ground covers and climbing plants



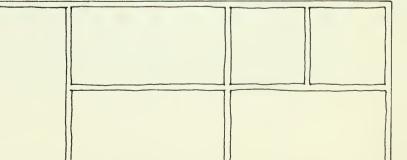
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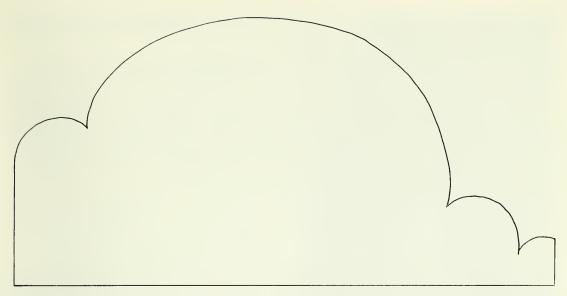


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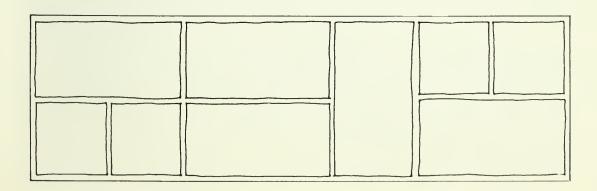
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This publication replaces publication 1017, Woody climbers and ground covers for Canadian gardens.





Clematis is a good cover when grown on a trellis.

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INTRODUCTION

Because of the resurgent interest in nature, many people are seeking ground covers that provide a change from grass. At the same time, they are willing to devote more hours to beautify their property. This has lead to an increase in the use of both herbaceous perennial and woody ground covers in place of grass, and to a rise in the number of homeowners looking for ways to cover a bare wall or fence.

Ground covers

As an alternative to grass, ground covers also provide a variation in color and texture. They can be grown in deep shade and other places where it is difficult to grow grass. Ground covers can also be used in problem areas, such as steep slopes where power mowers are difficult to control. In many locations ground covers can be chosen that have attractive flowers, fall color, or fruit that birds can eat during the winter.

Although slower to establish than grass, after 2 or 3 years a good ground cover forms a dense mat that prevents the growth of weeds. During this initial period keep the area free of weeds by careful hoeing or hand weeding. For banks or sloping areas choose species that are close to the ground and root easily. The mat of roots thus formed will help to control erosion.

Climbing plants

Although the majority of climbers are grown for their flowers, there are several very popular ones that are cultivated for their beauty of foliage. Climbers may be either annual or perennial and can be grown on a wall, a trellis, wire mesh, or netting. They can be used for decoration, to give shade or privacy, or to block out an unattractive vista.

A few climbers can also be used as ground covers. When not given something to cling to, a climber will carpet the ground and root as it goes. However, the plants natural habit is vertical, and if it meets anything upright the plant will revert to its natural mode of growth and climb.

When deciding what to plant, remember that plants climb by various means. Twining plants are excellent for a trellis but are useless on a house wall unless given extra support. Some plants are sprawlers with no real method of climbing. They have long soft growth that leans on a support. These provide an alternative to removing a dead shrub. Some climbers have suctionlike disks, which seem to be able to grip even aluminum siding. Plants with tendrils can often grip stucco but not usually brick.

Climbers are best used in moderation. Do not cover every wall of a house even with the showiest of plants. If a wall has a natural beauty, such as fieldstone facing, it makes no sense to hide it behind a cover of green foliage.

Where climbers are grown to provide privacy or to act as a visual barrier, rapid growth is most important. Attractive foliage that will act as a backdrop for other flowers is necessary; the flowers or fruits are a bonus. Some of the annual climbers fill these conditions and can be used while more permanent vines become established.

CULTURE

Soil

Although most gardens have soil that will grow plants, few of them have ideal soil. Both ground covers and climbers are long lived, and so it is best to improve the soil before planting. This is particularly true where climbers are to be planted against a house wall, because the soil is often poor.

