricolor* is considered one of the best light-coloured variegated plants grown. *L. Coriaceum* is a slow-growing, compact bush with very dark, shining green leaves, which are round, thick, and leathery. Privet will grow in any soil or situation, and is readily increased by cuttings planted in the shade in spring.

Lilac—*See* "Syringa."

Lilium.—The Lily is admirably adapted for pot culture, the conservatory, and the flower border, and will flourish in any light soil or situation. To produce fine specimens in pots they should be grown in a mixture of light turfy loam and leaf-mould. Six bulbs planted in a 12-in. pot form a good group. The pots should have free ventilation, and the bulbs be covered with 1 in. of mould. For outdoor cultivation plant the bulbs 4 to 5 in. deep, from October to March. After once planting they require but little care, and should not be disturbed oftener than once in three years, as established plants bloom more freely than if taken up annually. Give a thin covering of

manure during the winter. *Lilium* seed may be sown in well-drained pots or shallow boxes filled with equal parts of peat, leaf-mould, loam, and sand. Cover the seeds slightly with fine mould and place the boxes or pots in a temperature of 55 or 65 degrees. A cold frame will answer the purpose, but the seeds will take longer to germinate. The *Lancifolium* and *Auratum* varieties have a delicious fragrance.

Lilium—*continued.*

CANDIDUM (the Madonna, or White Garden Lily) should be planted before the middle of October, if possible, in groups of three, in well-drained, highly-manured loam. Should they decline, take them up in September and re-plant at once in fresh, rich soil, as they will not stand being kept out of the ground long. They are increased by off-sets. As soon as these are taken from the parent bulb, plant them in a nursery-bed; after two years they may be transferred to the garden. This Lily is quite hardy, and needs no protection during winter.

LANCIFOLIUM make very fine pot-plants, or they may be placed in a sunny situation in the border, but in the latter case they must have a thick covering of dry ashes in winter. If grown in pots place them, early in March, in rich, sandy soil. Three bulbs are sufficient for an 11-in. pot. Give very little water, but plenty air in mild weather. Let them grow slowly. When all frost is over place pans under them, mulch the surface with old manure, and supply freely with air and water. They are propagated by off-sets.

MARTAGON (or Turk's Cap) requires the same treatment as the *Candidum*, with the exception that a little sand should be added to the soil.

TIGRINUM (Tiger Lily) also receives the same treatment as the Madonna. When the flower-stems grow up they throw out roots. A few lumps of horse manure should be placed round for these roots to lay hold of. They are increased by the tiny bulbs which form at the axis of the leaves of the flower-stem. When these fall with a touch they are planted in rich, light earth, about 6 in. apart. In four or five years' time they will make fine bulbs.

AURATUM and *SZOVITZIANUM* (or Colchicum) thrive best in a deep, friable, loamy soil, which should be well stirred before planting. If the soil is of a clayey nature it should be loosened to a depth of several feet, and fresh loam, coarse sand, and good peat or leaf-mould added, to make it sufficiently light.

For *PARDALINUM* (the Panther Lily) and *SUPERBUM* mix the garden soil with three parts peat and one part sand, and keep the ground moist. They should occupy a rather shady position.

All the other varieties will succeed in any good garden soil enriched with leaf-mould or well-decayed manure.

For *VALLOTA* (Scarborough Lily), *BELLADONNA*, and *FORMOSISSIMA* (or Jacobean) Lilies, see "Amaryllis."

For *AFRICAN LILY*, see "Agapanthus."

For *PERUVIAN LILIES*, see "Alstromeria."

For *ST BERNARD'S* and *ST BRUNO'S LILIES*, see "Anthericum."

For *CAFFRE LILIES*, see "Clivias."

Lily of the Valley.—Set the roots in bunches 1 ft. apart, and before severe weather sets in cover them with a dressing of well-rotted manure. They should not be disturbed, even by digging among the roots. If grown in pots, they should be kept in a cool place and perfectly dry when their season is over: by watering they will soon come into foliage and flower again. For forcing put ten or twelve "buds" in a 5-in. pot—any light soil will do—plunge the pot in a sheltered part of the garden. From this they may be removed to the forcing-house as required to be brought into bloom. Plunge the pots in cocoa-nut fibre and maintain an even temperature of from 65 to 70 degrees.

Limnanthes Douglasii.—Very elegant and beautiful hardy annuals, which are slightly fragrant. They must be grown in a moist and shady situation. The seeds ripen freely, and should be sown in autumn to produce bloom in June, or they may be sown in spring for flowering at a later period. Height, 1 ft.

Linaria.—These all do best in a light, sandy loam, and make good plants for rock-work. *L. Bipartita* is suitable for an autumn sowing. The other annuals are raised in spring. *L. Triornithophora* is a biennial, and may be sown any time between April and June, or in August. The hardy perennial, *L. Alpina*, should be sown in April, and if necessary transplanted in the autumn. *Linarias* flower from July to September. Height, 6 in. to 1 ft.

Linnaea Borealis.—A rare, native, evergreen creeping perennial. From July to September it bears pale pink flowers; it makes a pretty pot-plant, and also does well in the open when planted in a shady position. It enjoys a peat soil, and is propagated by separating the creeping stems after they are rooted. Height, 1½ in.

Linum (Flax).—This succeeds best in rich, light mould. The *Linum Flavum*, or Golden Flax, is very suitable for pot culture; it grows 9 in. in height, and bears brilliant yellow flowers. It requires the same treatment as other half-hardy perennials. The Scarlet Flax is an annual, very

free-flowering, and unsurpassed for brilliancy; easily raised from seed sown in spring. Height, 1½ ft. The hardy, shrubby kinds may be increased by cuttings placed under glass. A mixture of loam and peat makes a fine soil for the greenhouse and frame varieties. They flower from March to July.

Lippia Reptans.—A frame creeping perennial which flowers in June. It requires a light soil. Cuttings of the young wood may be struck under glass. Height, 1 ft.

Lithospermum Prostratum.—A hardy perennial, evergreen trailer, needing no special culture, and adapting itself to any soil. It is increased by cuttings of the previous year's growth, placed in peat and silver sand, shaded and kept cool, but not too wet. They should be struck early in summer, so as to be well rooted before winter sets in. Its blue flowers are produced in June. Height, 1 ft.

Loasa.—The flowers are both beautiful and curiously formed, but the plants have a stinging property. They grow well in any loamy soil, and are easily increased by seed sown in spring. Flowers are produced in June and July. Height, 2 ft. Besides the annuals there is a half-hardy climber, *L. Aurantiaca*, bearing orange-coloured flowers, and attaining the height of 10 or 12 ft.

Lobelia.—These effective plants may be raised from seed sown in January or February in fine soil. Sprinkle a little silver sand or very fine mould over the seed; place in a greenhouse, or in a frame having a slight bottom-heat, and when large enough prick them out about 1 in. apart; afterwards put each single plant in a thumb-pot, and plant out at the end of May. As the different varieties do not always come true from seed, it is best to propagate by means of cuttings taken in autumn, or take up the old plants before the frost gets to them, remove all the young shoots (those at the base of the plant are best, and if they have a little root attached to them so much the better), and plant them thinly in well-drained, shallow pans of leaf-mould and sand; plunge the pans in a hotbed under a frame, shade them from hot sunshine, and when they are rooted remove them to the greenhouse till spring, at which time growth must be encouraged by giving a higher temperature and frequent syringing. They may then be planted out in light, rich soil, where they will bloom in June or July. Height, 4 in.

Lobels Catchfly.—See "Silene."

London Pride.—See "Saxifrage."

Lonicera.—Hardy deciduous shrubs, which will grow in any ordinary soil, and produce their flowers in April or May. They are propagated by cuttings planted in a sheltered position. Prune as soon as flowering is over. Height, from 3 ft. to 10 ft.

Lophospermum.—Very elegant half-hardy climbers. Planted against a wall in the open air, or at the bottom of trellis-work, they will flower abundantly in June, but the protection of a greenhouse is necessary in winter. They like a rich, light soil, and may be grown from seeds sown on a slight hotbed in spring, or from cuttings taken young and placed under glass. Height, 10 ft.

Love Apples.—See "Tomatoes."

Love Grass.—See "Eragrostis."

Love-in-a-Mist.—See "Nigella."

Love-lies-Bleeding (*Amaranthus Caudatus*).—A hardy annual bearing graceful drooping racemes of crimson blossom. The seed should be sown in the open at the end of March, and thinned out or transplanted with a good ball of earth. Makes a fine border plant. Height, 2 ft.

Luculia Gratissima.—A fine plant either for the wall or border. It grows well in a compost of peat and light, turfy loam, but it is not suitable for pot culture. During growing time abundance of water is needed. When flowering has ceased, cut it hard back. It may be increased by layering, or by cuttings placed in sand under glass and subjected to heat. It flowers in August. Height, 8 ft.

Lunaria.—See "Honesty."

Lupins.—Though old-fashioned flowers, these still rank among our most beautiful annual and herbaceous border plants. They may be grown in any soil, but a rich loam suits them best. The seed germinates freely when sown in March, and the flowers are produced in July. Height, 2 ft. to 3 ft.

Lychnis.—Hardy perennials which, though rather straggling, deserve to be cultivated on account of the brilliancy of their flowers. *L. Chalcedonica*, commonly known as Ragged Robin, is perhaps the most showy variety; but *L. Viscaria Plena*, or Catchfly, is a very beautiful plant. They grow freely in light, rich, loamy soil, but need dividing frequently to prevent them dwindling away. The best season for this operation is early in spring. Beyond the care that is needed to prevent the double varieties reverting to a single state, they merely require the same treatment as other hardy perennials. They flower in June and July. Height, 2 ft. to 3 ft.

Lyre Flower.—See "Dielytra."

Lysimachia Clethroides.—This hardy perennial has something of the appearance of a tall Speedwell. When in flower it is attractive, and as it blooms from July on to September it is worth a place in the border. A deep, rich loam is most suitable for its growth, and a sheltered position is

of advantage. The roots may be divided either in November or early in spring. Height, 3 ft.

Lysimachia Nummularia (*Creeping Jenny*).—This plant is extremely hardy, and is eminently suitable either for rock-work or pots. It is of the easiest cultivation, and when once established requires merely to be kept in check. Every little piece of the creeping root will, if taken off, make a fresh plant.

Lythrum.—Very handsome hardy perennials which thrive in any garden soil, and may be raised from seed or increased by dividing the roots. They flower in July. Height, of different varieties, 6 in. to 4 ft.

M

Madia.—A hardy annual of a rather handsome order. The seed should be sown in May in a shady situation. The plant is not particular as to soil, and will flower about eight weeks after it is sown, and continue to bloom during August and September. Height, 1½ ft.

Magnolia Grandiflora.—A handsome, hardy evergreen, with large shining, Laurel-shaped leaves, and highly-scented, Tulip-shaped white flowers. A noble plant for a spacious frontage, but in most places requires to be grown on a wall. It flourishes in any damp soil, and is increased by layers. Flowers in August. Height, 20 ft.

Mahonia.—Handsome evergreen shrubs, useful for covert planting or for grouping with others. They grow best in a compost of sand, peat, and loam, and may be propagated by cuttings or by layers of ripened wood, laid down in autumn. They flower in April. Height, 4 ft. to 6 ft.

Maianthemum Bifolium.—The flowers of this hardy perennial are produced in April and May, and somewhat resemble miniature Lily of the Valley. Seed may be sown at the end of July. The plant will grow in any soil, but delights in partial shade. Height, 6 in.

Maize.—See "Zea."

Malope.—Very beautiful hardy annuals having soft leaves. They may be raised from seed sown in April in any garden soil. They bloom in June or July. Height, 1½ ft. to 2 ft.

Malva.—Very ornamental plants, more especially the greenhouse varieties. The hardy perennials succeed in any good garden soil, and are increased by seed sown in the autumn, or by division of the root. The greenhouse kinds should be grown in rich earth: these are propagated by cuttings planted in light soil. The annuals are poor plants. Some of the varieties bloom in June, others in August. Height, 2 ft.

Mandevilla Suaveolens.—A fine climbing plant bearing very sweet white flowers in June. It is rather tender, and more suitable for the conservatory than the open air. It does not make a good pot-plant, but finds a suitable home in the border of the conservatory in equal parts of peat and sandy loam. In pruning adopt the same method as for the vine or other plants which bear flowers on wood of the same year's growth. It is propagated by seed sown in heat, or by cuttings under glass. Syringe the leaves daily during the hot season. A temperature of from 40 to 50 degrees in winter, and from 55 to 65 degrees in summer should be maintained. Height, 10 ft.

Manures.—One of the best fertilisers of the soil is made by saturating charred wood with urine. This may be drilled in with seeds in a dry state. For old gardens liquid manure is preferable to stable manure, and if lime or chalk be added it will keep in good heart for years without becoming too rich. A good manure is made by mixing 64 bushels of lime with 2 cwts. of salt. This is sufficient for one acre. It should be forked in directly it is put upon the ground. Superphosphate of lime mixed with a small amount of nitrate of soda and forked into the ground is also a fine manure, but is more expensive than that made from lime and salt. Charred cow-dung is ready for immediate use. For established fruit-trees use, in showery weather, equal quantities of muriate of potash and nitrate of soda, scattering 1 oz. to the square yard round the roots. Peruvian guano, in the proportion of 1 oz. to each gallon of water, is a very powerful and rapid fertiliser. In whatever form manure is given, whether in a dry or liquid form, care must be taken not to administer it in excessive quantities, for too strong a stimulant is as injurious as none at all. In ordinary cases loam with a fourth part leaf-mould is strong enough for potting purposes; and no liquid except plain water should be given until the plants have been established some time. For roses, rhubarb, and plants that have occupied the same ground for a considerable time, mix 1 lb. of superphosphate of lime with ½ lb. of guano and 20 gallons of water, and pour 2 or 3 gallons round each root every third day while the plants are in vigorous growth. Herbaceous plants are better without manure. Liquid manure should be of the same colour as light ale.

Maple.—See "Acer."

Marguerites (*Chrysanthemums Frutescens*).—The White Paris Daisies are very effective when placed against scarlet Geraniums or other brightly-coloured flowers, and likewise make fine pot-plants. They will grow in any light soil, and merely require the same treatment as other half-hardy perennials. Height, 1 ft. (See also "Anthemis" and "Bupthalmum.")

Margyricarpus Setosus (*Bristly Pearl Fruit*).—A charming little evergreen, of procumbent

growth, bearing throughout the whole summer a number of berries on the main branches. Being only half-hardy, it requires protection from frost, but in the warmer weather it may be planted on rock-work in sandy loam and vegetable mould. Cuttings planted in moist peat under a hand-glass will strike, or it may be propagated by layers. Height, 6 in.

Marigolds.—Handsome and free-flowering half-hardy annuals. The greenhouse varieties thrive in a mixture of loam and peat, and cuttings root easily if planted in sand under glass. The African and tall French varieties make a fine display when planted in shrubberies or large beds, while the dwarf French kinds are very effective in the foreground of taller plants, or in beds by themselves. They are raised from seed sown in a slight heat in March, and planted out at the end of May in any good soil. Height, 6 in. to 2 ft. (*See also* "Calendula," "Tagetes," and "Calthus.")

Martynia.—Handsome half-hardy, fragrant annuals. The seed should be sown on a hotbed in March. When the plants are sufficiently advanced transplant them singly into pots of light, rich earth, and keep them in the stove or greenhouse, where they will flower in June. Height, 1½ ft.

Marvel of Peru (*Mirabilis*).—Half-hardy perennials, which are very handsome when in flower, and adorn equally the greenhouse or the open. They may be increased by seed sown in light soil in July or August and planted out in the border in spring. At the approach of frost take the roots up and store them in dry ashes or sand. They flower in July. Height, 2 ft.

Massonia.—Singular plants, which to grow to perfection should be placed in a mixture of loam, peat, and sand. They require no water while in a dormant state, and may be increased by seed or by off-sets from the bulbs. Height, 3 in. to 6 in.

Mathiola.—*See* "Stocks."

Mathiola Bicornis (*Night-scented Stocks*).—A favourite hardy annual whose lilac flowers are fragrant towards evening. They may be grown from seed sown between February and May on any ordinary soil. Height, 1 ft.

Matricaria.—This is a half-hardy annual of little interest so far as its flowers are concerned, and is mostly grown as a foliage plant. The seed should be sown in a frame in March, and transplanted at the end of May. Height, 1 ft.

Maurandia Barclayana.—This elegant twining plant is best grown in pots, so that it can more conveniently be taken indoors in the winter. The soil should be light and rich. Cuttings can be taken either in spring or autumn, or it may be raised from seed. It does very well in the open during the summer, placed against a wall or trellis-work, but will not stand the cold. In the greenhouse it reaches perfection, and blooms in July. Height, 10 ft.

Mazus Pumilio.—A pretty diminutive herbaceous plant. When grown in peat and sand in an open situation it survives from year to year, but it will not live through the winter in cold clay soils. Its pale green foliage is seen to advantage in carpet bedding, and its branched violet flowers, put forth from June to September, make it a desirable rock-work plant. It may be increased by transplanting, at the end of April, the rooted stems which run under the surface of the ground.

Meconopsis Cambrica (*Welsh Poppy*).—An ornamental hardy perennial, often found on English rocks. It may be grown in any light, rich soil, is easily raised from seed, and blooms in June. Height, 1-1/2 ft.

Medlars.—These trees will grow on any well-drained soil. The Dutch Medlar is most prized, as it bears the largest fruit. It is raised from seed, and usually trained to a standard form. The Nottingham and Royal are also excellent varieties. Any special variety may be grafted on to the seedlings. On deep soils it is best grafted on the Pear stock; on light, sandy soil it may be grafted on the White Thorn. No pruning is required, beyond cutting away cross-growing branches.

Megasea.—This hardy herbaceous plant flowers from April to June. A light, sandy soil suits it best. It may be grown from seed or multiplied by division. Height, 1 ft.

Melissa Officinalis.—A hardy perennial, flowering in July. Any soil suits it. It is increased by division of the root. Height, 1 ft.

Melittis Melisophyllum (*Large-flowered Bastard Balm*).—This handsome perennial is not often seen, but it deserves to be more generally grown, especially as it will thrive in almost any soil; but to grow it to perfection, it should be planted in rich loam. It flowers from June to August, and may be increased by division of the roots any time after the latter month. Height, 1½ ft.

Melon.—Sow from January to June in pots plunged in a hotbed, the temperature of which should not be under 80 degrees. When the plants have made four or five leaves, set them out in a house or hotbed having a temperature ranging from 75 to 85 degrees. Keep the plants well thinned and water carefully, as they are liable to damp off at the collar if they have too much wet. Do not allow them to ramble after the fruit has begun to swell, nor allow the plants to bear more than two, or at most three, melons each. They require a strong, fibry, loamy soil, with a little rotten manure worked in. The Hero of Lockinge is a grand white-fleshed variety, and Blenheim Orange is a handsome scarlet-fleshed sort.

Menispermum Canadense (*Moon seed*).—A pretty slender-branched, hardy, climbing, deciduous shrub, with yellow flowers in June, followed with black berries. It grows in any soil,

and can be propagated by seed, by division of roots, or by planting cuttings in spring in a sheltered spot. Height, 10 ft.

Mentha Rotundiflora Variegata (*Variegated Mint*).—A hardy perennial, which may be grown in any soil, and is easily increased by dividing the roots. It flowers in July. Height, 2 ft.

Menyanthes.—Treat as other hardy aquatics.

Menziesia (*Irish Heath*).—This evergreen thrives best in fibrous peat to which a fair quantity of silver sand has been added. While excessive moisture is injurious, the plant must not be kept too dry; the best condition for it is to be constantly damp. Slips torn off close to the stem will root in sand under glass, placed in gentle heat. Height, 2 ft.

Mertensia.—These hardy perennials flower from March to July. They will grow in any garden soil, but do best in peat, and are propagated by division. They make fine border plants. *Mertensia Maritima* and *M. Parviflora*, however, are best grown in pots, in very sandy soil, perfection being afforded them during the winter. Height, 1½ ft. to 2 ft.

Mesembryanthemums (*Ice Plants*).—These half-hardy, annual succulents have a bright green foliage covered with ice-like globules. They must be raised in a greenhouse or on a hotbed, sowing the seed in April on sandy soil. Prick the young plants out in May. If grown in pots they thrive best in a light, sandy loam. In the border they should occupy a hot and dry situation. Keep the plants well watered until established, afterwards give a little liquid manure. May be increased by cuttings taken in autumn. Cuttings of the more succulent kinds should be allowed to dry a little after planting before giving them water. A dry pit or frame is sufficient protection in the winter; they merely require to be kept from frost. Flower in July. Height, 1 ft.

Mespilus.—For treatment, see "Medlars."

Meum Athamanticum.—A hardy perennial with graceful, feathery green foliage, but of no special beauty. It is a native of our shores, will grow in any soil, blooms in July or August, and is freely propagated by seeds. Height, 1-1/2 ft.

Michaelmas Daisies (*Starworts*).—A numerous family of hardy herbaceous perennials. Some few are very pretty, while others can only be ranked with wild flowers. They thrive in any soil or position, but flourish best where there is a due proportion of sunshine. They are easily raised from seed, sown early in spring, or may be increased by root-division either in the autumn, as soon as they have done flowering, or in the spring. They vary in height from 1 ft. to 5 ft.

Michauxia Campanuloides.—This is an attractive border biennial, bearing from March to June white campanula-like flowers tinged with purple, on erect stems. It is not particular as to soil, but requires a southern position and protection in winter. Propagated by seeds in the same way as other biennials. Height, 4 ft.

Mignonette.—For summer-flowering plants sow the seed in spring, and thin out to a distance of 9 in. apart. To obtain bloom during the winter and spring successive sowings are necessary. Let the first of these be made the second week in July in light, rich soil; pot off before frost sets in, plunge them in old tan or ashes, and cover with a frame facing the west. Another sowing should be made about the middle of August, giving them the same treatment as the previous; and a third one in February, in gentle heat. Height, 9 in. to 3 ft. The Mignonette tree is produced by taking a vigorous plant of the spring sowing, and removing all the lower shoots in the autumn. Pot it in good loam, and keep it in the greenhouse in a growing state, but removing all the flowers. By the spring the stem will be woody. Let the same treatment be given it the second year, and the third season it will have become a fine shrub. It may be made to bloom during the winter by picking off the blossom in the summer and autumn. Height, 3 ft.

Mildew.—Syringe with a strong decoction of green leaves and tender branches of the elder-tree, or with a solution of nitre made in the proportion of 1 oz. of nitre to each gallon of water. Another good remedy is to scatter sulphur over the leaves while the dew is upon them, afterwards giving them a syringing of clear water.

Milkmaid.—See "Cardamine."

Milk Thistle.—See "Carduus."

Mimosa.—These shrubs are often called Sensitive Plants, on account of the leaves of several of the species of this genus shrinking when touched. They grow well in loam and peat with a little sand, but require to be planted in a warm situation or to have greenhouse care. Cuttings of the young wood root readily in sand under a glass. They may also be raised from seed. *Mimosa Pudica* exhibits most sensibility. Height, 2 ft.

Mimulus (*Monkey Flower*).—Showy half-hardy perennials which thrive in moist and shady situations and in almost any soil. They may be grown from seed sown in slight heat from February to May, or increased by division of the root. The frame and greenhouse kinds grow best in a rich, light soil, and may be multiplied by cuttings. The annuals may be sown where they are to flower. They bloom in June and July. Height, 2 in. to 1½ ft. (*See also "Diplacus."*)

Mina Lobata.—A charming half-hardy annual climber, bearing singularly shaped flowers, produced on long racemes. When young the buds are a vivid red, changing to orange-yellow, and when fully expanded the flowers are creamy-white. It thrives in loam and peat to which a little

dung has been added, and is well adapted for arbours, trellises, or stumps of trees. Sow the seed on a hotbed in March, harden off, and transplant when all fear of frost is over. Height, 8 ft. to 12 ft.

Mint.—May be grown in any garden soil. It is increased by runners, which, if not held in check, become very troublesome. The roots may be confined by means of tiles or slates. Flowers in July. Height, 1½ ft.

Mistletoe.—Raise the bark of an apple, pear, or oak tree on the underneath part of a branch and insert some well-ripened berries, then tie the bark down neatly with raffia or woollen yarn. If the berries were inserted on the top of the branch the operation would result in failure, as the birds would devour them.

Mitella Diphylla.—A hardy perennial which bears slender racemes of white flowers in April. It makes a pretty rock plant, delights in a peat soil, and is increased by division of the root. Height, 6 in.

Moles.—These pests may be destroyed by placing in their runs worms that have been kept for some time in mould to which carbonate of barytes has been added.

Monardia Didyma (*Oswego Mint, or Horse Balm*).—See "Bergamot."

Monetia Barlerioides.—An ornamental shrub, suitable for the greenhouse or stove. It requires to be grown in loam and peat, and may be increased by cuttings planted in sand, under glass, in a bottom-heat. Height, 3 ft.

Monkey Flower.—See "Mimulus."

Monkey Puzzle.—See "Araucaria."

Monk's-hood.—See "Aconite."

Montbretia.—Very graceful and showy plants. The flowers, which are like small Gladioli, are produced on long branched spikes and are excellent for cutting. Plant 3 in. deep and 2 in. apart in sandy loam and leaf-mould. The corms should never be kept long out of the ground, as they shrivel, and weak growth and few flowers are the result. Though they are hardy it is well to give them a covering of litter in winter. They may also be grown in pots. Height, 2-1/2 ft.

Moraea Iridioides.—These plants flower in May, and require the same treatment as Ixias.

Morina (*Whorl Flower*).—An ornamental hardy perennial, which is seldom met with. It forms rosettes of large, deep green, shiny foliage and stout spikes of rose-coloured flowers in whorls, which make it one of the most attractive of Thistles. It likes a rich, light soil, is increased by seed sown in the autumn, also by division in August, and flowers in July. Height, 2½ ft.

Morisia Hypogaea.—This is a pretty hardy perennial for rock-work. It flowers in May, and is raised from seed sown as soon as it is ripe. Height, 2 in.

Morna Elegans.—Beautiful half-hardy annuals. For early flowering sow the seed in September: for later blooms sow in February in slight heat, pot off, affording good drainage to the plants. They are very sensitive to cold, and should not be placed out of doors before the end of May. Avoid over-watering, as this would prove fatal to them. The soil should be light and sandy. Those sown in September will bloom in the greenhouse in May; those sown in February will flower in the open in the autumn. Height, 1½ ft.

Morning Glory.—See "Convolvulus."

Morrenia Odorata.—A good twining plant for the greenhouse, producing fragrant cream-coloured flowers in July. It will grow in any good loamy soil, and may be increased by cuttings. Height, 3 ft.

Moss.—To eradicate moss from fruit-trees wash the branches with strong brine or lime water. If it makes its appearance on the lawn, the first thing to do is to ensure a good drainage to the ground, rake the moss out, and apply nitrate of soda at the rate of 1 cwt. to the half-acre, then go over the grass with a heavy roller. Should moss give trouble by growing on gravel paths, sprinkle the ground with salt in damp weather.

Mountain Avens.—See "Dryas."

Muhlenbeckia Complexa.—A very decorative climber, hardy in nature but requiring a good amount of sunshine to make it bloom. A well-drained, sandy soil is best for its growth, and it can be increased by cuttings of hardy shoots taken early in summer. Height, 6 ft.

Mulberries.—Any good soil will grow the Mulberry. The tree is hardy, but the fruit wants plenty of sunshine to bring it to perfection. It may be propagated by cuttings of wood one year old with a heel two years old attached. The only pruning necessary is to keep the branches well balanced. Autumn is the time to do this, not forgetting that the fruit is borne on the young wood. When grown in tubs or large pots in the greenhouse the fruit attains the perfection of flavour. In addition to the Large Black and the White (*Morus Alba*) the New Weeping Russian White may be recommended.

Mulching.—See "Soil."

Muscari.—See "Hyacinthus."

Muscari Botryoides.—See "Hyacinthus."

Mushrooms.—Take partially dry horse manure and lay it in a heap to ferment. Turn and mix it well every few days, and when well and equally fermented, which will be from ten to fourteen days, make it into a bed 4 ft. wide and 2 ft. deep, mixing it well together and beating or treading it firmly. When the temperature of the bed falls to 75 degrees, or a little under, the spawn may be inserted in pieces about the size of a walnut, 2 in. deep and 6 in. apart. Now give a covering of loamy soil, 2 in. deep, and beat it down evenly and firmly. Finish off with a covering of clean straw or hay about 1 ft. thick. Water when necessary with lukewarm water; but very little should be given till the Mushrooms begin to come up, then a plentiful supply may be given. They may be grown in any warm cellar or shed, and usually appear in from four to six weeks after planting.

Musk (*Mimulus Moschatus*).—A well-known sweet-scented, half-hardy perennial, well adapted for pot culture. A moist, shady position is most congenial to it when placed in the border. Seed sown in autumn make fine, early-flowering greenhouse plants. For summer blooming the seed is sown early in spring, under a frame or hand-glass, at a temperature of from 55 to 60 degrees. It is readily propagated by division. Height, 6 in.

Mustard and Cress.—For sowing in the open choose a shady border, make the surface fine and firm, and water it well before putting down the seed. Let the seed be sown thickly at intervals of seven or fourteen days from March to September. As the Cress does not germinate so quickly as the Mustard, the former should be sown four days before the latter. The seed must not be covered, but simply pressed into the surface of the soil. Keep the ground moist, and cut the crop when the second leaf appears. For winter use it is best sown in boxes and grown in a frame, the seed being covered with flannel kept constantly moist. This may be removed as soon as the seed germinates. Gardeners mostly prefer to grow it through coarse flannel, to avoid the possibility of grit being sent to table. The curled leaf Cress is the best, and the new Chinese Mustard is larger in leaf than the old variety, and is very pungent in flavour.

Myosotis (*Forget-me-not*).—The perennial varieties of these beautiful plants grow best in moist places, such as the edges of ponds or ditches; but they also do well in pots among Alpine plants. Most of them may be increased by root division, and all of them by seed. The annuals like a dry, sandy soil, and are grown from seed sown in March. They flower in June or July. Height, 6 in.

Myrica Gala (*Candleberry Myrtle*).—This hardy deciduous shrub is very ornamental, and its foliage is scented like the myrtle. It will grow in light, rich soil, but thrives best in peat, and may be increased by seeds or layers. May is its flowering time. Height, 4 ft. *M. Cerifera* is treated in precisely the same manner. Height, 6 ft.

Myrsiphyllum Asparagoides.—See "Smilax."

Myrtle (*Myrtus*).—Will strike readily if the cuttings be placed in a bottle of water till roots grow, and then planted; or young cuttings will strike in sandy soil under a hand-glass. They succeed best in a mixture of sandy loam and peat and on a south wall. Near the sea they prove quite hardy. Height, 6 ft.

N

Narcissus.—See "Daffodils."

Nasturtiums.—These are among the most useful of our hardy annuals, producing a display of the brightest of colours throughout the entire summer. The tall-growing climbers make a gay background to a border, and are equally valuable for trellis-work, while the dwarf varieties are first-class bedding plants, and of great service for ribboning. The seeds may be sown in pots in September or in the open ground early in spring. A light sandy or gravelly soil is the best to produce a wealth of bloom. Height, 6 ft. and 1 ft.

Nectarines.—Require the same treatment as the Peach. In fact, the Nectarine stone sometimes produces a Peach, and a Peach stone often produces a Nectarine. Fairchild's, Humboldt, Lord Napier, and Red Roman are useful varieties. They should stand 20 ft. apart.

Neilla.—These shrubs thrive in ordinary soil, and are increased by cuttings of the young wood. They flower in July. *N. Torreyi* bears white Spiraea-like flowers, which are very effective. Height, 6 ft.

Nemesia.—A most beautiful half-hardy annual of the Antirrhinum class. Sow the seed early in spring on a hotbed, and plant out in May in rich, light soil. Cuttings of the young wood will strike under glass. Height, 1-1/2 ft. to 2-1/2 ft.

Nemophila.—Pretty, neat, and compact hardy annuals, well worth cultivating. They succeed best in a moist and shady situation, delight in peat or vegetable mould, and when grown in circles are very striking. If wanted to flower early, sow the seed in autumn, or on a hotbed in spring; and

if required for late blooming, sow in the open in March. Treated thus they flower from June to September. Height, 1 ft.

Nepeta Glechoma Variegata.—A very useful plant for hanging baskets. It can be trained as a pyramid or allowed to hang down; in many cases it is employed as edgings. It is of easy culture, and does well as a window plant or in a cool greenhouse. The soil should be light and dry. It flowers in July, and may be increased by root-division.

Nerine Sarniense.—See "Guernsey Lily."

Nertera Depressa (*Coral Berry*).—This pretty Moss-like plant is fairly hardy, and is eminently suited for a sheltered position on the rockery. The soil should consist of leaf-mould and sand, and overhead sprinkling with soft water is very beneficial. In cold districts it is better to grow it in the greenhouse. The flowers are produced in July, succeeded by orange-coloured berries. It is easily increased by dividing it early in the spring. Height, 3 in.

Neuvusia Alabamensis.—A tamarix-like shrub, bearing clusters of white flowers early in spring. Will grow in any soil or situation. Increased by cuttings placed in sand under glass.

Nicotiana (*Tobacco Plants*).—Very showy half-hardy annuals. *N. Affinis* bears long, tubular, sweet-scented, white flowers in July, and grows to the height of 3 ft. *N. Virginica* produces immense leaves and pink flowers, and the plants are 4 to 5 ft. high. The seed is sown on a hotbed in spring, and when the second or third leaf appears the plants are put into small pots and placed in a frame till the end of May, when they are transferred to the border.

Nierembergia (*Cup Flowers*).—These elegant half-hardy annuals grow well in any light soil, but prefer a mixture of sandy loam and leaf-mould. Sow the seed in March or April in slight heat, harden off, and plant out in May as soon as all fear of frost is over. They flower in July. Height, 9 in. to 1 ft.

Nierembergia Rivularis.—This herbaceous plant is of a creeping nature; it has deep green ovate foliage and large saucer-shaped white flowers. It needs a moist position, and is increased by division. The bloom is produced throughout June, July, and August. Height, 3 in.

Nigella.—These hardy annuals, a species of Fennel-flower, are both curious and ornamental. Perhaps the best known among them is *N. Hispanica*, or Love-in-a-Mist. They only require sowing in the open in spring—but not before the middle of March—to produce flowers in July and August. Height, 9 in. to 2 ft.

Night-scented Stocks.—See "Mathiola."

Nolana.—Hardy annuals that are suitable for the border, as they are very showy when in flower. The seed should be sown in spring on a gentle hotbed, and the plants transferred to the garden about the middle of May. *N. Atriplicifolia* may be sown in the open in the autumn. They flower in July and August. Height, 6 in. to 2 ft.

North Borders, Plants suitable for.—Hardy Camellias, Chrysanthemums, black and green Tea Plant, Rhododendrons, Ferns, Red Currants, Morello Cherries, and spring and summer cuttings of all sorts.

Nuttallia.—This early-flowering shrub is only hardy in the south and south-west of our country. It requires a light, rich soil, and may be increased by division. Racemes of white flowers are produced during February and March. Height, 2 ft.

Nycteria.—Exquisite little half-hardy plants, suitable for pots or rock-work. The seed should be sown early in spring on a gentle hotbed, and the young plants transferred to the pots or open ground at the end of May, using a light, rich soil. Height, 3 in.

Nymphaea Alba.—A hardy aquatic perennial, frequently found in our ponds. It flowers in June, and may be increased by dividing the roots. Height, 1 ft.

O

Odontoglossum Grande.—A most beautiful orchid, delighting in a temperature of from 60 to 70 degrees and an abundance of water during summer, but good drainage is essential. The blooms are yellow, spotted and streaked with venetian red, and are often 6 in. across. The pots should be two-thirds filled with crocks, then filled up with fibrous peat and sphagnum moss. During winter only a very little moisture should be given.

Oenothera.—The Evening Primroses are most useful and beautiful plants, well suited for ornamenting borders, beds, edgings, or rock-work. All the species are free-flowering, and grow well in any good, rich soil. The annual and biennial kinds are sown in the open in spring. The perennials may be increased by dividing the roots, by cuttings, or by seed, the plants from which will flower the first season if sown early in spring. They bloom in June and July. Height, 6 in. to 4 ft.

Olearia.—These evergreen shrubs thrive in peat and loam, and may be increased by division of

the roots. *O. Haastii* has foliage resembling the Box, and a profusion of white, sweet-scented flowers in summer: a chalk soil suits it admirably. Height, 3 ft. to 4 ft.

Omphalodes Verna.—A hardy perennial which may be grown under the shade of trees in ordinary soil. It produces its flowers in March, and is increased by dividing the roots in autumn. Height, 6 in.

Oncidium Sarcodes.—Plant these Orchids firmly in well-drained pots, using equal parts of live sphagnum and fibrous peat. Give one good watering as soon as the potting is finished, and stand them in a light, warm part of the greenhouse. They will require very little more water until the roots have taken hold of the soil—only sufficient to keep the pseudo-bulbs from shrivelling—and during the winter months scarcely any moisture is needed. They flower in August. Height, 1-1/2 ft.

Onions.—Require a deep, rich, heavy soil. Where the ground is not suitable it should have had a good dressing of rotten manure the previous autumn, and left in ridges during the winter. Level the ground, and make it very firm just before the time of sowing. The seed should be sown early in March for the main crop and for salad and pickling Onions, and in August for summer use. Thin out to about 6 in. apart, excepting those intended to be gathered while small. The Tripoli varieties attain a large size if transplanted in the spring. The Silver-skins do best on a poor soil. For exhibition Onions sow in boxes early in February in a greenhouse; when about 1 in. high prick out, 3 in. apart, into other boxes; give gentle heat and plenty of air, and when they have grown 6 in. high put them in a cool frame until the middle of April, when they must be planted in the open, 1 ft. apart.

Ononis Rotundifolia (*Round-leaved Restharrow*).—A charming hardy evergreen of a shrubby nature. It will grow in any ordinary garden soil, and is increased by seed, sown as soon as it is ripe. It is most effective in clumps, and blooms from June to September. Height, 1-1/2 ft.

Onopordon.—Half-hardy perennials of a rather interesting nature and of easy cultivation. Sow the seed any time between March and June. They require the protection of a frame or greenhouse during winter, and produce flowers in July. Height, 6 in. to 8 ft.