On light sandy soils work in plenty of peat moss, rotted leaves, or compost to improve the soil texture and water retention. On heavy soils add sharp sand and humus to open the soil so that water can drain away. Unless the soil is very poor, it is better not to add fertilizer before planting because of the risk of damaging young roots.

If you dig around the foundation of your house and find bricks, plaster, and pieces of wood, be prepared to dig out planting holes 1 m square by 0.5 m deep. Fill these with a good soil mix and allow it to settle before planting.

Planting

Although dormant woody plants can be planted in either spring or fall, in areas with harsh winters spring planting is usually preferable. This gives the plants the whole growing season to become established before winter sets in. Fall plantings are apt to be heaved by frost and the roots will dry out before they can be replanted. Herbaceous ground covers can be planted in spring or early fall (4 weeks before freeze-up) with time to produce new roots for anchorage.

Make the planting hole large enough to take the roots without bending or crowding. Firm the soil well, leave a slight depression, and water the plants several times. With a spring planting use a soluble plant starter fertilizer that is high in phosphorus, such as 10-45-15. This helps to produce new roots.

Pruning

After you plant deciduous climbers and ground covers cut them back by about one-third to compensate for the loss of roots. Clip coniferous evergreens, such as junipers, lightly; spray broadleaved evergreens, such as Oregon grape, with an antidesicant available from your local garden center.

When deciduous ground covers become straggly cut them back well in the early spring to promote new growth. Cut back perennial ground covers each fall. In mild districts cut them back almost to ground level. In cold areas leave up to 30 cm of the stems to trap snow and then cut them back fully in the spring.

Prune flowering vines at the same time as flowering shrubs. Immediately after flowering cut back those that flower early on the previous year's wood. In the early spring prune vines that flower later on the new wood.

With vines grown for their foliage, in the early spring remove one or two of the oldest shoots, and any dead wood or winter injury.

Fertilizers

When the plants are established, fertilize them at least once a year. In early spring apply a regular garden fertilizer, such as 6-9-6 or 7-7-7, at the rate of 100 g/m^2 . With spring and early summer flowering plants it is helpful to make a second application at the same rate at pruning time. This encourages the new growth to flower the following year.

Avoid fertilizing late in the season because it could lead to soft unripe growth that would be badly winter-killed.

Pests and diseases

In general, climbers and ground covers suffer from pests and diseases about the same as other plants. Because of their mode of growth, they act as good hiding places for overwintering insects; this can lead to a rapid buildup in the spring. It is wise to keep a close watch to control insect and disease attacks before they get out of hand. Virginia creeper and Boston ivy are particularly prone to attacks of the grape flea beetle, which causes multitudinous small holes in the leaves, and the eightspotted forester, which defoliates the plant. Clematises, particularly the large-flowered hybrids, are occasionally subject to a disease called clematis wilt. It causes one branch to wilt and die without necessarily killing the rest of the plant. Because the disease has not been isolated or transmitted to another plant, it is thought to be caused by some form of stress.

For the latest information on pest and disease control, contact your provincial agricultural representative.

Winter protection

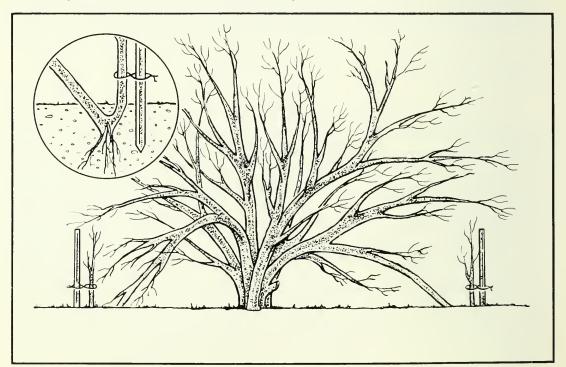
Usually only plants that are winter-hardy are grown, but climbers can be grown outside their regular hardiness zone if they are protected. Climbing roses are often treated in this way. They can be protected by taking them down from their trellis in late fall and laying them along the ground. Pack straw or brush over them along with some form of mouse bait, and then use a waterproof cover, such as boards, to keep them dry. In early spring after the very cold weather has passed, open the ends of the enclosure to allow the bundle to breath and to prevent overheating.