Onosma Taurica (*Golden Drop*).—This hardy herbaceous plant is very pretty when in flower, and suitable for rock-work. It requires a well-drained vegetable mould, and to be planted where it can obtain plenty of sun. It is increased from cuttings taken in summer, placed in a cucumber frame, kept shaded for about a fortnight, and hardened off before the winter. The flowers succeed one another from June to November. Height, 1 ft.

Opuntia Rafinesquii (*Hardy Prickly Fig*).—A dwarf hardy Cactus with sulphur-coloured flowers, produced from June to August; very suitable for dry spots in rock-work. It grows best in peat with a little sand, and is propagated by separating the branches at a joint, and allowing them to dry for a day or so before putting them into the soil. Height, 2 ft.

Orange, Mexican.—See "Choisya."

Orchids.—The four classes into which these charming and interesting plants are divided may be described as (1) those coming from the tropics, (2) from South Africa, (3) from the South of Europe, and (4) our native varieties. The first require a stove, the second a greenhouse, the third and fourth slight protection during winter. As their natural character differs so widely it is necessary to ascertain from what part of the globe they come, and to place them in houses having as near as possible the same temperature and humidity as that to which they are accustomed. The pots in which they are grown should be filled with fibrous peat and sphagnum moss, largely mixed with charcoal, and abundant drainage ensured. They are propagated by dividing the root stocks, by separating the pseudo-bulbs, and, in case of the Dendrobiums, by cuttings. *Orchis Foliosa* (*Leafy Orchis*) may be grown in the open ground in good sandy loam. When once established it is best not to disturb it, but if needed it may be increased by division, after the tops have died down. *Orchis Fusca* (*Brown Orchis*) may likewise be planted in the open, in a sheltered position, in fine loam and leaf-mould, the soil to be well drained, yet constantly moist.

Origanum Pulchellum.—Popularly known as the Beautiful Marjoram, this plant is useful for cutting for vases. It is perennial and hardy, and thrives in a dry situation with a sunny aspect and in a sandy soil. The bloom is in its best condition in October. The rooted shoots may be divided in spring or almost at any other period, or it may be propagated by taking cuttings in summer. Height, 1-1/2 ft.

Ornithogalum.—*O. Arabicum* bears a large white flower with a shiny black centre. It is a fine plant for pot culture, or it may be grown in water like the Hyacinth. It may be planted in the open early in spring in sandy loam and peat. Take it up before the frost sets in and store it in a dry place, as it requires no moisture while in a dormant state. In September the flowers are produced. Height, 6 in. *O. Umbellatum* (*Star of Bethlehem*) is a pretty little flower often found in English meadows, is quite hardy, and once established may be left undisturbed for years. It throws up large heads of starry flowers, which are produced in great abundance. While in a dormant state the bulbs should be kept almost dry. It is propagated by off-sets; flowers in May. Height, 1 ft.

Orobus.—These hardy perennials bear elegant Pea-shaped blossoms. The plants will grow readily in any light soil, and are easily increased by root-division in the spring, or by seeds. They

flower in June. Height, 2 ft. to 3 ft.

Osmanthus.—These elegant hardy evergreen shrubs succeed best in light, sandy loam, and like a dry situation. They may be increased by cuttings of the young shoots with a little old wood attached, or they may be grafted on to common Privet. The variegated varieties are very beautiful. They grow well on chalk soils. Height, 4 ft. to 6 ft.

Othera Japonica.—A newly introduced evergreen shrub very similar to the Holly. It is perfectly hardy and may be treated in the same manner as that plant.

Ourisia Coccinea.—A hardy herbaceous, surface-creeping perennial of singular beauty as regards both leaf and flower. The soil in which it is grown must be well drained, a peat one being preferable; and the position it occupies must be well shaded from the rays of the midday sun. It flowers from May onwards to September, the cut bloom being admirable for mixing with fern leaves. As soon as new life starts in spring the roots may be divided. Height, 9 in.

Oxalis.—A genus of very pretty bulbous plants that thrive well in a mixture of loam, peat, and sand, or will grow in any light soil. Most of the tender kinds may be reared in a frame if protected from frost in the winter. After they have done flowering they should be kept dry until they begin to grow afresh. They are increased by off-sets from the bulb. The hardy species should be planted in a shady border, where they will grow and flower freely. The seeds of these may be sown in the open in spring. Some of the varieties have fibrous roots: these will bear dividing. They are equally suitable for pots, borders, or rock-work. Height, 9 in. to 3 ft.

Ox-Tongue.—See "Bugloss."

Oxythopis Campestris.—A hardy perennial with lemon-yellow flowers in June and July. It will grow in any good garden soil, and is propagated by seed only, which should be sown where the plants are intended to be grown. Height, 6 in.

P

Pachysandra.—This early hardy perennial has ornamental foliage and blooms in April. It will succeed in almost any soil, and may be increased by suckers from the roots. Height, 1 ft.

Paeonies.—These beautiful flowering plants are mostly hardy enough to endure our winters. The herbaceous kinds are increased by dividing the plants at the roots, leaving a bud on each slip. The shrubby species are multiplied by cuttings taken in August or September, with a piece of the old wood attached, and planted in a sheltered situation. Tree Paeonies require protection in winter, and may be propagated by grafting on to the others, by suckers, or by layers. New varieties are raised from seed. A rich, loamy soil suits them best. Height, 2 ft.

Palms from Seed.—Soak the seed in tepid water for twenty-four hours, then put them singly 1 in. deep in 2-in. pots filled with equal parts of loam, leaf-mould, and sand. Cover the pots with glass and stand them in the warmest part of a hothouse. Shade from strong sunshine, and keep the soil just moist. Re-pot as soon as the roots have filled the old ones.

Pampas Grass.—See "Gynerium."

Pampas Lily of the Valley.—See "Withania."

Pancreatium.—A handsome class of plants. Their habit of growth is somewhat like that of the Amaryllis. They are admirably adapted for growing in pots in the greenhouse. They may also be planted in the open ground under a south wall. The bulbs should be placed in a composition of three parts light, sandy loam and one of vegetable mould. They are increased by off-sets from the roots, or by seeds, by which the new varieties are obtained. Height, 1 ft. to 2 ft.

Pandanus Veitchi (*Variegated Screw Pine*).—For table decoration or vases this is a most useful plant. It requires a warm greenhouse where a temperature of 60 or 70 degrees can be kept up throughout the year, and grows well in equal parts of peat and loam with one-sixth part sand. During the autumn a little liquid manure is beneficial. In the winter months it should be watered carefully, but in the summer it is improved by syringing with warm water. It is propagated very easily by suckers taken off in spring or summer, placed in a temperature of 75 degrees.

Panicum.—Handsome ornamental grasses. They will grow in any soil or situation. *P. Capillare* is an annual, suitable for bouquets or edgings; it is increased by seed. *P. Altissimum*, an annual, and *P. Sulcatum*, a most elegant greenhouse plant, are fine for specimens. *P. Plicatum* is highly ornamental and hardy, but is best grown as a conservatory or window plant; it has a Palm-like appearance, and is of quick growth. Most of the plants flower in July. They may be propagated by seed or by division of the roots. Average height, 1-1/2 ft.

Pansies (*Heartsease*).—Grow well from seed sown in July or August on a raised bed of light earth. They may also be increased from cuttings taken in August, September, April, or May, selecting young side-shoots and planting them in light earth mixed with silver sand. The cuttings should be kept in a cool frame, moderately moist, and shaded from the hot sun. They can likewise

be increased by layers, merely pegging them down and not slitting them on account of their tendency to damp off. They may also be increased by dividing the roots in April or May. They should be planted where they will get all the morning sun, yet be sheltered from mid-day rays; in an open and airy situation, yet protected from cutting winds. While the plants are blooming they should be supplied with liquid manure.

Papaver (*Poppy*).—These showy flowers are most at home in a rich, light soil. They are easily raised from seed sown where they are intended to bloom. The perennials may also be increased by dividing the roots. They flower at midsummer. Height varies from 1 ft. to 3 ft.

Pardanthus Chinensis.—See "Iris."

Parsley.—In order to grow Parsley to perfection it is necessary that the ground be well drained, as the roots and stems must be kept dry, and the soil should be rich and light. Three sowings may be made during the year: the first in spring for late summer and autumn use, the next in June for succession, and another in August or September for spring and early summer use. Thin out or transplant, to 6 in. apart. Parsley takes longer than most seeds to germinate; it must therefore be watched during dry weather and watered if necessary. Plants potted in September and placed in a cold frame, or protected in the open from rain and frost with a covering of mats supported by arches, will be valuable for winter use.

Parsnips.—These succeed best in a rich soil, but the application of fresh manure should be avoided, as it induces forked and ill-shaped roots. Let the ground be trenched two spits deep and left ridged up as long as possible. As early in March as the weather will permit level the surface and sow the seed in drills 15 in. apart, covering it with half an inch of fine soil. When the plants are 2 or 3 in. high, thin them out to 9 in. apart. They may be taken up in November and, after cutting off the tops, stored in a pit or cellar in damp sand, or they may be left in the ground till required for use.

Passion Flower.—Cuttings of the young shoots strike readily in sand under glass. The plant likes a good loamy soil mixed with peat. A sheltered position with a south or south-western aspect should be assigned those grown out of doors, and the root should be well protected in winter. The flowers are borne on seasoned growth of the current year: this fact must be considered when pruning the plants. During the hot months the roots require a copious supply of water, and the foliage should be syringed freely. *Passiflora Cærulea* is fine for outdoor culture, and Countess Guigliani makes a capital greenhouse plant.

Pavia Macrostachya.—This is a deciduous hardy shrub or tree which bears elegant racemes of white Chestnut-like flowers in July. Any soil suits it. It is propagated by layers or by grafting it on to the Horse-chestnut. Height, 10 ft.

Peaches.—These are best grown on a strong loam mixed with old mortar; though any soil that is well drained will produce good fruit. When possible, a south wall should be chosen; but they are not particular as to position, providing they are afforded shelter from cold winds. November and February are the most favourable months for planting. The roots should be carefully arranged at equal distances apart, 3 or 4 in. below the surface of soil, and then covered with fine mould. Avoid giving manure at all times, except when the trees are bearing fruit heavily. Train the shoots about 6 in. apart, removing all the wood-buds except one at the base of the shoot and one at the point. Keep the flowers dry and free from frost by means of an overhead shelter, to which tiffany or canvas can be attached, which should, however, only be used so long as the cold weather lasts. To ensure good fruit, thin the same out to 6 in. apart as soon as it attains the size of a small pea, and when the stoning period is passed remove every alternate one, so that they will be 1 ft. apart. After gathering the fruit, remove any exhausted and weak wood, leaving all that is of the thickness of a black-lead pencil. To keep the foliage clean, syringe once a day with water; this may be continued until the fruit is nearly ripe. The following may be recommended for outdoor cultivation:—Hale's Early, Dagmar, and Waterloo for fruiting in July or August; Crimson Galande, Dymond, and the well-known Bellegarde for succession in September; and Golden Eagle for a late sort. When planted in quantities, Peaches should stand 20 ft. apart.

When grown under glass a day temperature of 50 degrees, falling to 45 degrees at night, is sufficient to start with, gradually increasing it so that 65 degrees by day and 55 by night is reached at the period of blossoming. Syringe the leaves daily until the flowers are produced, then discontinue it, merely keeping the walls near the pipes and the paths damp. As soon as the fruit is set the syringing should recommence. Water of the same temperature as that of the house should in all cases be used. When the fruit begins to ripen, cease once more the syringing until it is gathered, then admit air freely, wash the trees daily, and apply liquid manure to the roots in sufficient quantities to keep the soil moist during the time the trees are at rest. Rivers's Early, Pitmaston Orange, Dagmar, and Royal George are all good under glass.

Pears.—Wherever Apples are a success Pears will grow. As a rule, they are best grown dwarf. On light soils they should be grafted on to Pear stocks, but on heavy soils they are best worked on the Quince. The fruiting of young trees may be accelerated by lifting them when about five years old, spreading out the roots 1 ft. below the surface of the soil, and mulching the ground. The mulching should be raked off in the spring, the ground lightly stirred with a fork and left to sweeten, and another mulching applied when the weather becomes hot and dry. In pruning, leave the leading branches untouched, but let all cross shoots be removed, and the young wood be cut away in sufficient quantity to produce a well-balanced tree, and so equalise the flow of sap. Some

of the pruning may be done in summer, but directly the leaves fall is the time to perform the main work. A good syringing once a week with the garden hose will keep the trees vigorous and free from insects. Should scab make its appearance on the leaves, spray them occasionally with Bordeaux Mixture, using the minimum strength at first, and a stronger application afterwards if necessary. There are over 500 varieties of Pears, so it is no easy matter to give a selection to suit all tastes, but a few may be named as most likely to give satisfaction. Louise Bonne de Jersey succeeds in almost any soil and in any situation, is a great favourite, and ripens its fruit in October. Beurré Giffard makes a fine standard, and ripens in July. Beurré Hardy is delicious in October and November. Doyenné du Comice is one of the best-flavoured, and is very prolific. Beurré d'Amanlis ripens in August. Williams's Bon Chrétien, Aston Town, Pitmaston Duchess, Clapp's Favourite, Comte de Lamy, and Josephine de Malines are all reliable for dessert, while for stewing purposes Catillac, Black Pear of Worcester, Verulam, and Vicar of Winkfield are among the best. In orchards standards should be from 20 to 25 ft. apart; dwarfs 12 ft. to 1 rod.

Peas.—For the production of heavy summer and autumn crops a rich and deeply-stirred soil is essential, one of the best fertilisers being well-decayed farmyard manure; but for the earliest crop a poorer soil, if deep and well pulverised, will give the best results. Peas under 3 ft. in height do not require sticking, but they can be more easily gathered if a few small twigs are used to keep the haulm off the ground. If sown in successive lines the space between the rows should correspond with the height of the variety grown. A good plan is to arrange the rows 10 or 15 ft. apart, and crop the intervening spaces with early dwarf vegetables. The earliest varieties may be sown from November to February, on the warmest and most sheltered border: these may be gathered in May and June. The second early round varieties, if sown from January to April, will be ready for gathering in June and July. The main crop round varieties may be sown from February to May: these will be ready to gather in July and August. The early wrinkled varieties may be sown from March to June, for gathering between June and September. Sow main crop and late varieties at intervals of fourteen days from March to May: these will be ready to gather in July, August, and September. When the plants are a couple of inches high draw the earth neatly round them, and stake the taller varieties as soon as the tendrils appear. Keep them well watered in dry weather, and if on a light soil a mulching of manure will be beneficial. As soon as the pods are setting apply weak liquid manure to the roots when the ground is moist.

Peas, Everlasting (*Lathyrus Latifolia*).—These well-known and favourite hardy perennials are very useful for covering trellises, etc. They will grow in any garden soil, and may be raised from seed sown early in spring in slight heat. Where there is no greenhouse or frame the seed may be planted, about $\frac{1}{2}$ in. deep, round the edges of pots filled with nice, light soil, and covered with a sheet of glass, keeping the soil moist till the seed germinates. When the plants are strong enough they may be placed in their permanent quarters. They bloom from June to September. Old roots may be divided. Height, 6 ft.

Peas, Sweet.—These most beautiful and profuse blooming hardy annuals will grow almost anywhere, but they prefer a dry soil that is both rich and light. The seed should be sown as early in March as practicable, and in April and May for succession. When the plants are 2 or 3 in. high a few twigs may be placed among them, to which they will cling. The flowers are produced in July, and the more liberally they are gathered the longer the plants will continue to bloom. Height, 3 ft.

Pelargonium.—The shrubby kinds will grow well in any rich soil; loam and decayed leaves form a good compost for them. They require good drainage and plenty of air and light while in a vigorous state. Cuttings root readily in either soil or sand, especially if placed under glass. Most of the hard-wooded varieties are more easily increased by cuttings from the roots. The tuberous-rooted ones should be kept quite dry while dormant, and may be increased by small off-sets from the roots.

Pentstemon.—This charming hardy perennial is deserving of a place in every garden. It may be grown in any good soil, but a mixture of loam and peat is most suitable. The seed may be sown in April, and the plants transferred when strong enough to their flowering quarters; or it may be sown in a sheltered position during August or September to stand the winter. It may also be increased by dividing the roots in spring, as soon as growth begins. Cuttings of the young side-shoots about 6 in. long may be taken at any period—the middle of September is a good time; these should be placed under a hand-glass in sandy loam and leaf-mould. These cuttings will flower the first year. It blooms from May to October. Height, 2 ft.

Peppermint.—This may be grown on any damp or marshy soil, and increased by dividing the roots.

Perennials.—These are plants that die down during the winter, but spring up and produce new stems annually. Some, as for instance Antirrhinums and Pansies, flower the first season, but usually they do not bloom till the second season. Many of the species improve by age, forming large clumps or bushes. The stock is increased by division of the roots, which, if judiciously done, improves the plant. Like annuals, they are divided into classes of Hardy, Half-hardy, and Tender plants.

Hardy perennials do not require artificial heat to germinate the seeds, or at any period of their growth, but are the most easily cultivated of all plants. Seed may be sown from March to midsummer, transplanting in the autumn to their flowering quarters; or it may be sown in August and September in a sheltered position to stand the winter.

Half-hardy plants require artificial heat to germinate their seed, and must be gradually introduced into the open. They may be sown during March and April in frames or a greenhouse, when many will bloom the first season. If sown between May and the end of August they will flower the following spring and summer. They require protection during winter, such as is afforded by a cold pit, frame, or greenhouse, or the covering of a mat or litter. Tender perennials may be sown as directed above, but the plants should be kept constantly under glass.

Some perennials, such as Pinks, Carnations, Saxifrages, etc., do not die down, but retain their leaves. These are called evergreen perennials.

Pergularia.—Very fragrant twining plants, suitable for trellis-work, arbours, etc. A rich soil suits them best. They are easily increased by cuttings sown in sand under glass. They flower at midsummer. Height, 8 ft. to 12 ft.

Perilla Nankinensis.—A plant of little merit, except for its foliage, which is of a rich bronze purple. It bears a cream-coloured flower in July. It may be raised in the same manner as other half-hardy annuals, and prefers a light, loamy soil. Height, 1 1/2 ft.

Periploca Graeca.—A hardy, deciduous, twining shrub, which will grow in any soil, and may be increased by layers or by cuttings placed under glass. It flowers in July. Height, 10 ft.

Periwinkle.—See "**Vinca.**"

Pernettya.—An American evergreen shrub, which, like all of its class, thrives best in sandy peat; it delights in partial shade, and a moist but well-drained position. It is increased by layers in September, which should not be disturbed for a year. It is a good plan to mulch the roots with leaf-mould or well-rotted manure. Height, 5 ft.

Petunias.—These ornamental half-hardy perennials prefer a mixture of sandy loam and vegetable mould, but will grow in any rich, light soil. Seeds sown in March or April, at a temperature of from 65 to 75 degrees, make fine bedding plants for a summer or autumn display. As the seeds are very minute, they should be covered merely with a dusting of the finest of soil. Moisture is best supplied by standing the pots up to the rims in water. Pot off singly, harden off, and plant out at the end of May. May also easily be raised from cuttings, which will strike at any season in heat, but care must be taken that they do not damp off. They flower in July and August. Height, 1-1/2 ft. to 2 ft.

Phacelia Campanularia.—A superb, rich blue, hardy annual. It will grow in any soil, and is easily raised from seed sown in spring. Flowers are borne in June. Height, 1-1/2 ft.

Phalaris.—P. Arundinacea is the well-known perennial Ribbon Grass; it is easily grown from seed, and the root allows division. P. Canariensis is the useful canary seed: it may be propagated from seed on any soil. Height, 1-1/2 ft.

Philadelphus.—Among the best of our flowering shrubs, producing a wealth of sweetly-scented flowers. For cultivation, see "**Syringa.**"

Philesia.—An American evergreen shrub which grows best in peat, but will thrive in any light soil. It should occupy a cool position, but be well sheltered from winds. It is increased by suckers. Flowers in June. Height, 4 ft.

Phillyrea.—This effective border evergreen will grow in any ordinary garden soil, and may be increased either by layers or cuttings. It has dark green shining leaves, and is quite hardy. Height, 6 ft.

Phlomis (*Lion's Tail*).—This effective hardy perennial will grow in any rich, light soil in a warm position, and is a fine lawn plant. Flowers are produced from June to August. It may be increased by seed or division. Protect the plant from damp in winter. Height, 3 ft.

Phlox.—For richness of colour and duration of bloom there are few plants that can rival either the annual or perennial Phlox. The trailing kinds are very suitable for small pots or rock-work, C. Drummondii for beds, and the French perennials, P. Decussata, for mixed borders. A rich, loamy soil suits them best, and they must never lack moisture. They are easily raised in spring from seed, and the perennials may be increased by cuttings placed under glass, or by division. Flower in July. Height, 1 ft. to 2 ft.

Phormium Tenax.—A greenhouse herbaceous plant which succeeds best in rich loam. It flowers in August, and may be propagated by dividing the roots. Height, 3 ft.

Phygelius Capensis.—A greenhouse perennial bearing carmine and yellow flowers in June, but is hardy enough to be grown on a warm border. It is increased by off-sets from the root, taken off in May. Height, 2 ft.

Physalis (*Winter Cherry*).—A rich, light soil is most suitable for the stove and greenhouse kinds, cuttings of which root freely under glass. The hardy kinds will grow in any soil, and are increased by seed. P. Francheti produces seed-pods over 2 in. in diameter, the Cherry-like fruit of which is edible and makes a fine preserve. It is larger than that of the old Winter Cherry, P. Alkekengi. They flower in August. Height, 1 ft. to 2 ft.

Physianthus Albens.—This evergreen climber is a good plant for training to the rafters of a

greenhouse. It grows well in a mixture of sandy loam and peat, and should receive bold treatment. Its white flowers are produced in July. The plant is propagated by seeds, also by cuttings. Height, 20 ft.

Physostegia.—Ornamental hardy herbaceous plants, ranging in colour from white to purple. They like a rich soil, and can be raised from seed sown in March. They also bear division. July and August are their flowering months. Height, from 1 ft. to 5 ft.

Phyteuma Hallierii.—A very pretty hardy perennial. It will thrive in any soil, blooms from May to August, and can be readily increased by seed or division. Height, 1-1/2 ft.

Phytolacca Decandra (*Virginian Poke*).—A very fine herbaceous plant, bearing bunches of pretty black berries. It requires a rich soil and plenty of room for its widespreading branches. Cuttings will strike under glass, or the seed may be sown in autumn. It flowers in August. Height, 6 ft.

Picotees.—See "Carnations."

Pimelias.—Very beautiful, compact, and free-growing greenhouse everlasting shrubs. The most suitable soil consists of three parts sandy peat and one part loam, with good drainage. June or July is their flowering season. They may be grown from seed or young cuttings 2 in. long, placed in sandy peat, with a little bottom heat. Do not give too much water. Height, 2 ft. to 4 ft.

Pimpernel.—See "Anagallis."

Pinguicula Grandiflora (*Great Irish Butterwort*).—This handsome, hardy bog-plant produces deep violet-blue flowers in August and September. It may be grown in any damp soil and increased by division. Height, 1-1/2 ft.

Pinks.—Will live in almost any soil, but if large blooms are required rich earth is essential. They are increased by pipings taken in May or June. These should be planted out in October, but must be given a well-drained position, as too much wet is injurious to them. Do not set the roots too deep, but let the collar of the plant be on a level with the soil.

Pinus.—As a tall specimen tree nothing is more graceful than the Corsican Pine (*Pinus Laricio*). *P. Strobus Nana* is a curious dwarf variety, rarely exceeding 3 ft. in height. The *Argentea Aurea* is also of dwarf habit. Its leaves, which are green in summer, change to a bright golden colour in winter. The *Umbrella Pine* (*Sciadopitys*) is a very striking conifer, and does well everywhere. It gets its name from its leaves being set at regular intervals round the branches, like the ribs of an umbrella. The *Pinus* may be increased by layers, or by sowing the cones in spring, after they have opened out, in rather sandy soil, covering them lightly.

Piping.—This consists in drawing out the young grass, or shoots, from the joints of Pinks, etc., from May to July being the time for doing so. Place them in light, sandy soil, and cover them with a hand-glass. Towards the end of September they may be planted out in beds or potted off in rich, light loam. In either case they must not be planted too deeply. The crust of the soil should be level with the collar of the plant. If the pots are put into a frame the plants will require very little water during winter, but as much air should be given as is possible. In March re-pot them, using 8-1/2-in. pots.

Platycodon (*Japanese Balloon Flower*).—Hardy and elegant herbaceous plants, requiring a sandy soil. They may be raised either from seeds or from cuttings of the young growth; they flower in July. Height, 1 ft.

Platystemon Californicus.—Pretty hardy annuals which thrive in a sandy soil. They are easily raised from seed sown in March or April, and bring forth their flowers in August. Height, 1 ft.

Pleroma Elegans.—A beautiful evergreen shrub for a greenhouse. Pot in equal parts of loam, peat, and sand. It flowers in July. Cuttings may be struck in peat in a rather warm temperature. Height, 4 ft.

Plumbago.—These pretty evergreens will grow in any soil, and can be propagated in September by cuttings of half-ripened wood having a heal, planted in a sandy soil, and kept near the glass in a greenhouse. They flower in June. Height, 3 ft. *P. Occidentalis* is a charming greenhouse climber. *P. Capensis Alba* is a greenhouse evergreen shrub, flowering in November, and growing to a height of 2 ft. *P. Larpentae* is good for a sunny border, in light soil: it bears terminal clusters of rich violet-purple flowers in September. Height, 1 ft. Plumbagoes require very little attention in winter.

Plums.—Almost any soil will grow this useful fruit. Young trees may be planted at any time, when the ground is friable, from November to March, but the earlier it is done the better. The situation should be somewhat sheltered. In exposed positions protection may be afforded by a row of damson trees. Many varieties are suitable for growing on walls or sheds, where they are trained into fans, as cordons, and other decorative designs; but it must not be overlooked that until the trees are well established a great deal of fruit is necessarily lost by the severe pruning and disbudding which is required to bring the tree into shape. A pyramid-shaped tree is useful, and is easily grown by training one straight, central shoot, which must be stopped occasionally so that fresh side branches may be thrown out, which of course must be kept at the desired length. A bush-tree about 7 ft. in height is undoubtedly the best form of growth, and needs but a

minimum amount of attention. In pruning wall trees the main object is to get the side-shoots equally balanced, and to prevent the growth advancing in the centre. The bush form merely require the removal of any dead wood and of cross-growing branches. This should be done late in the summer or in the autumn. The trees are frequently attacked by a small moth, known as the Plum Fortrix, which eats its way into the fruit and causes it to fall. In this case the fallen unripe fruit should be gathered up and burned, and the trees washed in winter with caustic potash and soda. For growing on walls the following kinds may be recommended: Diamond, White Magnum Bonum, Pond's Seedling, and Belle de Louvain for cooking; and Kirke, Coe's Golden Drop, and Jefferson for dessert. For pyramids and bushes, Victoria, Early Prolific, Prince Engelbert, Sultan, and Belgian Purple are good sorts. In orchards Plums should stand 20 ft. apart.

Poa Trivalis.—A very pretty, dwarf-growing, variegated grass. Plant in a moist situation in a rich, light, loamy soil. It is increased either by seed or division.

Podocarpus.—See "*Cephalotaxus*."

Podolepis.—Hardy annuals bearing yellow and red and white flowers. A mixture of loam and peat is most suitable for their growth. They are easily raised from seed sown in March, and bloom from June to August. Height, 1-1/2 ft.

Podophyllum Peltatum (*Duck's Foot, or May Apple*).—Grown chiefly for its foliage and berries, this hardy herbaceous perennial forms a pleasing spectacle when planted in moist soil under trees; it likewise makes a splendid pot-plant. A mixture of peat and chopped sphagnum is what it likes. The pots are usually plunged in wet sand or ashes on a northern border. It is propagated by cutting the roots into pieces several inches in length, with a good bud or crown on each. During May and June the plant produces small white Dog-rose-like flowers. Height, 1 ft.

Poinsettia Pulcherrima.—A stove evergreen shrub which produces lovely crimson bracts in the winter. Plant in sandy loam, give plenty of water to the roots, and syringe the leaves frequently. In early spring cut down the branches to within three or four eyes of the old wood. These cuttings, if laid aside for a day to dry and then planted under glass, will form new plants. It flowers in April. Height, 2 ft.

Polemonium (*Jacob's Ladder*).—Hardy perennial border plants of an ornamental character and of the easiest culture. Any soil suits them, and they merely require sowing in the open either in spring or autumn. *P. Richardsoni* is most commonly met with, its blue flowers being produced in early autumn. Height, 1-1/2 ft.

Polyanthus.—Sow the seed late in autumn in well-drained boxes of light, rich mould; cover it very lightly, place under glass, and water sparingly, but give enough to keep the plants moist. The seed requires no artificial heat to germinate it. The roots should be divided each year as soon as they have flowered, and fresh soil given. The single varieties only are florists' flowers. The Polyanthus is a species of primrose, grows best in a rather shady position in a loam and peat compost, and produces its flowers in May. Height, 6 in.

Polygala Chamaebuxus.—A hardy evergreen trailing plant requiring a peat soil in which to grow. It may be increased from seed or by division of the roots. May is the time at which it blooms. Height, 6 in.

Polygala Dalmaisiana.—This showy evergreen shrub needs a greenhouse treatment. Soil—three parts peat, one part turfy loam, and a little sand. It flowers in March. To increase it, top the shoots, which will cause it to throw out new ones. Take the new growth off when it is 3 in. long, and place it under glass in a propagating house. Height, 1 ft.

The hardy annual varieties of *Polygala* are obtained by seed sown in peat. These flower at midsummer. (See also "*Solomon's Seal*.")

Polygonatum.—These pretty herbaceous plants are quite hardy. The flowers, which are borne in May or June, are mostly white. Plants succeed best in a rich soil. They may be raised from seed, or the roots can be divided. Height, 1ft. to 3 ft.

Polygonum Brunonis (*Knotweed*).—This strong-growing creeping perennial plant is not particular as to soil so long as it can enjoy plenty of sunshine. The shoots root of themselves and must be kept in check, else they will choke other things. It flowers in August, after which the leaves assume beautiful autumnal tints. Height, 1 ft.

Pomegranate.—This requires a deep, loamy soil and a warm, airy situation. May be propagated by cuttings of the shrubs or the root, putting the cuttings into light, rich soil, or by layers. The double kinds of *Punica*, or Pomegranate, should be grafted on to the single ones. There is a dwarf kind, bearing scarlet flowers in August, which requires heat.

Poppies.—See "*Papaver*" and "*Stylophorum*."

Portulaca.—The seeds of the hardy annual species of this genus may be sown in a sheltered open spot in spring. The half-hardy annuals should be sown thinly in boxes during March and placed in gentle heat. Harden off and plant out in May, as soon as the weather permits, in a light, dry soil where it can get a good amount of sunshine. Its brilliant and striking colour admirably adapts it for small beds, edgings, or rock-work; and it will succeed in dry, hot sandy positions where scarcely any other plant would live. It flowers in June. Height, 6 in.

Potatoes.—Ground intended for Potatoes should be dug deeply in the autumn, thoroughly drained, well manured and trenched, and left rough on the surface during the winter. At the beginning of February stand the tubers on end in shallow boxes, and expose them to the light to induce the growth of short, hard, purple sprouts. Allow one sprout to each tuber or set, rubbing off the rest. They may be planted at any time from the end of February to the end of March in rows 1-1/2 to 2-1/2 ft. asunder, placing the sets 6 in. deep and from 6 to 9 in. apart. As soon as growth appears keep the ground well stirred with the hoe to prevent the growth of weeds, and when the tops are 4 to 6 in. high ridge the earth up about them. Directly flower appears, pick it off, as it retards the growth of the tubers. They should be taken up and stored in October. If short of storage room dig up every other row only, and give the remaining ridges an additional covering of earth. They keep well this way.

Potentilla.—Handsome herbaceous plants with Strawberry-like foliage. They will grow in any common soil, and may be increased by dividing the roots or by seeds treated like other hardy perennials. The shrubby kinds are well adapted for the fronts of shrubberies, and are propagated by cuttings taken in autumn and planted in a sheltered situation. They flower at midsummer. Height, 1-1/2 ft.

Potting.—Great attention must be paid to this important gardening operation. It is necessary that the pots used be perfectly clean, and, if new, soaked in water for several hours previously, otherwise they would absorb the moisture from the soil to the detriment of the roots. At the bottom of the pots place a few layers of crocks, and on these some rough mould so as to ensure perfect drainage. For all delicate, hard-wooded plants one-third of each pot should be occupied with drainage, but a depth of 1-1/2 in. is sufficient for others. Lift the plant carefully so as not to break the ball of earth round the roots, and fill in with mould round the sides. In order to supply water readily the pots must not be filled up to the rim. Pot firmly, and in the case of hard-wooded plants ram the earth down with a blunt-pointed stick; soft-wooded ones may be left rather looser. Give shade till the plants have recovered themselves. The soil used for potting should be moist, but not clammy. A rather light, rich loam is most suitable for strong-growing plants; peat for slow-growing, hard-wooded ones, like Ericas, Camellias, etc.; and a mixture of light loam, one-third its bulk of leaf-soil, and silver sand in sufficient quantity to make the whole porous for quick-growing, soft-wooded plants, such as Pelargoniums, Calceolarias, Fuchsias etc.

Pratia Repens (*Lobelia Pratiana*).—This pretty little creeping perennial is very suitable for the front of rock-work. It requires a well-drained vegetable soil and all the sun it can get. It is self-propagating. Though pretty hardy, it is safer to pot it off in autumn and place it in a cold frame throughout the winter. Flowers are produced in June, and are succeeded till cut off by frost.

Primroses.—See "Primulas," and "Streptocarpus."

Primulas.—This genus embraces the Auricula, the Polyanthus, and the Primrose. The greenhouse varieties are among the most useful of our winter-flowering plants. The seed may be sown at any time from March to July in a pot of two-year-old manure, leaf-mould, or fine, rich mould, but not covering it with the soil. Tie a sheet of paper over the pot and plunge it in a hotbed. Sufficient moisture will be communicated to the seed by keeping the paper damp. When the plants make their appearance remove the paper and place the pot in the shady part of the greenhouse. When they are strong enough to handle, pot off into 4-1/2 in. pots, and stand them near the glass. The roots may be divided as soon as the plants have done flowering. The hardy kinds may be sown in the open. It should be borne in mind that the seed must be new, as it soon loses its germinating properties. These flower in March or April. Height, 6 in.

Prince's Feather.—An ornamental hardy annual, producing tall spikes of dark crimson flowers and purple-tinted foliage. It is not particular as to soil, and merely requires sowing in the open in spring to produce flowers in July. Height, 2 ft.

Privet.—See "Ligustrum."

Prophet's Flower.—See "Arnebia."

Prunella Grandiflora.—A pretty hardy perennial, suitable for a front border or rock-work, bearing dense spikes of flowers from May to August. It grows well in any ordinary soil, and is propagated by division. Height, 6 in.

Pruning.—The main objects to bear in mind in Pruning any kind of bush or tree are to prevent a congested growth of the branches, to remove any shoots that cross each other, as well as all useless and dead wood, and to obtain a well-balanced head. It may be done either in August or in the winter when the sap is at rest, after the worst of the frosts are over, the end of February being usually suitable; but the former period is generally acknowledged to be the better, especially for fruit-trees. The cuts should be clean and level, and when a saw is used should be made smooth with a chisel and covered with grafting wax. In all cases as little wound as possible should be presented. Root-pruning has for its object the suppression of over-vigorous growth and the restoration of old trees to a bearing condition. It consists in taking off all the small fibres, shortening the long roots to within 6 or 8 in. of the stem, and cutting away any bruised or injured roots before the trees are first planted out. The mode of procedure in the case of old or unproductive trees is to open the earth in autumn 3 ft. from the stem of the tree, and to saw through two-thirds of the strongest roots. The opening is then filled in with fresh mould. Should the growth still be too vigorous, the soil must be opened again the following season and the remaining roots cut through, care being taken not to injure the young fibrous roots.

Prunus.—Beautiful early-flowering trees, which will grow in any soil, and can be increased by seeds or suckers.

Ptelia Trifoliata (*Hop Tree*).—This is very suitable for planting on the borders of still waters, where its long frond-like leaves, which turn to a golden yellow in autumn, produce a fine effect. It blooms in June, and is propagated by layers. Height, 10 ft.

Pulmonarias (*Lungworts*).—Hardy perennials that require but little attention; may be grown in any common soil, and propagated by division at any time. They flower in April and May. Height, 1 ft.

Pumilum.—See "Heleniums."

Pumpkins.—Valuable for soups and pies in winter, and in summer the young shoots are an excellent substitute for Asparagus. For their cultivation, see "Gourds."

Punica Granata Nana.—A greenhouse deciduous shrub which flowers in August. The soil in which it is placed should be a light, rich loam. It can be most freely multiplied by layers, and cuttings will strike in sand under glass. Height, 4 ft.

Puschkinia (*Striped Squills*).—This charming bulbous plant may be grown in any light, rich mould, provided it is drained well. The bulbs may be separated when the clumps get overcrowded, late in summer, after the tops have died down, being the most suitable time to do so. If planted in a warm position it will begin to flower in March, and continue in bloom till May. Height, 8 in.

Pyrethrum.—The greenhouse kinds grow in any rich soil, and young cuttings planted under glass root readily. The hardy kinds are not particular as to soil so long as it is not cold and wet, and are increased by seeds sown in heat in February if wanted for early use, or in the open during March and April for later growth. The crowns may be divided either in autumn or spring: each eye or bud will make a fresh plant. Young plants produced in this way in the autumn require the protection of a frame during the winter. They flower in July. Height varies from 6 in. to 3 ft.

Pyrola.—A handsome hardy plant, suitable for a moist, shady situation. It is raised from seed, or will bear dividing, but is rather hard to grow. Height, 6 in.

Pyrus Japonica.—See "Cydonia."

Q

Quaking Grass.—See "Briza."

Quercus Ilex.—A handsome evergreen Oak, delighting in a deep, loamy soil. It is propagated by seed sown as soon as it is ripe.