Propagation

Most homeowners are not concerned with the propagation of woody climbers. Annual climbers have to be grown afresh each year. For details on raising annuals from seed see *Annual flowers for Canada*, Agriculture Canada Publication 1608.

When woody ground covers are used on large areas, the costs can be high. If possible, plan ahead and either buy young plants to grow on, or a few older plants that can be used to provide propagating material. Many shrubs, both deciduous and evergreen, can be propagated from cuttings or slips in the same way as houseplants, but the time of taking these cuttings is often critical.

Layering can be used to increase many shrubs.



Probably the easiest and most successful method of propagation for the home gardener is by layering. In early spring peg down branches to the ground after first cutting them partway through and treating the cut with a rooting hormone. Mound soil over this area as shown in the drawing. Support the shoot tip by tying it to a stake with soft string. By fall, rooting should have taken place. Leave the branches until the following spring and then transplant them.

Herbaceous ground covers are easily propagated by division in the fall. Some species can be grown from seed.

Hardiness zone ratings

Throughout the list of recommended plants there are references to hardiness zones. These are based on the *Map of plant hardiness zones in Canada* prepared by C. E. Ouellet and L. C. Sherk and reproduced in this publication.

RECOMMENDED PLANTS

Herbaceous ground covers

Herbaceous ground covers die back to ground level each fall. Although they leave the ground bare during the winter months, their fibrous root systems are usually sufficient to control erosion. Because the survival of herbaceous plants is governed to a large extent by the depth of snow cover, hardiness zones are not given in this publication. Check with your local nurserymen. For fuller descriptions of these plants and the names of cultivars, see *Canadian garden perennials* by A. R. Buckley. This book is available from your bookstore or the Canadian Government Publishing Centre, Supply and Services Canada, Hull, Quebec, K1A 0S9. The catalog number is A-22-84-1977 and the price is \$12.50.

SCIENTIFIC NAME HEIGHT PLANTING COMMON NAME DISTANCE

Achillea millefolium 40-45 cm 45 cm common yarrow

The feathery foliage is light green and the flower heads are white. Yarrow is difficult to eradicate if it seeds itself into a lawn. Cultivars (cultivated varieties) with pink to red flowers, such as 'Cerise Queen', are not as vigorous and rarely set seed.

Aegopodium 20-25 cm 45 cm goutweed, podagraria bishop's weed

Goutweed is often used in difficult locations because it is very tough. When established, it is almost impossible to eradicate except by continual digging. The variegated form is not quite as invasive and is considerably more attractive. Use it only when nothing else will grow.

Ajuga reptans 10-15 cm 25 cm bugleweed, carpet bugle

This plant is useful for shaded areas, but it also takes full sun. It has bronzy green foliage and spikes of blue flowers in summer. Because it roots where it touches it is good for banks. Seeds may be spread to surrounding areas but are easy to control.

Arabis caucasica 10-15 cm 25 cm wall rock cress Despite its common name, the plant grows equally well on the level. It is easy to grow. When the flowers fade in the early summer, cut the foliage back almost to the crown. This will encourage new growth and good flowers the next year. The species is white, but cultivars with double or pink flowers or variegated foliage are available.

Armeria maritima 15-20 cm 30 cm thrift, sea pink This species and several related ones have tufts of fine grass-like foliage, which are very attractive. The globular heads of pink flowers are borne on wiry stems up to 30 cm high. After a few years the centers of the clumps die, but propagation is easy from summer cuttings.

Aster cultivars 30-90 cm 60 cm fall aster Many of the dwarfer asters that are grown in perennial borders can be used as ground covers and left to form large clumps. Because of mildew diseases, do not grow them in this way in areas that have hot humid summers.

Aurinia (Alyssum) 20-30 cm 30 cm basket-of-gold, saxatile goldentuft

In the spring the flowers are bright yellow and later there are green tufts of foliage. It is easy to grow and takes over the whole garden unless watched.

Campanula carpatica 20-25 cm 20 cm Carpathian bellflower

It forms neat mounds of foliage and has airy spikes of flowers in mid to late summer. There are many cultivars with various shades of blue to white flowers. Many other species of *Campanula* can also be used as ground covers.

Cerastium 15-20 cm 30 cm snow-in-summer tomentosum

This plant has gray foliage, white summer flowers, and lots of seed.

Chrysanthemum 20 cm 45 cm fall cultivars or more chrysanthemum In areas where they overwinter, fall chrysanthemums make useful ground covers.

Convallaria majalis 15-20 cm 30 cm lily-of-the-valley This well-known plant, with its white sweetly scented flowers in the spring, is an ideal ground cover for sun or part shade. Its dense foliage makes a good hiding place for slugs, which should be controlled with one of the special baits.

Dianthus species . 15-30 cm 25 cm pinks Almost all of the pinks available from nurseries are suitable. They flower in early summer and have mats of blue green foliage. If they become straggly, a severe cutting back will encourage new growth from the crown.

Glechoma hederacea 10-15 cm 25 cm creeping Charlie, ground ivy Consider this invasive weed of lawns only after all else fails.

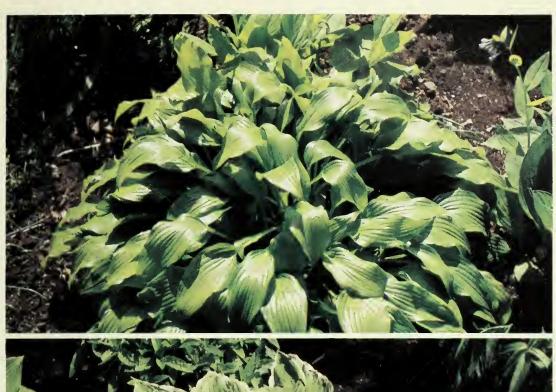
Gypsophila repens 10-15 cm 30 cm creeping gypsophila, baby's-breath

This low-growing relative of the well-known border plant is slow to establish and needs an alkaline soil.

Hemerocallis cultivars 1 m or more 1 m daylily
This popular perennial is ideal for a ground cover, particularly
in hot dry locations, such as slopes. Daylilies are now available in
pale yellow, orange, brown, red, pink, and bicolors.



As a ground cover for shaded areas, plantain lilies offer a variety of foliage shades and shapes.





SCIENTIFIC NAME

PLANTING COMMON NAME HEIGHT DISTANCE

Hosta species and 45-90 cm cultivars

75 cm

plantain lily

This striking ground cover for shade areas is grown mainly as a foliage plant. A few forms have attractive flowers. The leaves are various shades of green or have white or yellow markings.

Iberis sempervirens 30-35 cm 40 cm perennial candytuft

Although the stems are woody, the plant is usually classed as herbaceous. Flat heads of white flowers that turn pink with age grow above the dark glossy foliage in early summer.

Lotus corniculatus 5-10 cm 25 cm birdsfoot trefoil This very low growing weedy plant has yellow flowers in late summer. The double-flowered form is superior, but the plants need to be placed closer together.

Lysimachia nummularia 5-10 cm 30 cm creeping Jenny, moneywort

This pretty weed has yellow flowers in summer. Although invasive under good conditions, it is a useful ground cover if kept within bounds.

Lysimachia thyrsiflora 60 cm 45 cm tufted loosestrife The flowers are similar to those of creeping Jenny, but the plant is upright. It spreads by underground runners and is difficult to control in heavy soil.

Macleaya cordata 1.5-2.5 m 2 m plume poppy This impressive plant has light green hand-shaped leaves, which are silvery beneath. The flowers are in pinkish feathery plumes in late summer. The plant spreads rapidly by underground runners and has yellow sap, which stains badly.