Quinces.—Plant in autumn in a moist but well-drained soil. Cuttings of stout stems 6 or 8 in. long, firmly and deeply planted in a shady situation, mulched with leaf-mould, and kept watered in dry weather, will take root; but the surest method of propagation is by layers, pegged down in the soil and detached the following year. A good watering with liquid manure will swell the fruit to a large size. Keep the branches well thinned out and cut them regular, so as to let in light and air and form nicely shaped trees. The pruning should be done as soon as the leaves fall. In orchards they should stand 1 rod apart.

R

Radish.—For an early supply sow on a gentle hotbed under a frame in January, February, and March. For succession sow thinly on a warm and sheltered border early in March. Follow on with sowings in the open till the middle of September. The Black Spanish and China Rose should be sown during August and September for winter use. Lift in November, and store in sand in a cool place. Radishes should be liberally watered in dry weather, and the soil made rich and light some time before sowing commences.

Ragged Robin.—See "Lychnis."

Ragwort.—See "Jacobaea."

Ramondia Pyrenaica.—A pretty dwarf perennial, suitable for moist interstices of rock-work. It should be planted in a slanting position, so that the roots, while absorbing plenty of moisture, will not rot through being continually in stagnant water. Peat soil suits it best. It may be increased by division in spring. If grown from seed it takes two years before flowers are produced. During the height of summer it is in full beauty.

Rampion.—The roots are used in cooking, and also for salads. For winter use sow in April in rows 12 in. apart, covering the seeds lightly with fine mould, and thin out to 4 in. apart. Sow at

intervals for a succession.

Ranunculus.—These prefer a good stiff, rather moist, but well-drained loam, enriched with well-rotted cow-dung, and a sunny situation. February is probably the best time for planting, though some prefer to do it in October. Press the tubers (claws downwards) firmly into the soil, placing them 2 or 3 in. deep and 4 or 5 in. apart. Cover them with sand, and then with mould. Water freely in dry weather. Protect during winter with a covering of dry litter, which should be removed in spring before the foliage appears. They flower in May or June. Seeds, selected from the best semi-double varieties, sown early in October and kept growing during the winter, will flower the next season. They may likewise be increased by off-sets and by dividing the root. The claws may be lifted at the end of June and stored in dry sand. The plants are poisonous. Height, 8 in. to 12 in.

Raphiolepis Ovata.—Beautiful evergreen shrubs, producing long spikes of white flowers in June. A compost of loam, peat, and sand is their delight. Cuttings will strike in sand under glass. Height, 4 ft.

Raspberries.—A rich, moist, loamy soil is most suitable for their cultivation. Suckers are drawn by the hand from the old roots any time between October and February, and set in groups of three in rows 6 ft. apart. If taken in October, the young plants may be pruned early in November. It is usual to cut one cane to the length of 3 ft., the second one to 2 ft., and the third to within a few inches of the ground. As soon as the year's crop is gathered, the old bearing shoots are cut clean away, the young canes are drawn closer together, and at the end of August the tops of the tall ones are pinched off. When the leaves have fallen all the suckers are drawn out and the canes pruned (about four being left to each root). The canes are then tied and manure applied. About May they are, if necessary, thinned out again, and the suckers that are exhausting both soil and plant removed. They produce their fruit on one-year-old canes, which wood is of no further use. The general way of training them is by tying the tops together, or by training them in the shape of a fan on a south wall, but perhaps the best way is to tic them about equal distances apart round hoops supported by light sticks. Seed may be separated from the fruit, dried, and sown early in February on a gentle hotbed. Prick off into good rich mould, harden off by the middle of May, and plant in rich soil. Train them and keep down suckers. When they are grown tall pinch off the tops. Red Antwerp, Yellow Antwerp, Prince of Wales, Northumberland Filbasket, Carter's Prolific, and White Magnum Bonum are all good sorts.

Red-hot Poker.—See "Tritoma."

Red Scale.—See "Scale."

Red Spiders.—These troublesome pests which appear in the heat of summer, may be got rid of by constantly syringing the plants attacked, and by occasionally washing the walls, etc., with lime or sulphur.

Retinospora Filifera.—A large-growing, hardy evergreen shrub. It may be grown in any light soil, and increased by seed, or by cuttings planted under glass in the shade. It flowers in May.

Rhamnus (*Buckthorn*).—Fine evergreen shrubs, of hardy habit and quick growth. They may be grown in any soil, but prefer a sheltered situation, and are very suitable for planting near the sea. *R. Latifolius* has handsome broad leaves. Some, such as *R. Alaternus* and *R. Catharticus*, attain large proportions, the former reaching 30 ft. and the latter 10 ft. in height. They may be propagated by layers or by seed.

Rheum Palmatum.—This species of rhubarb makes an effective plant for the back portion of a border. It does well in rich loam, flowering in June, and is increased by dividing the root. Height, 5 ft.

Rhodanthe (*Swan River Everlasting*).—These beautiful everlasting flowers are half-hardy annuals and are suitable for beds or ribbons, and make most graceful plants for pot culture, placing four plants in a 5-in. pot. They thrive best in fibrous peat or a rich, light soil, and prefer a warm situation. Used largely for winter bouquets, and are perfect gems for pot culture. A succession of bloom may be obtained by sowings made in August, October, and March. The temperature of the seed-pots should be kept at from 60 to 70 degrees, and the soil kept constantly damp with water of the same heat. After potting the seedlings remove them to a cooler house and keep them near the glass. Those sown in March may be planted in the open in June, where they will flower in autumn. Height, 1 ft.

Rhodochiton—This evergreen climber makes a fine plant for trellis-work. It is more suitable for the greenhouse, though it may be grown in the open in summer. A light, rich, well-drained soil is its delight, and it may be propagated by seed or by cuttings under glass. In the greenhouse it should not be placed near the pipes. July is its time for flowering. Height, 10 ft.

Rhododendrons.—Plant in October in peat, or in a compost of sandy, turfy loam, with a good proportion of decayed leaves and charred refuse. The best position for them is a sheltered one where they can get a moderate amount of sunshine to develop the flower-buds. They like plenty of moisture, but the ground must be well drained. If it is desired to shift their position spring is the best time, the next best being October. They are propagated by layers or seeds, and the small wooded kinds by slips torn off close to the stems, planted in sand, and placed under glass in heat. The seed should be sown early in spring in pans of peat soil, and covered very lightly. Place the

pans in a frame, and when the soil becomes dry stand the pans in water nearly up to the rims until the surface is moist. Pot off when strong enough to handle, and keep close in the frame till fresh roots are produced, then harden off. Rhododendrons may, when desired, be transplanted in spring, even after the flower-buds are well advanced, if care be taken not to break the ball of earth round their roots. They bloom at the end of May. Height, 4 ft.

Rhubarb.—Seed may be sown thinly during April in drills 1 ft. apart. Thin out the plants 12 in. from each other, and let them grow on till the following April, then plant them out 4 ft. apart in deeply trenched ground into which a good quantity of well-rotted manure has been worked. Large roots may be divided in autumn or early spring; every portion of the root that has a crown will make a fresh plant. When the last of the crop has been pulled, fork in a dressing of old manure. It may be forced out of doors by covering the ground thickly with stable manure, and placing large flower-pots over the plants to bleach them; but if forced in a frame the light need not be excluded. None but the earliest kinds should be selected for forcing.

Rhubarb, Chilian.—See "Gunnera."

Rhus (*Sumach*).—Lovely shrubs, growing in any ordinary soil. The young shoots of *R. Cotinus* are clothed with round leaves which change to bright crimson and orange, surmounted with fluffy pink seed-vessels, while *R. Glabra Laciniata* resembles a tree fern. They may be propagated either by layers or cuttings. Height, 8 ft. to 10 ft.

Rhynchospermum (Trachelospermum) Jasminoides.—A pretty, evergreen, woody climber for the conservatory, which succeeds best in a compost of light loam and peat; is of easy culture, and readily increased by cuttings. It is a fine plant for rafters or trellis, and produces in July deliciously fragrant white flowers at the ends of the branches. Height, 10 ft.

Ribes (*Flowering Currants*).—Well-known shrubs, growing in any soil, and flowering early in spring. The colours vary from crimson to white. They may be raised from cuttings either in autumn or early spring. Height, 4 ft.

Richardia Aethiopica.—A fine herbaceous perennial with very bold leaves. It needs a good supply of water, and on dry soils should be planted in trenches. A light, rich mould is best for it, and it should have sufficient sun to ripen the wood. Lift it in September and winter in the greenhouse. It is increased from off-sets from the root, and flowers in March. Height, 2 ft.

Ricinus, or Palma Christi (*Castor-oil Plant, etc.*).—The foliage of these half-hardy annuals is very ornamental. The plants like a rich soil. Sow the seed early in spring in a slight heat, harden off gradually, and put out at the end of May in a warm, sheltered spot. They may also be propagated by cuttings. Height, 3 ft. to 6 ft.

Robinia.—All these shrubs have fine, Fern-like foliage which changes colour in autumn. The Pea-shaped flowers vary in colour from cream to purple, and while in bloom the plants are very handsome. They grow in any soil, flower in May and onwards, and are increased by layers. Height varies, the Rose Acacia (*Hispida*) reaching 10 ft., while the Locust Tree (*Pseudo-Acacia*) grows to the height of 40 ft.

Rock Cress.—See "Arabis."

Rocket (*Hesperis*).—The hardy perennials like a light, rich soil, and need to be frequently divided. The best time to divide them is just after they have done flowering, when they should be potted off, planting them out again in the spring. The annual and biennial kinds merely require to be sown in the open border. Most of the Rockets give forth greater fragrance towards evening. Their flowering season is June. Height, 1 ft. to 1-1/2 ft.

Rock Rose.—See "Cistus" and "Helianthemum."

Rodgersia Podophylla.—A hardy perennial having immense bronze foliage. It thrives best in a moist, peaty soil; flowers from May to July, and may readily be increased either by seed or division. Height, 3 ft.

Rogiera Gratissima.—A pretty evergreen stove shrub, which is often trained to a single stem so as to form a standard. It succeeds in sandy loam and peat. It may be sunk in the flower-border during the height of summer, but must be taken indoors before frost sets in. Cuttings placed in sand under a hand-glass in heat will strike. It flowers in June. Height, 3 ft.

Romneyi Coulteri.—This grand white-flowered Poppy Tree is quite hardy, and will grow in any light, rich soil. It blooms in August and September, and may be increased by seed or by division. Height, 4 ft.

Rose Champion.—A pretty hardy perennial which may be grown from seed sown in autumn, choosing a sheltered site, or in March in a frame or under a hand-glass, transplanting it in the autumn into a light, rich, loamy soil. Height, 2 ft.

Rosemary (*Rosmarinus Officinalis*).—This hardy evergreen shrub should occupy a dry and sheltered position. Its fragrant purple flowers are produced in February. Cuttings of the ripened wood, if planted in spring, will strike root freely. Height, 2 ft.

Roses.—A good, deep, loamy soil, well drained, but which retains a certain amount of moisture, is the most suitable. The position should be sheltered, yet open and exposed to the sun. The latter

part of October or November is the most favourable time for planting, but it may be continued with safety until the commencement of March. A fortnight before planting the holes should be dug out 1-1/2 or 2 ft. deep, and plenty of old manure thrown in and trodden down. On this a good layer of fine mould should be placed, so that the roots do not come in contact with the manure. Great care must be taken not to expose the roots to the cold air. When the ground is quite ready for their reception dip the roots in a pail of water, then spread them out carefully on top of the mould, fill in the earth, and tread it firmly. If the plants are standards they require to be firmly staked. Precaution is necessary not to plant too deeply, keeping them as near as possible at the depth at which they were previously grown, in no case exceeding 1 in. above the mark which the earth has left on the stem. Three weeks after planting tread the earth again round the roots. Pruning should be done in March, except in the case of those planted in spring, when the beginning of April will be early enough. Cut away all of the wood that is unripe, or exhausted and dead. Dwarf growers should be cut back to within two or three buds of the previous year's growth, but five or six eyes may be left on those of stronger growth. The majority of climbing and pillar roses do not require to be cut back, it being only necessary to take out the useless wood. In pruning standards aim at producing an equally balanced head, which object is furthered by cutting to buds pointing outwards. At the first sign of frost the delicate Tea and Noisette Roses need to be protected. In the case of standards a covering of bracken fern or straw must be tied round the heads; dwarfs should have the soil drawn up over the crowns, or they may be loosely covered by straw. Apply a top-dressing of farm-yard manure to the beds before the frosts set in, as this will both nourish and protect the roots. Fork it in carefully in the spring. Cow manure is especially valuable for Tea Roses. After the first year of planting most of the artificial manures may, if preferred, be used; but nothing is better than farmyard stuff. If the summer be dry, water freely in the evening. Roses may be propagated by cuttings in the summer or autumn. The slips should be 5 or 6 in. long, of the spring's growth, taken with 1 in. of the previous year's wood attached. A little bottom-heat is beneficial. They may also be increased by grafting or by separating the suckers. Keep a sharp look-out for maggots in the spring, which will generally be found where the leaves are curled up. These must be destroyed by hand-picking. Green fly can be eradicated with tobacco wash. Mildew may be cured by sprinkling the leaves with sulphur while dew is on them.

Rose of Heaven.—See "*Viscaria Coeli Rosa*."

Rose of Sharon.—See "*Hibiscus Syriacus*."

Rubus.—See "*Blackberries*."

Rudbeckia (*Cone Flower*).—Hardy annuals yielding yellow flowers in July. They are readily grown from seed sown early in spring, and will grow in any garden soil, but naturally succeed best in deeply-worked, well-manured ground. They may be increased by division in October or November, as well as in spring-time. Height, 3 ft.

Ruscus Aculeatus (*Butchers Broom*).—A hardy evergreen shrub which thrives in any rich soil, and may be increased by division of the root. Height, 1 ft.

Ruta Graveolens.—This hardy evergreen shrub is a species of Rue. It enjoys a good, rich soil, in which it flowers freely in August. Cuttings may be struck under a hand-glass. Height, 3 ft.

Ruta Patavina (*Rue of Padua*).—For rock-work this hardy perennial is very useful. It likes a dry yet rich and light soil. At midsummer it produces an abundance of greenish-yellow flowers. It can be raised from seed, or cuttings may be struck under a hand-glass. Height, 6 in.

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Saffron, Spring.—See "*Bulbocodium*."

Sage.—This useful herb likes a rich, light soil, and is propagated by division of the root, by cuttings, or by seed.

Saintpaulia Ionantha.—The leaves of this plant spread themselves laterally just over the soil, forming a rosette, in the centre of which spring up large violet-like flowers. It is a continuous bloomer. A rather light, rich soil or vegetable mould suits it best. The seed, which is very minute, should be sown early in spring, in gentle heat: to prevent it being washed away, the pots may stand up to the rims in water for a while when the ground wants moisture. Height, 1 ft.

St. John's Wort.—See "*Hypericum*."

Salix Reticulata.—A dwarf creeping plant whose dark green leaves eminently fit it for the rock-work or carpet bedding. It will grow in any soil, but prefers a moist one, and produces unattractive brown flowers in September. Propagated in spring by detaching rooted portions from the parent plant and planting them in moist, sandy loam. Height, 2 in.

Salpiglossis.—Very beautiful half-hardy annuals which are greatly prized for cut bloom. A light but not over-rich soil suits them best. The seed may be sown in the open border early in spring, or preferably on a hotbed at the same period. For early flowering raise the plants in the autumn, and winter them in a frame or greenhouse. Flowers are produced in July and August. Height, 2 ft.

Salsafy (*Vegetable Oyster*).—Sow the seed in any good garden soil—deep sandy loam is best—towards the end of April in drills 1 ft. apart, and thin the plants out to a distance of 6 in. from each other. The roots may remain in the ground till required for use, or be lifted in October and stored in the same way as Beet or Carrots. They are prepared for table in the same manner as Parsnips, and are also used for flavouring soups.

Salvia.—Very showy flowers, well worth cultivating, and easily grown in a rich, light soil. The annuals and biennials may be sown in the open early in spring. The herbaceous kinds are increased by dividing the roots; the shrubby varieties by cuttings of the young wood planted under glass in March; while the stove species require to be placed in heat. They flower in August in the open. Heights vary, according to the kinds, but *S. Coccinea* and *S. Patens*, which are most commonly met with in gardens, grow to a height of 2 ft.

Sambucus (*The Elder*).—Useful deciduous shrubs. *S. Nigra Aurea* has golden foliage, and is suitable for town gardens. The silvery variegated variety (*Variegata*), is fine for contrasting with others. They may all be propagated by cuttings or by division. Flower in June.

Sand Wort.—See "*Arenaria*."

Sanguinaria Canadensis (*Bloodroot*).—A hardy perennial, curious both in leaf and flower. It requires a light, sandy soil, shade, and moisture; is propagated by seed sown in July, also by division of the tuberous roots, and it blooms in March. The tubers should be planted 5 in. deep and 3 in. apart. Height, 6 in.

Santolina.—This hardy evergreen shrub grows freely in any soil. It flowers in July, and is increased by cuttings. Height, 2 ft.

Sanvitalia.—Interesting, hardy annual trailers, which may be readily raised from seed sown in March or April, and merely require ordinary treatment. They produce their golden and brown and yellow flowers in July. Height, 1 ft.

Saponaria.—These grow best in a mixture of sandy loam and peat or decayed vegetable soil. The annuals may be sown either in autumn, and wintered in a frame, or in the open in April. The perennials are increased by seed or by division of the root, and young cuttings of the branching species root freely if planted under glass. *S. Ocymoides*, on account of its trailing nature, and *S. Calabrica* make fine rock-work plants. The leaves of *S. Officinalis*, or Soap Plant, if stirred in water form a lather strong enough to remove grease spots. They bloom in June and July. Height, 6 in. to 2 ft.

Sarracenia.—Curious herbaceous plants, requiring to be grown in pots of rough peat, filled up with sphagnum moss, in a moderately cool house having a moist atmosphere. They flower in June, and are increased by division. Height, from 9 in. to 1 ft.

Sauromatum Guttatum.—This makes a good window or cool greenhouse plant. Pot the tuber in good loam and leaf-soil, and keep the mould only just damp until the foliage, which follows the flowers, appears. When the foliage fails, keep the tubers dry till spring. If grown out of doors the tubers must be lifted before frost sets in.

Savoys.—Sow the seed in March or April, and when the plants are 2 in. high remove them to a nursery-bed, selecting the strongest first. Let them remain till they are about 6 in. high, then transplant them, 18 in. apart, in well-manured soil. Their flavour is greatly improved if they are frozen before being cut for use.

Saxifrage.—These beautiful Alpine perennials delight in a light, sandy soil, and are easily propagated by seed or division. It is most convenient to grow the rare and tender kinds in pots, as they require the protection of a frame in winter. *Saxifraga Sibthorpii* is very suitable for the lower and damper parts of rock-work; it is hardy, and sheds its seed freely. *S. Umbrosa* (London Pride) makes a neat border, and is also useful for rock-work. *S. Sarmentosa* (Mother-of-Thousands) is a fine hanging plant for greenhouse or window. They flower in April. Height, mostly 4 in. to 6 in., but some grow as high as 1-1/2 ft.

Scabious.—Ornamental and floriferous hardy biennials, which grow freely in common soil. The seed may be sown at any time between March and midsummer; transplant in the autumn. They bloom in June. Height, 1 ft to 3 ft. (*See also* "*Cephalaria*."

Scale.—Red Scale may be easily overcome with a strong solution of soft soap applied with a sponge. White Scale is harder to deal with. Syringe frequently with strong soapsuds heated to 120 degrees. If the plant is badly attacked it is best to destroy it.

Schizanthus.—Extremely beautiful and showy annuals. A rather poor, light soil is most suitable for their growth. For early flowering sow the seed in autumn, and keep the young plants in a frame or greenhouse throughout the winter. For a succession of bloom sow in the open border early in the spring. They flower in July and August. Height, 2 ft.

Schizopetalum.—This singular and delightfully fragrant annual does best in a mixture of loam, peat, and sand, or sandy loam and leaf-mould. Sow the seed in pots in the spring, place in a greenhouse, and when large enough to handle, plant out in the open border, or it may be kept in an airy part of the house, where it will bloom in June. Height, 1 ft.

Schizostylis Coccinea (*Crimson Flag, or Kaffre Lily*).—A most lovely autumn-blooming plant,

producing abundant spikes of Ixia-like flowers about 2 ft. high. It is suitable for pot-culture or planting outdoors, and is quite hardy. It requires a rich, light soil.

Scillas (*Squills*).—Very useful spring-flowering bulbs. They are hardy, and do well in any position in light soil. When mixed with Crocuses and Snowdrops they produce a very charming effect. To get perfection of bloom they require deep planting. *S. Siberica* especially looks well when grown in pots with Snowdrops. Scilla roots are poisonous. General height, 1 ft.

Scorzonera.—Sow in March in light soil in rows 18 in. apart. Thin the plants out to about 7 in. one from the other. They may perhaps be ready for use in August, but to have large roots they should be left till they are two years old. They may remain in the ground till wanted for use, or they may be lifted in October and stored like Beet, etc. This vegetable is scraped and thrown into cold water for a few hours, then boiled in the same way as Carrots and Parsnips.

Scutellaria.—These plants will grow in any good soil. The hardy perennials flower in July. The greenhouse varieties merely require protecting in the winter. They all bear division of the root, and are easily raised from seed. Height, 1-1/2 ft.

Scyphanthus.—An elegant and curious trailer, which is best grown in a loamy soil. It may be increased from seed sown in April, and it flowers in August. Height, 2 ft.

Sea Cabbage.—See "*Crambe Cordifolia*."

Seakale.—The readiest way of propagating this useful vegetable is by off-sets, but it may be raised from seed sown in March or April in rows 1 ft. apart. Thin out the young plants to 6 in. in the rows, and transplant in February or March into well-trenched, deep, rich soil in rows 2 ft. apart and the plants 15 in. asunder. Keep the plants to one crown, or shoot, and remove all flower-shoots as they appear. In dry weather give a liberal quantity of liquid manure. Cropping may commence after the roots have been planted two years.

Sea Lavender.—See "*Statice*."

Sea Milkweed.—See "*Glaux*."

Sedum (*Stonecrop*).—This well-known hardy perennial is suitable for pots or rock-work. It delights in a light, sandy soil, and is readily increased by division or cuttings. It flowers in June or July. Height, 3 in.

Seed-Sowing.—Two of the most important points in the sowing of seed are the proper condition of the ground and the regular and uniform depth at which the seed is sown. Seeds require light, heat, air, and moisture for their germination. The ground should be light, and in such a condition that the young roots can easily penetrate it, and in all cases should be freshly dug so as to communicate air and moisture: it should be neither too wet nor too dry. The most favourable time for seed-sowing is just before a gentle rain. If sown too early on cold, wet ground, the seed is apt to rot; when sown too shallow in a dry time, there may not be sufficient moisture to cause it to sprout. The seed should be sown evenly. The size of a seed is a nearly safe guide as to the depth at which it should be sown. For instance, Beans and Peas of all kinds should be sown about a couple of inches deep, while very small flower-seeds merely require to be just covered. As to the time for sowing, see "*Annuals*," "*Biennials*," and "*Perennials*."

Seeds, the Protection of.—In order to protect seeds against birds, insects, and rodents, soak them in water containing 20 or 25 per cent, of mineral oil. Vegetable seeds, such as Haricot Beans and Peas, should be soaked for twelve hours, and the pips of Apples and Pears for double that time. For soaking the finer seeds, bitter liquids, such as that of Quassia and Gentian, should be used.

Sempervivum (*Houseleek*).—The hardy kinds are well known, and may often be seen growing on the roofs of cottages and on walls. They make good rock-work plants, and are easily increased by off-sets. The more tender kinds are suitable for the greenhouse. These should be planted in sandy loam and old brick rubbish. They require but very little water; more may be given when they are in flower. Cuttings, after being laid aside for a day or two to dry, will soon make root. Height, 6 in.

Senecio Pulcher (*Noble Crimson Groundsel*).—A warm position and a deep, rich, well-drained soil are needed for this flower. It may be propagated by cutting the roots into pieces 5 or 6 in. long, and dibbling them into light soil. It is also increased by the rootlets, which send up small growths in spring. Protect from damp and frost, and keep a sharp look-out for slugs. The flowers are produced in autumn. Height, 3 ft.

Senna, Bladder.—See "*Colutea*."

Sensitive Plant.—See "*Mimosa*."

Shallots.—Plant the bulbs in November, or in February or March, in rows 9 in. apart, and the bulbs 6 in. one from the other. In July, when the tops are dying down, lift the bulbs, lay them in the sunshine to dry, then store them in a cool place.

Shamrock.—See "*Trifolium Repens*."

Sheep Scabious.—See "*Jasione*."

Shortia Galacifolia.—A hardy, creeping Alpine evergreen, having oval leaves, slightly notched at the margins, which turn to a brilliant crimson during the autumn and winter months. In April and May it produces pearly-white flowers, somewhat Campanulate in form. It may be planted in early autumn or spring. A light, rich soil suits it best, and it delights in partial shade. It is a lovely plant for rock-work. Height, 6 in.

Shrubs.—Deciduous shrubs may be transplanted at any time during late autumn or winter when the ground is not too wet. Evergreen shrubs may be moved either early in autumn or in April or May, damp, warm, but not sunny weather being most suitable for the operation. They rejoice in a clean, healthy soil, such as good loam; animal manure does not agree with them, but wood ashes, or charcoal powder with a little guano, may be used. Cuttings of shrubs or trees may be taken in September, placed in a mixture of sandy loam and leaf-mould with 1/2 in. of sand on top, and covered with a hand-glass; 5 to 8 in. is a good length for the cuttings, all of which, with the exception of about 1 in., should be buried, and preferably with a heel of old wood. Keep the soil just damp and give shade.

Shrubs for Lawns.—Monkey Puzzle (*Araucaria Imbricata*)—mix wood ashes and burnt refuse with the soil; Thujopsis Delabrata, Thujopsis Borealis (of taller growth), Irish Yews, Cupressus Lawsoniana Erecta Viridis, Thujas Orientalis, Vervaeneana, Semperaurescens, Standard Rhododendrons, Standard and Pyramid Hollies, Yucca Gloriosa (a perfect picture), Yucca Recurva (the best hardy plant for vases). The Cercis tree is also well adapted for lawns.

Sicyos.—This hardy annual somewhat resembles the Cucumber, but is scarcely worth growing except as a curiosity. The seeds are sown on a hotbed in spring, potted off when strong enough, and transferred to the open border early in June. It is a climber, and flowers in August. Height, 3 ft.

Sidalcea.—Very pretty hardy perennials, of easy culture. S. Candida has pure white flowers closely arranged on the upper part of the stems. S. Malvaeflora bears beautifully fringed, satiny pink flowers. They will grow in any good soil from seed sown in autumn and protected during the winter, or they may be increased by division of the roots. Height, 3 ft.

Silene (Catchfly).—Elegant plants, delighting in a light, rich soil. Sow the seeds of the annual varieties early in April where they are intended to bloom. Silene Pendula, when sown in the autumn, makes a pleasing show of pink flowers in the spring. The roots of the herbaceous kinds may be divided in spring. The shrubby sorts are increased by cuttings planted under a hand-glass. The dwarfs make fine rock-work ornaments. Flowers are produced in June and July. Height, 2 in. to 1-1/2 ft.

Silphium Aurantiacum.—A good and hardy border perennial, which produces during July and August large deep orange-yellow flowers resembling a Sunflower. It is very useful for cutting, will grow anywhere, and can be increased by dividing the root. Height, 4 ft.

Sisyrinchium Grandifolium (Satin Flower, or Rush Lily).—A light loam suits this plant, which is moderately hardy. The soil should be moist, but not wet. It does not like being disturbed, but when necessary the crowns may be divided in autumn, taking care to spread the roots well out. It blooms in April or May. Height, 1 ft.

Skimmia.—Neat-growing, dwarf evergreen shrubs having Laurel-like leaves, and producing a profusion of scarlet berries in winter. They succeed in any ordinary soil, but thrive best in peat and loam; and are propagated by cuttings placed in heat under glass.

Slugs.—A sharp watch should be kept over all slugs, and constant visits paid to the garden at daybreak for their destruction. If fresh cabbage leaves are strewn about in the evening the slugs will congregate under them, and in the morning they may be gathered up and dropped into strong brine. The ground may also be dusted with fresh lime, which is fatal to them, but in wet weather the lime soon loses its power.

Smilax.—A greenhouse climbing plant that is admired for its foliage rather than its bloom. A mixture of peat and loam or leaf-mould and sandy loam suits it. Train the shoots up string, and freely water the plant in summer; during the autumn and winter it does not need much moisture. Keep the temperature of the house up to 60 degrees throughout the winter. It is readily increased by cuttings. It flowers in July. Fine for table decoration. Height, 4 ft.

Snails.—To prevent snails crawling up walls or fruit trees daub the ground with a thick paste of soot and train oil. There is no remedy so effectual for their destruction as hand-picking.

Snake's Head Lilies.—See "Fritillarias."

Snapdragon.—See "Antirrhinum."

Sneezewort.—See "Achillea."

Snowball Tree.—See "Viburnum."

Snowberry.—See "Symphoricarpos."

Snowdrops (Galanthus).—These are most effective in clumps. They may be planted at any time from September to December, and left alone for three or four years, when they may be taken up and divided. They grow best in a light, rich soil.

Snowdrop Tree.—See "Halesia."

Snowflake.—See "Leucojum."

Snow in Summer.—See "Arabis."

Soil and its Treatment.—Loam is a mixture of clay and sand. When the former predominates it is termed heavy loam, and when the latter abounds it is called light.

Marl is a compound of chalk and clay, or chalk and loam. Though suitable for certain fruit-trees and a few other things, few flowers will grow in it.

Drainage is one of the most important considerations in the cultivation of flowers. Should the soil be clayey, and hold water, make V-shaped drains, 3 ft. below the surface, and let 2-in. pipes lead to a deep hole made at the lowest part of the garden and filled with brick rubbish, or other porous substances, through which the water may drain; otherwise the cold, damp earth will rot the roots of the plants.

Trenching is the process of digging deep, so as to loosen and expose the soil as much as possible to the action of the air. If this is done in the autumn or early winter to a new garden, it is best to dig it deep, say about 2 ft., and leave it in large clods to the pulverising action of the frost, after which it is easily raked level for spring planting. If the clods are turned over the grass will rot and help to improve the ground; new land thus treated will not require manuring the first year. Should the ground be clayey, fine ashes or coarse sand thrown over the rough clods after trenching will greatly improve it.

Digging should be done when the ground is fairly dry, and about one spade deep. Avoid treading it down as much as possible.

Hoeing must be constantly attended to, both to prevent the soil becoming exhausted of its nourishment by the rapid growth of weeds, and because when the surface becomes hard and cracked the rain runs through the deep fissures, leaving the surface soil dry and the roots of the plants unnourished.

Mulching consists in spreading a layer of stable manure, about 3 in. deep, over the roots of trees and plants in the autumn to keep them warm and moist. The manure may be forked into the soil in the spring.

Watering the plants carefully is of great consequence. Evening or early morning is the best time, and one copious application is far better than little and often. Water may be given to the *roots* at any time, but should not be sprinkled over the leaves in a hot sun nor in cold weather. Plants having a soft or woolly foliage should never be wetted overhead, but those with hard and shiny leaves may be freely syringed, especially when in full growth.

Solanum.—Showy greenhouse shrubs, some of which have ornamental foliage. The soil in which they are grown should be light and rich. Cuttings planted in sand under glass strike readily. The tender annual varieties may be sown on a hotbed in spring, and placed in the border at the end of May in a dry, sheltered situation, where they will flower in June. Height, 1 ft. and upwards.

Soldanellas.—These small herbaceous perennials should find a place in all Alpine collections. They grow best in sandy peat, or in leaf-mould with a liberal addition of sand, and they require a moderate amount of moisture. They may be increased by dividing the roots in April. They flower from March to May. Height, 4 in. or 5 in.

Solidago (*Golden Rod*).—A useful hardy perennial for the back of borders. Throughout late summer and autumn it produces masses of golden flowers. It is not over-particular as to soil, and may be increased by dividing the root in the spring. It increases very rapidly. Height, 2 ft. to 6 ft.

Solomon's Seal (*Polygonatum Multiflorum*).—A graceful hardy plant bearing white pendulent flowers on long curving stems. Plant freely in light, rich soil, in a shady position or under trees. The plants should not be disturbed, even by digging among the roots. Flowers in May. Height, 2 ft.

Soot-Water.—For room and window plants soot-water has this advantage over coarse animal manures, that while the latter are unhealthy and apt to taint the air, the former is purifying and has no unpleasant smell. It is easily made by tying a little soot in a coarse canvas bag and immersing it in a pail of water. It should be applied in a clear, thin state to plants in bud or in full growth during the summer months.

Sorrel.—Sow in March or April in any garden soil, thin out to 1 ft. apart. It is desirable to cut away the flower-stems and to divide the roots every two or three years. The plants may be forced for winter use.

Southernwood (*Artemisia Arborea*).—Any soil suits this odoriferous bush, and it is readily increased by cuttings or by division.

Sparaxis.—Closely allied to the *Ixias*, equally beautiful and varied in colour, but rather dwarfer and compact in growth. Invaluable for pot-culture. For outdoor cultivation plant them early in September, 5 or 6 in. deep, on a sheltered border, in rich, well-drained, loamy soil. Protect from frost and wet in the winter, but keep the roots moist while they are growing. For indoor

cultivation plant four to six bulbs in a 5-in. pot, plunge in ashes in a cold frame, withholding water till the plants appear. When making full growth remove them to a sunny window or conservatory, and water them carefully. They will bloom in March or April. Height, 3 ft.

Sparmannia Africana.—An exceedingly handsome and attractive greenhouse evergreen shrub, thriving best in loam and peat. Cuttings may be struck in sand under glass. May is its flowering season. Height, 10 ft.

Spartium Junceum (*Yellow Broom*).—A hardy evergreen shrub which will grow in any soil, and is propagated by seeds. It flowers in August. Height, 6 ft.

Specularia Speculum.—See "Venus's Looking-Glass."

Spergula Pilifera.—May be grown in any moist situation in sandy soil. It is of little value.

Sphenogyne Speciosa.—An elegant hardy annual. Sow the seed early in spring on a gentle hotbed in loam and peat, harden off, and transplant at the end of May to a soil composed of loam and leaf-mould, if peat cannot be obtained. The bloom is produced in July. Height, 1 ft.

Spider Wort.—See "Commelina" and "Tradescantia."

Spigelia Marilandica.—From August to October this hardy perennial produces tubular crimson and yellow flowers. It finds a congenial home in damp peat, shaded from the sun, and may be propagated by cuttings in loam and peat under glass. Height, 1 ft.

Spinach.—For summer use sow the round-seeded kinds at intervals of two or three weeks from February to the end of July in rows 1 ft. apart, cover with the finest of soil, and thin out to a distance of 3 or 4 in. In dry weather give a liberal supply of manure water. Pull before it runs to seed. For winter use sow the prickly-seeded variety in August and September, and thin the plants out 9 in. apart. If the ground is hot and dry, the seed should be soaked for twenty-four hours before it is sown. New Zealand Spinach may be sown in the open during May, choosing the warmest spot for its growth; but it is best to sow it in heat in March, keeping the soil fairly moist, and, after hardening it off, to plant it out in June, 3 ft. apart. Sow Perpetual Spinach or Spinach Beet in March in drills 1 ft. apart. Cut the leaves frequently, when a fresh crop will be produced.

Spiraeas.—Placed in the open ground these make splendid plants, and are not particular as to soil, though a moist, rich one is preferable. For forcing, plant the clumps in 6-in. pots, and keep them in a cool frame until they are well rooted. They may then be removed indoors and forced rapidly, supplying them with an abundance of water. Their elegant flower spikes are invaluable for bouquets and table decoration. The shrubby kinds are increased by layers or cuttings of the young wood, the herbaceous varieties by division of the roots in autumn. *Spiraea Aruncus*, if potted early in the autumn, is very valuable for winter decoration. *Spiraeas* bloom at different periods, from May to August, and vary in height, 3 or 4 ft. being the general growth.

Spruce Firs.—See "Abies."

Stachys Coccinea.—This scarlet hardy annual is fine for bees. It may be grown in any soil from seed sown in March or April. Height, 1 ft.

Stachys Lanata.—A hardy perennial which will grow in any soil, and bears division. It flowers in July. Height, 2 ft.

Staphylea Colchica (*Mexican Bladder Nut*).—This beautiful free-flowering shrub will grow in any garden soil, and produces bunches of fragrant, delicate white flowers in June. It forces well, and may be made to flower at Easter by potting it in rich, light soil, placing it in a cold frame till the middle of January, keeping the roots moist, then bringing it into the warm house. It may be propagated by suckers from the roots, by layers, or by cuttings taken in autumn.

Star Flower.—See "Trientalis."

Star of Bethlehem.—See "Ornithogalum."

Statice (*Sea Lavender*).—The greenhouse and frame varieties succeed best in sandy loam and peat, and may be increased by cuttings placed under a bell-glass or in a warm pit. The hardy herbaceous kinds are very suitable for the front of flower borders, and may be freely increased by seeds or division. The annuals, if sown in March, will produce flowers in July. *Statices* require a good amount of water, but thorough drainage must be ensured. If the flowers are dried they will keep their colour for a considerable time. Height, 1 ft. to 1-1/2 ft.

Stauntonia Latifolia.—A greenhouse evergreen climbing plant, which needs a peat and loam soil and plenty of room for its roots. It flowers in April, and is increased by cuttings planted in sand under glass, with a gentle heat. Height, 10 ft.

Stenactis (*Fleabane*).—Showy hardy perennials which make fine bedding plants. They may be grown from seed, which is produced in great quantities, and merely requires the same treatment as other perennials, or they may be propagated by dividing the plants. They bloom in July. Height, 2 ft.

Stephanotis.—This pretty evergreen twining plant is most suitable for the greenhouse, and flourishes in a mixture of loam and leaf-mould. It flowers in May, and is increased by cuttings struck in heat. Height, 10 ft.

Sternbergia Lutea.—A hardy perennial which produces bright yellow flowers in August. It likes a rich soil, and is propagated by off-sets. Height, 6 in.

Stipa Pennata (*Feather Grass*).—One of the most graceful of our ornamental grasses, and most attractive in the border. The seed may be sown early in March, keeping the ground moist until it has germinated, and it is also increased by division. Height, 2 ft.