Phlox subulata 10-20 cm 30 cm moss pink, ground pink

Well known as a rock garden plant, moss phlox also makes a good ground cover. There are many cultivars in a wide range of colors, and the foliage varies so that a mixed planting is always attractive.

Polygonum capitatum 5-10 cm 15 cm magic carpet, knotweed

Magic carpet overwinters only in mild districts but readily sows seed and comes up again in early spring, at least in Ottawa. The foliage is a bronzy red with a grayish V on it. Flowers are pale pink in round cloverlike heads.

Sedum species and 5-20 cm 30 cm stonecrop cultivars

The many *Sedum* forms offered for sale make good ground covers, particularly in hot sunny locations. One or two, such as *S. acre* and *S. nevii*, tend to spread far and wide but are easy to weed out if caught while still small.

Sempervivum species 5-10 cm 15 cm hen-and-chickens, houseleek

For small areas where grass would be hard to mow, hen-and-chickens is hard to beat. A wide range of color and form in the foliage gives diversity and the flowers in towering spikes to 30 cm long add interest.

Thymus vulgaris 10-15 cm 25 cm common thyme This species and the few other thymes offered by nurseries are excellent ground covers. They make an aromatic carpet to walk on and are particularly good on hot sandy slopes.

Woody ground covers

Woody ground covers fill much the same role as the herbaceous ground covers but give a year-round soil cover. They are better when used on slopes and banks but are often more expensive. For further cultural details, descriptions, and hardiness zones see Agriculture Canada Publication 1286 *Ornamental shrubs for Canada* by L. C. Sherk and A. R. Buckley, which is available from your bookstore or from the Canadian Government Publishing Centre.

Arctostaphylos uva-ursi 15-20 cm 1 m bearberry zone 1

This low-growing native plant is particularly suited to dry sandy conditions. The white flowers are followed by red berries, which attract birds.

SCIENTIFIC NAME

HEIGHT PLANTING COMMON NAME DISTANCE

Calluna vulgaris

20-45 cm

30 cm

heather

zone 6

Heather can be grown down to zone 4 with reliable snow cover. It requires poor acid soil, which must not be allowed to dry out. There are many cultivars, which vary in height and color of both foliage and flower. A spring shearing helps to produce plentiful flowers of white to red in late summer and fall.

Cornus sericea

2 m

1.5 m

red osier

(stolonifera) zone 1b

dogwood

This native shrub spreads by underground runners. It grows best in boggy soil and is noted for its colorful bark in the winter.

Cotoneaster adpressus 50-60 cm

120 cm

creeping rockspray

zone 4b

This species and C. horizontalis, rockspray (zone 5), which is slightly taller, are both good ground covers. They hug the ground and follow every contour. The pale pink flowers are not conspicu-

ous, but the bright red berries make the plant very striking in the early fall.

Cotoneaster dammeri zone 4

30 cm

120 cm

bearberry

cotoneaster

This low-growing species has larger leaves than the rocksprays. White flowers, which are quite attractive, are followed by copious red fruits.

Cotoneaster dammeri

60 cm

130 cm

Skogsholm

'Skogsholmen' zone 4

cotoneaster

This cultivar is taller than the species and has a more arching habit. It is an excellent ground cover because the branches root where they touch. Although it does not produce as many berries as the species, it has a better fall color and turns orange red with frost.

Cytisus X beanii

30-45 cm

1 m

golden carpet

'Golden Carpet' zone 5

broom

Much hardier than the species, this cultivar, which originated at Ottawa, has deep yellow flowers in early summer. Like the majority of brooms it grows best in poor sandy soil.

Cytisus decumbens 15 cm 60 cm prostrate broom zone 3a

This is one of the lowest growing brooms and may be used where golden carpet is not hardy. It has yellow flowers in twos or threes.

Cytisus purpureus 45 cm 90 cm purple broom zone 5

As the common name suggests, this species has purple flowers, which open in the spring.

Epigaea repens 5-10 cm 60 cm mayflower, zone 2 trailing arbutus

This native woodland shrub needs an acid soil and light shade and has light pink flowers in spring. It is the floral emblem of Nova Scotia.

Erica carnea 25-30 cm 30 cm spring heath zone 6

Like Calluna, spring heath can be grown in cold areas with snow cover. The various heath cultivars are spring flowering and mix well with fall-flowering heathers.

Skogsholm cotoneaster is useful for erosion control on slopes or rocky banks.



Euonymus fortunei 45-60 cm 1 m wintercreeper zones 5 and 6

The many cultivars of wintercreeper vary in habit and in winterhardiness. Some are best as climbers. They grow well in shade. The local nurseryman will stock the forms best suited for your climate.

'Coloratus' has large dark green leaves that turn red in the fall but do not drop.

'Gold Tip' has smaller leaves splashed with irregular gold patches.

'Emerald Cushion' has a low moundlike habit up to 1 m across and 0.5 m high.

'Emerald 'n Gold' is bright yellow and green.

The variety *vegetus* has large, bright green foliage and occurs naturally. It is low growing in cold areas and forms a mound in milder climates.

'Woodland' has a spreading habit and a vigorous rate of growth.

Gaultheria 15–20 cm 45 cm wintergreen procumbens zone 3

On an acid woodland soil in the shade, wintergreen forms a dark green mat, which is liberally sprinkled with bright red berries in the fall.

'Gold Tip' wintercreeper will grow well in sun or shade and form weedfree ground cover.



Genista pilosa 30 cm 60 cm silkyleaf zone 5 woadwaxen

In a sunny location with sandy soil this shrub produces copious yellow flowers in May.

Genista tinctoria 1 m 1 m dyer's greenweed zone 3

Once a source of dye, this plant thrives in sunny locations. It has a rather straggling habit of growth unlike the double form 'Plena', which forms a compact mound less than 50 cm high.

Hedera helix 'Baltica' 25 cm 35 cm Baltic ivy zone 5

Although a climber in mild climates, it can be used as a rapid growing ground cover in zone 5, where the top is winter-killed above the snow.

Juniperus

Almost any low-growing juniper can be used as a ground cover, but some are outstanding. The following ones should be readily available:

J. chinensis to 1 m 1.2 m Chinese juniper zone 2-5

The many forms of Chinese juniper include some good spreading cultivars. 'Gold Coast' (zone 5), 'Gold Star' (zone 4), 'Old Gold' (zone 5), and 'Pfitzeriana Aurea' (zone 2) have yellow-tipped foliage. The green variety *sargentii* and the blue *sargentii* 'Glauca' are among the best ground covers and are hardy to zone 3.

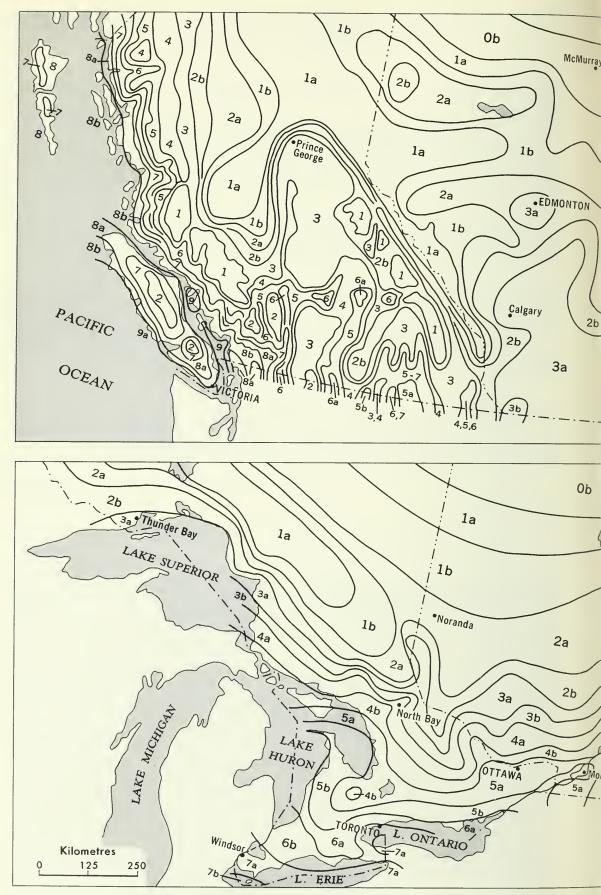
J. communis 50 cm 1 m common juniper zone 3