Stobæa Purpurea.—A hardy border plant with long spiny foliage, and bearing from July to September large light blue flowers. It requires a light, rich soil. Young cuttings may be struck in sand. Height, 1 ft.

Stocks—

ANNUAL, OR TEN WEEKS' STOCKS.—Sow the seeds in February, March, April, and May for succession; those sown in May will continue to flower till Christmas. The soil should be rich, and occasionally a little manure-water may be given. Another sowing may be made in August and September. When the plants have several leaves pot off singly in vegetable loam and river sand. Height, 1 ft. to 1-1/2 ft.

BROMPTON.—Sow very thinly during the first week in May in a rich, light, sandy border, with an eastern aspect. When 2 or 3 in. high, thin out to 9 in. apart. Those taken out may be re-planted in the flower border, 9 in. from each other. In transplanting reject those plants having a long tap-root: they generally prove to be single. If the following winter be severe they must be protected with mats. Any desirable varieties may be propagated by cuttings, which root readily under glass if kept shaded. Should it be desirable to transplant them to another part of the garden, March or April will be found the best time to remove them. Shade the plants till they are established, and use liquid manure till they begin to flower.

GREENHOUSE OR SHRUBBY species grow best in a mixture of light soil and sand, and cuttings of these Stocks root readily under glass.

NIGHT-SCENTED STOCKS.—See "Mathiola Bicornis." If Emperor, Imperial, or Intermediate Stocks are sown in March or April, they will flower in the autumn; if sown in June or July they will flower during the following June, and throughout the summer and autumn.

Stokesia Cyanea.—A handsome herbaceous perennial which is quite hardy, but owing to the late period at which it flowers its blooms are liable to be cut off by frosts. It is therefore more suitable for a cool house than the open air, unless the warmest and most sheltered position be assigned to it. A rich, sandy soil is indispensable for its growth. It may be increased by dividing the roots in spring. The flowers are produced from October to December. Height, 1-1/2 ft.

Stonecrop.—See "Sedum."

Strawberries.—The soil most suitable for the growth of this fruit is a rich, deep, adhesive loam. July or early in August is the best time to make new beds, but if the ground be not then available runners from the old plants may be planted in peat on a north border and lifted with good balls of earth to their permanent bed in the spring. Set them firmly in rows 2 ft. apart and 18 in. from plant to plant. Spread out the roots and avoid deep planting. Remove from the old plants all runners not required for new beds before they take root, as they exhaust the crown. In dry seasons liquid manure is highly beneficial. Some growers give supports to the fruit by means of forked-shaped pegs, while others lay straw down to keep the fruit free from grit. Keep a sharp look-out for snails and slugs. King of the Earlies, Auguste Nicaise, Royal Sovereign, Vicomtesse Héricart de Thury, Gunton Park, President, Sir Joseph Paxton, Lord Suffield, Noble, and Samuel Bradley are excellent sorts. For Ornamental Strawberries, see "Fragaria Indica."

Strawberry Tree.—See "Arbutus."

Streptocarpus (*Cape Primrose*).—This plant is a greenhouse perennial, showing great variety of colours, from white to violet and crimson, and is of neat habit. A light and rather rich soil or vegetable mould suits it best. Seed sown in February in slight heat will produce plants for flowering in July; that sown in March or April will flower in August and September. Grow slowly in small pots, and in February put them in their flowering pots. Give plenty of air and shade them from the sun. It may also be increased by division, or leaf-cuttings may be taken under a bell-glass. The plants like plenty of water, but need good drainage. Height, 9 in.

Streptosolen Jamesoni.—A good compost for this greenhouse evergreen shrub is two parts sandy loam, one part leaf-mould, and a little silver sand. During growth it needs a liberal supply of water and to be kept near the glass; only a small amount of moisture should be given in winter. In March cut it into shape, and re-pot it as soon as new growth starts. During the summer syringe it frequently to keep off red spider, and during winter maintain a temperature of 55 degrees.

Stylophorum (*Celandine Poppy, or Poppywort*).—During May and June this hardy and handsome plant produces fine yellow flowers. It accommodates itself to any soil, but prefers a rich, light one, and can be increased by seed sown in autumn or early spring. Height, 1-1/2 ft.

Styrax.—Ornamental shrubs requiring a light soil for their cultivation. S. Japonica has Snowdrop-like flowers, and S. Obasa Lily-of-the-Valley-like scented flowers. They are best propagated by layers. Height, 4 ft. to 10 ft.

Sunflower.—See "Helianthus."

Swainsonia Galegifolia Alba.—A graceful and charming cool greenhouse plant, with Fern-like evergreen foliage and pure white flowers, which are borne from April to November. The soil most suitable for it is a mixture of loam and sandy peat. Cuttings of the young growth planted in sand under glass strike readily. Height, 2 ft.

Swallow Wort.—See "Asclepias."

Swamp Lilies.—See "Zephyranthes."

Swan River Daisy.—See "Brachycome."

Sweet Alyssum.—See "Alyssum."

Sweet Flag.—See "Acorus."

Sweet Peas.—See "Peas, Sweet."

Sweet Rocket.—See "Rocket."

Sweet Scabious.—See "Scabious."

Sweet Sultan.—Sweet-scented, Thistle-shaped hardy annual flowers, which are very useful for cutting. They may be raised in any garden soil from seed sown in March or April, and will flower in August. Height, 1-1/2 ft.

Sweet William.—Well-known hardy perennials, and deservedly favourite border plants, which may be grown in any good soil; but to have them to perfection they should be placed in light, loamy ground mixed with a little old manure and sand. They can be raised with little trouble from seed sown thinly at any time between March and midsummer where they are to bloom, and may also be increased by dividing the old plants in spring. They produce their flowers in July. Height, 1-1/2 ft.

Symphoricarpus (*Snowberry*).—A handsome species of St. Peter's Wort. The shrubs will grow in any ordinary soil, are hardy, and readily propagated by suckers, which are produced abundantly; or cuttings may be taken either in spring or autumn. They bloom in August. Height, 4 ft.

Symphytum Caucasicum.—Hardy perennials. They will grow in any soil or situation, even thriving under the shade of trees, and may be increased by division. June is the month in which they flower. Height, 3 ft.

Syringa (*Lilac*).—There are many choice varieties of these favourite shrubs, but any of them may be grown in a tolerably good soil. They are propagated by layers or by suckers from the root. They bloom in May or June. Height varies from 4 ft. to 12 ft.

T

Tacsonia.—A beautiful twining shrub belonging to the Passiflora family. It should be provided with a rich soil, and, as the flowers are produced upon the lateral shoots, it requires frequent stopping. Syringe frequently in warm weather to induce a quick growth. It is a quick grower, and, when properly treated, a profuse bloomer, the flowers being produced in July, August, and September. Cuttings of young shoots placed under glass in a sandy soil will strike. Height, 20 ft.

Tagetes (*French and African Marigolds*).—Half-hardy annuals, very elegant when in flower, and deserve a place in the garden. The seed should be sown on a hotbed in March or April, the plants gradually hardened off, and placed in the open at the end of May in a rich, light soil, when they will flower in August. Height, 1 ft. to 2-1/2 ft.

Tamarix.—Neat feathery plants, very suitable for banks and thriving at the seaside, as is evidenced by its luxuriant growth along the parades at Eastbourne. The hardy kinds will grow in any soil, and may be propagated by cuttings planted in the open either in spring or autumn. The greenhouse and stove varieties require a soil of loam and peat. Cuttings of these should be placed in sand under glass. They flower in June and July. Height, 8 ft. to 10 ft.

Tansy.—A feathery-foliaged hardy perennial, useful for mixing with cut blooms. No special treatment is required. Height, 11 ft.

Taxus.—See "Yew."

Tecoma.—Ornamental evergreen shrubs of a twining nature, needing a greenhouse for their cultivation. They require a rich, loamy soil mixed with a little sand, or loam and peat, and rejoice in shade and moisture. T. Radicans will grow in the open against a wall, but a warm situation is needed to make it flower. They may be propagated by cuttings of the roots placed in sand under a hand-glass, and by layers. Their flowers are produced in July and August. Height, 6 ft. to 30 ft.

Telekia.—See "Buphthalmum."

Tellima Grandiflora.—A hardy and very ornamental perennial with round bronzy foliage and

spikes of white flowers at midsummer. It succeeds best in peat, but will grow in any rich, light soil. To increase it, divide the roots. Height, 1 ft.

Tetratheca.—Pretty greenhouse evergreen shrubs which produce pink flowers in July. They flourish in a soil consisting of equal proportions of loam, peat, and sand. Cuttings of the young wood planted under glass in a sandy soil will strike. Height, 1 ft.

Teucrium Scorodonia.—This hardy herbaceous plant will grow in any ordinary garden soil. It flowers in July, and is easily raised from seed or increased by division. Height, 1-1/2 ft.

Thalictrum.—Hardy Fern-like perennials, suitable for the backs of borders. They grow well in any light soil from seed sown in spring or autumn, and may also be increased by division.

Thermopsis Montana (*Fabacea*).—This hardy perennial produces spikes of yellow Lupin-like flowers from June to September. The soil should be light and rich. As the plants suffer by division, it is best to raise them by seed, which may be sown either in autumn or spring. Height, 2 ft.

Thladianthe Dubia.—A fine climbing plant with handsome foliage and an abundance of fine yellow flowers. Quite hardy. Sow on a hotbed early in spring, and when sufficiently large and strong, pot off, place in a cold frame to harden, and plant out at the end of May in rich soil.

Thrift.—See "Armeria."

Thumbergia.—These slender, rapid-growing climbers are extremely pretty when in bloom during June, but they are only half-hardy; they therefore need greenhouse care, or to be planted in a warm situation. They flourish best in a mixture of sandy loam and leaf-mould, and may be grown from seed sown in heat (65 to 75 degrees) early in spring. Cuttings strike readily. Height, 4 ft.

Thuja (*Arbor Vitae*).—Very decorative conifers, mostly of conical shape, and indispensable to the shrubbery. They thrive in any soil, but prefer a moist situation. For sheltered positions, where a small dome-shaped bush is required, the Chinese Arbor Vitae (*Biota Orientalis*) is most desirable; it delights in a heavy soil. The Biota Elegantissima is one of the most unique hardy shrubs cultivated, and presents a bright golden appearance. Another effective yellow variety is the Semperaurescens, which retains its colour throughout the winter, and makes a fine pot-plant. One of the most beautiful of all evergreens is the Thuyopsis Dolabrata; its flat, spray-like leaves are bright green above and silvery below. The China varieties are somewhat tender, and require protection from frost. They may all be propagated from seed or by cuttings.

Thymus.—Effective little perennials for rock-work, growing best in a light, dry, sandy soil. The hardy kinds like an exposed position; rarer kinds should be grown in pots, as they need protection in winter. They are easily increased by seed sown in spring, by cuttings or division. Height, 3 in. to 6 in.

Tiarella.—These hardy herbaceous plants are very suitable for rock-work or the front of a border. They are not particular as to soil; they flower in April, and may be propagated by seed or division. Height, 9 in. to 1 ft.

Tiarella Cordifolia (*Foam Flower*).—A hardy herbaceous perennial, having fine foliage. It will grow in any good soil, but likes shade and moisture. It may be increased by dividing the roots at the end of the summer. The blooms are produced during May and June. Height, 1 ft.

Tigridia (*Ferraria; Mexican Tiger Flower, popularly called the Tiger Iris*).—A gorgeous flower of exceptional beauty. Plant the bulbs in the sunniest spot out of doors during March, April, or May, in a sandy loam enriched with a liberal amount of leaf-mould, placing them 3 in. deep and 6 in. apart, and putting a little silver sand round each bulb before covering it with the soil. Shelter from cutting winds. The blossoms appear in July or August. Each bloom lasts only one day, but is succeeded on the next by fresh ones, so that a continuance of bloom is maintained. Protect them in winter with a covering of dead leaves, or, better still, take them up when they have done flowering, and keep them dry and free from frost. For pot-culture plant the bulbs in sandy loam and peat, plunge them in a cold frame, and withhold water until the foliage appears. They may be increased by off-sets or seeds. Height, 1 ft.

Tobacco Plants.—See "Nicotiana."

Tobacco-Water.—Boil 2 oz. of shag, or other strong tobacco, in a pint of water. Apply with a soft brush. This is a deadly poison to insects.

Tomatoes (*Love Apples*).—Those intended to be grown in the open should be raised from seed sown the first week in March in pots of very rich, light mould. Place them in a cucumber-house or other gentle heat, and when the second leaf appears, pot them off singly, keeping them near the glass and well watered. Towards the end of May remove them to a cold frame to harden off, and plant out as soon as fear of frost is over, in deeply-dug and moderately manured ground, against a south wall fully exposed to the sun. Train to a single stem and remove all lateral growths. When the plants are 3 or 4 ft. high pinch off the tops to prevent further growth and throw strength into the fruit. Watering should cease as soon as the blossom-buds appear, except in periods of very severe drought. When grown under glass Tomatoes need to be trained in much the same way as Grape Vines. Constant attention must be given to removing all useless shoots and exposing the fruit to air and light. An average temperature of 60 degrees should be maintained, with a rather

dry and buoyant atmosphere.

Toothwort.—See "Dentaria."

Torch Lily.—See "Tritoma."

Torenia.—These stove and greenhouse plants require a rich soil. They may be increased by seed or division. They flower during June and July. Height, 6 in. to 9 in.

Tournefort.—See "Crambe Cordifolia."

Tradescantia Virginica (*Spider Wort*).—A hardy herbaceous plant. In a light, rich soil it will flower in July. Height, 1 ft. There are other varieties of *Tradescantia*; they all make good border plants, thrive in any situation, and are continuous bloomers.

Transplanting.—Plants may be transplanted as soon as they are large enough to handle. They must be lifted carefully with a small trowel, or if they are very small, such as Golden Feather, with a still smaller blunt article, disturbing the roots as little as possible. It should be done when the ground is wet, and preferably in the evening. In dry weather they should be well watered twelve hours before they are disturbed. Shade them from sun for one or two days. Cabbages, Lettuces, Cauliflowers, Broccoli, Kale, and other members of the Brassica family *must* be transplanted, or they will be a failure. Root crops such as Carrots, Parsnips, Turnips, etc., must not be transplanted, but thinned out. Celery may be transplanted in June or July.

Traveller's Joy (*Clematis Viorna*).—This hardy climbing plant grows best in a light soil, flowers in August, and is increased by layers of the young shoots in summer. Height, 12 ft.

Trees, Plants that Flourish under.—Ivy, St. John's Wort (*Hypericum Calycinum*), early-flowering White Aconite.

Tricyrtis.—These greenhouse herbaceous plants bloom in May. A rich, light soil suits them. Height, 6 in.

Trientalis Europæa (*Star Flower*).—To grow this native perennial to advantage, it should be planted in leaf-mould with which a large proportion of sand has been mixed. Confine the roots to a narrow compass by means of slates placed just beneath the surface of the soil. Let the ground be kept moist, but well drained. The bloom is produced during May and June, and it is propagated by runners. Height, 6 in. to 8 in.

Trifolium Repens Pentaphyllum.—A showy, hardy, deciduous perennial. It thrives in ordinary soil, puts forth its white flowers in June, and is propagated by seed or division. Height, 6 in.

Trillium Erectum (*Wood Lily*).—This tuberous perennial is quite hardy, and flourishes in partial shade. The soil must be light and rich, yet moist. The plant does not increase very fast, but the roots of good-sized plants may be divided. It flowers in May and June. Height, 6 in.

Tritelia.—A charming spring-flowering plant, bearing pretty white star-like flowers on slender stalks. It is used largely for edgings. It looks well in clumps on the front of borders. Plant in autumn, and divide the bulbs every two or three years. Height, 6 in.

Tritoma (*Red-hot Poker, or Torch Lily*).—Requires a rich, sandy soil, and to be protected in a frame from wet and frost in the winter. Increase by division or by suckers from the root. The flower spikes grow 18 to 27 in. long. The crown of the plant should not be more than 1½ in. in the soil, which should be dug deeply and mixed with rotted manure. In winter, if it is left in the ground, surround the plant with 2 in. of sawdust, well trodden. Remove this in May, and water liberally with liquid manure till it blooms. The best time to plant is March or October. By many it is considered advisable not to disturb the plant too often.

Tritonias.—These somewhat resemble miniature Gladioli, and are among the most useful bulbs for pot-culture. Plant from September to December, placing five or six bulbs in a 5-in. pot, and using a compost of loam, leaf-mould, and silver sand. Plunge the pots in ashes in a cold pit or frame, and keep them dry until the plants appear. When in full growth they may be removed to the conservatory, placing them near the glass, and giving careful attention to watering. For outdoor cultivation choose a sunny, sheltered position, with a light, rich, sandy soil. Give protection in frosty weather by covering with dry litter.

Trollius Altaïense (*Globe Flower*).—A pretty, hardy herbaceous plant, with very handsome foliage. It likes a light but moist soil, may be increased by seed or by dividing the root, and flowers in May. Height, 9 in. to 2 ft.

Trollius Asiaticus.—A very pretty herbaceous plant, suitable for the border. It may be raised from seed sown in the autumn, and grown on in light, moist soil. The plant is hardy and flowers in May. Height, 1 ft.

Tropæolums—

JARRATTI (*scarlet, orange, and black*) are remarkable for a slender and graceful growth. Well adapted for covering wire globes, trellises, etc.

LOBBIANUM (*various colours*).—Elegant dwarf climbers, suitable either for the conservatory

or for outdoor culture. They may also be used for bedding if planted thinly and kept pegged down; or may be grown in window-boxes. Height, 6 ft.

PENTAPHYLLUM (red) is slender and graceful, and an elegant climber.

POLYPHYLLUM (yellow) succeeds best against a south wall. It is hardy, has rich abundant glaucous foliage, and is a particularly fine climber.

SPECIOSUM (scarlet).—Of wild, graceful, luxuriant and slender growth. Fine for covering walls and fences, festooning arches, etc. Plant at the beginning of October in an eastern aspect or at the base of a north wall, the soil and atmosphere being moderately moist. Bury the roots 4 in. deep.

TUBEROSUM (yellow and red) is quite hardy, and may be planted in any situation.

Generally a light, rich soil is most suitable. The greenhouse varieties may be increased by cuttings placed in sandy soil under glass. The tuberous-rooted kinds should be taken up in winter and kept in sand till spring, when they may be planted in a sheltered part of the garden. The annuals merely require to be sown in the open in spring. They flower in July, August, and September. Height, 1 ft. to 10 ft. (*See also "Canary Creeper."*)

Trumpet Flower.—*See "Bignonia."*

Tuberose.—Plant the bulbs in January in a mixture of sandy loam and rotten dung, or leaf-mould, using a small pot for each bulb. Plunge them in a hotbed, taking care that the temperature does not fall below 60 degrees, and withhold water until the foliage appears, when a moderate amount should be given. When the pots are full of roots, shift the plants into larger ones, and grow on in a house with a uniform high temperature and moist atmosphere. For a succession of bloom place the roots in a cold frame and cover with cocoanut fibre until growth begins, then remove the fibre, water moderately, and transfer the most forward plants to the conservatory. Bloom may be had all the year round by planting in succession from September to June.