'Repanda' is the only readily available cultivar that makes a good ground cover.

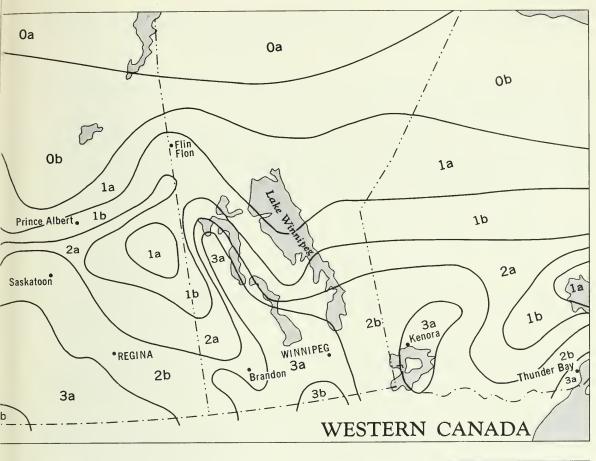
J. horizontalis to 1 m 1.2 m creeping juniper zone 2

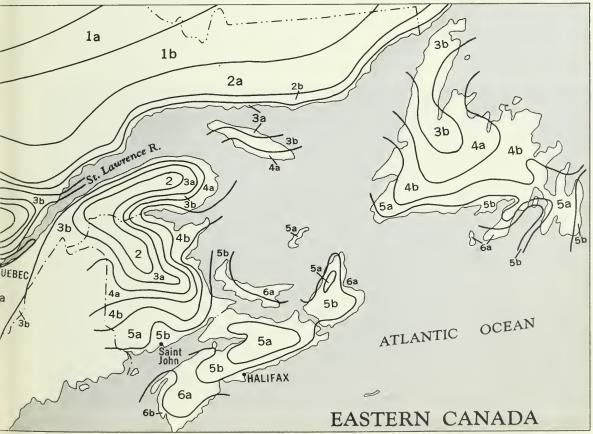
This species contains several excellent prostrate forms. 'Blue Acres' and 'Green Acres' are two good ground covers recently introduced by the University of Guelph, Ontario.

'Douglasii', the Waukegan juniper, is blue green during the summer and turns purple in the fall. The branches root where they touch the soil.



Map of plant hardiness zones in Canada.





Cartography by the Land Resource Research Institute, Research Branch, Agriculture Canada, 1980.

'Glauca', also known as the Bar Harbor juniper, is similar to 'Douglasii' but does not change color.

'Plumosa', the Andorra juniper, is similar in habit to 'Douglasii'

but is gray green turning to a plum color in cold weather.

'Wapiti', an introduction from Beaverlodge, Alta., has a more upright habit but rapidly covers the ground and roots as it goes.

'Wiltonii' forms a solid blue cover. It is named for the nursery where it originated and not for its carpeting ability.

J. sabina zone 2 to 1 m 1–1.5 m sa

savin juniper

This species has a good spreading habit but is subject to sunscald in harsh winter climates. The following cultivars are preferable for that reason:

'Arcadia' has a low profile and bright green needles.

'Blue Danube' is more bushy, but the habit is spreading.

'Skandia' has a very flat mode of growth and is possibly the best of this group for use as a ground cover.