Tulips.—Drainage may be considered as the chief means of success in the cultivation of these showy spring flowers. The soil they like best is well-rotted turf cut from pasture land and mixed with a moderate amount of sand, but they will thrive in any ground that is well drained. The bulbs should be planted during October and November about 3 in. deep and 5 in. apart, either in lines or groups, and they retain their bloom longest in a shady situation. As soon as the leaves begin to decay the bulbs may be taken up, dried, and stored away, keeping the colours separate. For pot-culture the single varieties are best. Put three bulbs in a 5-in. pot and six in a 6-in. one, and treat in the same manner as the Hyacinth. They may, if desired, be forced as soon as the shoots appear. When required to fill vases, etc., it is a good plan to grow them in shallow boxes, and transfer them when in flower to the vases or baskets. By this method exactitude of height and colouring is ensured. Tulips are divided into three classes: (1) Roses, which have a white ground, with crimson, pink, or scarlet marks; (2) Byblomens, having also a white ground, but with lilac, purple, or black marks; and (3) Bizarres, with a yellow ground having marks of any colour.

Tunica.—Same treatment as "*Dianthus*."

Turkey's Beard.—*See "Xerophyllum."*

Turnips.—To obtain mild and delicately-flavoured Turnips a somewhat light, sandy, but deep, rich soil is necessary. For a first crop sow the Early White Dutch variety in February or the beginning of March on a warm border. For succession sow Early Snowball at intervals of three weeks until the middle of July. For winter use sow Golden Ball, or other yellow-fleshed kinds, early in August. Thin each sowing out so that the bulbs stand 9 in. apart. To ensure sound, crisp, fleshy roots they require to be grown quickly, therefore moist soil and liberal manuring is necessary, and the ground kept free from weeds. If fly becomes troublesome, dust the plants with quicklime early in the day, while the dew is on them, and repeat the operation as often as is necessary.

Tussilago Fragrans (Winter Heliotrope).—A very fragrant hardy perennial, flowering in January and February. It will grow in any good garden soil and bears division. Height, 1 ft.

Twin Flower.—*See "Bravoa."*

U

Ulex Europaeus Flore Pleno (Double Furze).—This elegant, hardy, evergreen shrub likes a rich, sandy soil, and may be increased by cuttings planted in a shady border and covered with a hand-glass. Height, 5 ft.

Umbilicus Chrysanthus.—This little Alpine plant should occupy a warm, sheltered, and dry situation, and be protected with an overhead screen in wet seasons. The soil it most enjoys is a mixture of peat and coarse sand. Its procumbent stalks emit roots. This new growth may be transplanted in the spring or early summer months. Height, 6 in.

Uvularia.—Beautiful hardy perennials, producing drooping flowers from May to July. They succeed best in a light, sandy soil, and may be increased by dividing the roots. Height, 1 ft.

V

Vaccineum Myrtillus and V. Uliginosum.—Attractive deciduous shrubs. They require to be grown in peat or very sandy loam. In April or May they produce flowers. They can be increased by dividing the creeping roots. Height, 1-1/2 ft.

Vaccineum Vitis-Idæa (*Red Whortleberry*).—A neat native shrub which, with its flowers and clusters of bright red berries, is very attractive in autumn. A rich, light, sandy soil, moist but well drained, is necessary, and the position should be sunny so as to ripen the berries. It may be increased at any time by division. It flowers from May to October. Height, 9 in.

Valeriana.—An ornamental hardy perennial. It will succeed in any garden soil, and merely requires the same treatment as ordinary perennials. It is readily increased by dividing the roots, and produces its flowers in July. Height, 1 ft.

Vegetable Marrow.—Sow in pots during March or April, and place in a cucumber frame or on a hotbed, and cover with a hand-glass. Harden off, and plant out about the third week in May in ground previously prepared with a heavy dressing of good stable or farmyard manure, protecting the plants at night for the first week or so with a handglass or large flower-pot. Do not allow the roots to feel the want of water, and keep a sharp look-out for slugs. Seed may also be sown in May in the open. The best way of proceeding in this case is to dig a pit 2 ft. deep and the same in width, fill it with fermenting manure, and put 1 ft. of light mould on top. Let it remain for a week so that the soil may get warm, then sow the seed, and cover it with a hand-glass. Train the shoots so that they may have plenty of room, and pinch off the tops when the plant has attained its desired length.

Venidium.—Hardy annuals, which are best raised from seed sown early in March on a slight hotbed, and grown in turfy loam, or loam and peat. They bloom in May. Height, 1 ft.

Venus's Car.—See "Dielytra."

Venus's Looking-Glass (*Specularia Speculum*).—A pretty hardy annual, bearing a profusion of Campanula-like flowers in July. Suitable for beds, pots, hanging baskets, or rock-work. It flourishes most in a compost of sandy loam and peat. The seeds are best sown in autumn and wintered in a greenhouse, but they may be raised on a hotbed early in spring. Cuttings of the young wood planted under glass root freely. Height, 9 in.

Venus's Navel Wort.—A charming hardy annual for rock-work. The seed should be sown early in spring in good garden mould. Height, 6 in.

Veratum.—Handsome foliage plants. They are quite hardy, and delight in a rich soil. July is the month in which they flower. They may be raised from seed, or propagated by division. Height, 5 ft.

Verbascum.—A hardy annual, which produces a profusion of showy flowers in July, and is very suitable for the backs of borders. It will thrive in any soil, and is easily raised from seed sown early in spring. Height, 3 ft.

Verbena.—This charming half-hardy perennial succeeds best in light, loamy soil. It seeds freely, and roots rapidly by being pegged down. It is usual to take the cuttings in February, as spring-struck plants prove best both for growth and flowering. Place a score of cuttings in a 48-sized pot containing 1/3 of drainage material, covered with 1 in. of rough leaf-mould, then filled to within 1-1/2 in. of the rim with equal parts of loam, leaf-mould, or peat and sand, with 1/3 in. of sand on the top. Make the soil firm at the base of the cuttings, and water level. It is, however, more easily obtained from seed raised on a gentle hotbed, and the plants thus raised are more robust and floriferous. It flowers in July. Height, 1 ft.

Verbena, Lemon-scented.—See "Aloysia."

Veronica.—This graceful evergreen, commonly called Speedwell, bears handsome spikes of autumn flowers, and makes a good conservatory or sitting-room plant. It stands the winter out of doors in a sheltered position with a dry sub-soil. The annual varieties may be sown in autumn for spring flowering. Any light, rich, moist soil suits them. The hardy perennial kinds are increased by dividing the roots, and the greenhouse varieties by seeds or cuttings. The different species flower from July to October. Height, 1 ft. to 10 ft.

Vesicaria Graeca.—A small hardy evergreen shrub, suitable for rock-work or edgings. It likes a light, dry soil and an open situation. It may be propagated by seeds, which are freely produced; but the readiest way to increase it is by cuttings of the side-shoots, taken as early as possible so as to become well rooted before cold weather sets in. It flowers from April to June. Height, 6 in. to 8 in.

Viburnum Opulus (*Guelder Rose, or Snowball Tree*).—A very elegant and hardy deciduous

shrub, which will grow in any soil, and may be increased by layers, or by cuttings planted in the shade under glass. It blooms in June. Height, 12 ft.

Viburnum Tinus (*Laurestinus*).—This well-known and much-admired evergreen shrub produces masses of white flowers through the winter months, at which season it is especially ornamental. It is generally propagated by layers, but where a number of the plants are required they may be obtained from autumn cuttings planted in the shade and covered with a hand-glass. Height, 5 ft.

Vicia Pyrenaica.—A hardy and good perennial for rock-work, having compact tufts of green growth and producing deep crimson flowers in May and June. It will grow in any soil, and is of easy culture. It is increased by seed, also by division of the roots. Height, 1 ft.

Vinca (*Periwinkle*).—Many of these are variegated and very showy as rock-work plants, and will grow in any moist soil, enjoying a shady situation. They may be raised from seed sown early in spring in a warm situation, or may be increased by runners, which strike root at the joints like the Strawberry. They may be planted under the shade of trees. Many choice greenhouse evergreens bearing fine circular flowers and shining foliage are also included under the name of Vinca. Height, 2 ft.

Vines.—See "Grapes."

Violas.—The hardy perennials are suitable for the front of flower borders or rock-work, but the smaller species succeed best when grown in pots in a mixture of loam, peat, and sand. The herbaceous kinds are increased by seed or division of the roots, the shrubby varieties by cuttings planted under glass, and the annuals by seed sown in the open in spring. Height, 3 in. to 6 in.

Violets.—Plant the runners or off-sets in May in loam and leaf-mould, choosing a damp, shady situation. Russian and Neapolitan Violets may be made to flower throughout the winter and early spring by placing them in a stove or warm pit. Dog-toothed Violets will grow in any light soil. Autumn is the best time to plant them, and 1 in. of silver sand round the roots prevents decay; they are hardy and early, but will not bloom unless planted 9 in. deep. White Violets like a chalky soil. One of the best manures for Violets is the ash from bonfires. They may be multiplied to any extent by pegging down the side-shoots in April. The common Violet flowers in March and April. Height, 6 in.

Virgilia.—For the most part greenhouse shrubs, requiring to be grown in a compost of loam, peat, and sand. Young cuttings planted in sandy loam and covered with glass will strike. The hardy kinds, such as *V. Lutea*, grow in any light soil, and are increased by laying down shoots in autumn or spring. July is the month in which they flower. Height, from 2 ft. to 12 ft.

Virginian Creeper (*Ampelopsis Hederacea*).—May be propagated by layers or cuttings, and will grow in any common garden soil. The plant is also known as the Five-leaved Ivy, is a rapid grower, and a favourite for covering unsightly walls.

Virginian Stock.—This pretty little hardy annual is readily raised from seed sown on a border in autumn or spring. It is not particular as to soil. Height, 9 in.

Virgin's Bower.—See "Clematis."

Viscaria Coeli Rosa (*the Rose of Heaven*).—Sow in April, or on a warm, dry, sheltered spot in September. Other varieties of *Viscaria* are graceful and effective in beds, masses, or lines, and only require the usual care bestowed upon hardy annuals. The flowers are produced in June and July. Height, 1 ft.

Vitis Heterophylla.—These vines are hardy, and will grow in any rich soil. They are propagated by cuttings, and also by layers. *V. Purpureus* has purple leaves, which are very effective. *V. Coignettae*, or the Chinese Vine, has very noble foliage.

W

Wahlenbergia.—The hardy perennial kinds thrive best in pots, the soil in which should be kept moist. The annuals, which are raised on a hotbed in March, may be planted out in May in a warm situation.

Waitzia.—Very beautiful half-hardy annuals, but more suitable for the greenhouse than the open flower-bed. They require a sandy peat and leaf-mould, and the pots to be well drained, as too much water is as destructive to them as too little. They may be had in flower from May to August by making two sowings, one in September and the other in February, and keeping them in the greenhouse. When large enough to handle, pot off into 3-in. pots, putting two plants in each pot close to the sides, and shift them into larger ones when they have made sufficient growth. Place them in a dry and airy situation and near the glass. They are unable to stand the least frost, therefore, if they are planted out, it should not be done before the beginning of June. Height, 1½ ft.

Waldsteina Fragarioides.—A hardy and pretty trailing rock plant, with deep green foliage.

From March to May it bears yellow Strawberry-like flowers. Any soil suits it, and it may be increased by seed or division. Height, 6 in.

Wall-flower (*Cheiranthus*).—These favourite hardy perennials prefer a rich, light, sandy soil, and a dry situation. The seed may be sown where it is intended for them to bloom either in autumn or spring. Thin out to 2 ft. apart. They may also be increased by shoots torn from the stems of old plants. As well as flowering early in spring, they often bloom in the autumn. Height, 1-1/2 ft.

Walnuts.—The Nuts for raising young trees may be planted at any time between October and the end of February, 3 in. deep and 1-1/2 ft. apart. Train to a single stem 8 to 10 ft. high, removing all the side branches as soon as they make an appearance. The following year they may be planted in their permanent position, which should be high, yet sheltered from frost. Two of the best tall-growing varieties are Thin-shelled and Noyer à Bijou. The Dwarf Prolific makes a good bush tree.

Wand Plant.—See "Galax."

Wasps.—To destroy Wasps rinse a large bottle with spirits of turpentine, and thrust the neck into the principal entrance to their nest, stopping up all the other holes to prevent their escape. In a few days the nest may be dug up. The fumes of the spirit first stupefies and eventually destroys the insects.

Water-cress.—Sow in prepared places, during spring, in sluggish brooks and moist situations; or it may be grown on a shady border if kept moist by frequent waterings. It may also be grown in a frame in September from cuttings placed 6 in. apart, sprinkling them daily, but keeping the frame closed for two or three weeks, then watering once a week. Give all the air possible in fine weather, but cover the frame with mats during frosts. It is best when grown quickly.

Watsonia.—Plant the bulbs during January in sandy loam with a little peat. They flower in April. Height, 1-1/2 ft.

Weeds in Paths.—These may be destroyed by strong brine, applied when hot. Or mix 1/2 lb. of oil of vitriol with 6 gallons of water, and apply, taking care not to get the vitriol on the hands or clothes.

Weigelia.—Free-flowering, hardy, deciduous shrubs, the flowers being produced in profusion along the shoots in April, and varying in colour from white to deep crimson. The plants will grow in any soil, and require no special culture. All the varieties force well, and may be increased by cuttings. Height, 6 ft.

White Scale.—See "Scale."

Whitlavia.—A hardy annual, needing no special treatment. It may be sown in autumn, and protected during winter in a frame, or it may be raised in spring in the open ground, where it will bloom in June. Height, 2 ft.

Whortleberry.—See "Vaccinium."

Wigandia Caraccasana.—A stove deciduous shrub which thrives best in a mixture of loam and peat. Cuttings in sand will strike if placed under glass and in heat. It flowers in April. Height, 10 ft.

Windflowers.—See "Anemones."

Winter Aconite (*Eranthis Hyemalis*).—This is one of the very first of flowers to bloom, being in advance of the Snowdrop. In the bleakest days of winter this little flower covers the ground with its gilt spangles. Plant in early autumn. Any soil or situation suits it, but it does best in a light mould and a moist, shady position, or under trees. Most effective when planted in masses. The tubers may remain permanently in the ground, or they may be lifted and divided in summer, as soon as the foliage dies down. Flowers are produced from December to February.

Winter Cherry.—See "Physalis."

Winter Heliotrope.—See "Tussilago."

Wire-worms.—Before using mould for potting purposes it is advisable to examine it carefully and pick out any Wire-worms that are in it. For the border the best traps are small potatoes with a hole cut in them, buried at intervals just beneath the surface of the soil.

Wistaria.—This noble wall plant may be abundantly produced, as a long layer will root at every joint. It will also grow from cuttings of the plant and root. Though of slow growth at first, when well established it is very free-growing and perfectly hardy. It may also be grown as a small tree for the lawn or centres of large beds by keeping the long twining shoots pinched in.

Witch Hazel.—See "Hamamelis."

Withania Organifolia (*Pampas Lily-of-the-Valley*).—A hardy climbing plant, attaining a height of 20 or 30 ft. in a very short period. The foliage is small, but very dense and of a dark green, the flowers being white. It may be raised from seed, and when once established the roots may remain undisturbed for any length of time, merely removing the stems as soon as they are destroyed by

frost.

Wolf's Bane.—See "Aconite."

Wood, to Preserve.—In order to prevent wooden posts, piles, etc., from rotting, dip the parts to be sunk in the earth in the following composition:—Fine, hard sand, three hundred parts; powdered chalk, forty parts; resin, fifty parts; linseed oil, four parts. Heat these together in a boiler, then add red lead, one part; sulphuric acid, one part. Mix well together, and use while hot. If too thick, more linseed oil may be added. This composition when dry attains the consistency of varnish, and becomes extremely hard.

Wood Lily.—See "Trillium."

Woodruff.—See "Asperula."

Worms, to Destroy.—To each 5 lbs. of newly-slaked lime add 15 gallons of water. Stir it well, let it settle, draw off the clear portion, and with it water the surface of the lawn, etc. The Worms will come to the top and may be swept up. Worms in pots may be brought to the top by sprinkling a little dry mustard on the surface of the soil, and then giving the plant a good watering.

Wulfenia Carinthiaca.—A pretty and hardy perennial from the Corinthian Alps, suitable alike for rock-work or the border, throwing up spikes of blue flowers from May to July. During winter place it in a frame, as it is liable to rot in the open. It needs a light, rich, sandy soil and plenty of moisture when in growth. Cuttings will strike in sand; it may also be propagated by seeds or division. Height, 1 ft.

X

Xeranthemum.—These charming everlasting annuals retain, in a dried state, their form and colour for several years. They are of the easiest culture, merely requiring to be sown in spring in light, rich soil to produce flowers in July. Height, 2 ft.

Xerophyllum Asphodeloides (*Turkey's Beard*).—A showy hardy perennial with tufts of graceful, curving, slender foliage. From May to July, when it bears spikes of white flowers, it is very handsome. It does best in a peat border, and may be increased by well-ripened seed or by division. Height, 1-1/2 ft.

Xerotes.—Herbaceous plants, which thrive well in any light, rich soil, and are readily increased by dividing the roots. They flower in June. Height, 2 ft.

Y

Yew (*Taxus*).—For landscape gardening the old gold-striped (*Baccata Aurea Variegata*) is most effective. The Japanese variety, *T. Adpressa*, is a pleasing evergreen having dark green leaves and large scarlet berries; it is very suitable for the front of large borders. The Common Yew (*Baccata*) grows dense and bushy, and is excellent for hedges. The dark green leaves of the Irish Yew (*Baccata Fastigiata*) make a fine contrast with lighter foliage. *Dovastonii* is a fine Weeping Yew with long dark green leaves and extra large red berries. There are many other good sorts. The Yew likes shade and moisture, but it is not very particular as to soil, loams and clays suiting it admirably.

Yucca.—This plant, popularly known as Adam's Needle thrives best in dry, sandy loam. It is quite hardy, and does well on rock-work, to which it imparts a tropical aspect, *Yucca Recurva* has fine drooping leaves, and is suitable for vases, etc. It bears a white flower. Yuccas are mostly evergreen shrubs, are very beautiful, and have the habit of palm-trees. A light, rich soil suits them all. They are increased by suckers from the root. They make handsome plants for lawns, terraces, ornamental vases, the centre of beds, or sub-tropical gardens, and bloom in September. Height, 2 ft.

Z

Zauschneria.—A Californian half-hardy perennial plant which bears a profusion of scarlet tube-shaped flowers from June to October. It grows freely in a sunny position in any dry, light, gravelly, rich soil, and is increased by division of roots or by cuttings. Height, 1 ft.

Zea (*Indian Corn*).—This is best raised in a hotbed early in spring, but it will germinate in ordinary soil in May. It requires a sunny situation. Height, 2 ft. to 3 ft.

Zea Japonica Variegata (*Striped Japanese Maize*).—A fine half-hardy annual ornamental grass, the foliage being striped green and white, and growing to the height of 3 ft. The cultivation

is the same as the foregoing.

Zephyranthes (*Swamp Lilies*).—Plant on a warm border in a rather sandy, well-drained soil. Give protection in severe weather, and supply with water during the growing season. Take up and divide every second or third year. The flowers are produced in July. Height, 9 in.

Zinnia.—A genus of very pretty annuals, well deserving of cultivation. The seeds must be raised on a gentle hotbed in spring, and planted out in June 1 ft. apart in the richest of loamy soil and warmest and most sheltered position. Height 1 ft. to 1½ ft.

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