'Tamariscifolia', the tamarix juniper, should be planted closer than the other selections. It forms a low mound up to 60 cm high and has dark green feathery foliage.

A dense stand of Japanese spurge, which is attractive year round.



Mahonia aquifolium 1.5 m 1 m Oregon grape zone 5

Oregon grape is an evergreen in mild areas or below the snow-level. Shiny green new foliage soon repairs any winterkill. Bright yellow flowers in spring, clusters of purple black fruit, and a bronzy fall color make this a desirable plant for sun or semishade.

Mahonia repens 30 cm 1 m creeping mahonia zone 3

This dwarfer species spreads by underground runners. It is good for use on slopes but is not widely available.

Pachysandra terminalis 20 cm 30 cm Japanese spurge zone 3

This is one of the best ground covers for shady sites. It spreads by underground stems and forms a dense stand. Under shallowrooted trees, such as maple, it must be well watered.

Paxistima canbyi 30 cm 45 cm Canby zone 2b pachistema

This is the correct spelling for the plant usually listed in catalogs as *Pachistema*. It is darker green than Japanese spurge and will tolerate more sunlight. The foliage turns bronzy in the fall but remains on the plant all winter.

Rosa species to 2.5 m 1.0 m rose zones 2-5b

The smooth rose, *Rosa blanda*, zone 2, and the rugosa rose, *R. rugosa*, zone 3, are easy to grow from seed. Both are excellent for binding sandy soils. On slopes in warmer areas (zone 5b) the Japanese rose, *R. multiflora*, forms a large spreading mat, which can get out of control. Many of the native roses are ideal ground covers. The species are often closely related and are hard to identify. Seeds from plants in your area can provide a supply of hardy young transplants if kept below 5°C in a refrigerator for 10 weeks before sowing.

Sorbaria sorbifolia 2 m 1.5 m Ural false spirea zone 2

This shrub is slow growing but forms a dense weedless clump in about 5 years. The large compound leaves are pale green. The flowers are creamy white in terminal spikes in summer.

Stephanandra incisa 2 m 1.5 m cutleaf zone 5 stephanandra

The fernlike foliage, which turns crimson in the fall, is the main attraction of this species. The flowers are white but not conspicuous. 'Crispa' is dwarfer with pleated foliage and more prominent flowers.

Symphoricarpos 1 m 1.5 m Hancock 'Hancock' zone 5 coralberry

This low-growing coralberry originated at Woodland Nursery, Mississauga, Ont. It has attractive small leaves and pink fruit, which persist well into the winter. This plant grows well in full sun or part shade and is particularly useful beneath tall trees.

Vinca minor 20–30 cm 30 cm periwinkle zone 3

Particularly useful in shaded areas, periwinkle forms a thick carpet after a few years. The flowers are borne during the early summer and are usually blue, but white- and pink-flowered cultivars are available. The plants having leaves splashed with yellow or white need a little more sun.

Xanthorhiza 60 cm 60 cm yellowroot simplicissima zone 5

Although not widely available from nurseries, yellowroot is worth searching for. The flowers are brown and interesting when you discover them. The foliage is shiny green and turns orange in fall. The species is good for lightly shaded areas.

Annual climbers

Because they have to complete their growth cycle in 1 year, annual climbers usually cover a large area quickly. They are useful to screen a fence or provide a windbreak where winter cover is not wanted, or while perennial woody climbers, which are slower growing, become established. Take care that they do not overrun the permanent plants and weaken them. The extent of growth depends, to a large extent, on the type and fertility of the soil and on the amount of water available.

Adlumia fungosa

mountain-fringe, Alleghany vine

This biennial is easily grown from seed sown in the spring. The leaves are fernlike and quite attractive. The flowers are white or purplish and resemble those of bleeding-heart in shape. The plant does well in cool, damp, shady places and can climb over fences.

Cobaea scandens

cup-and-saucer vine

Although a tender perennial, this plant grows rapidly from seed. It has clean, attractive foliage and is useful for growing in front of verandas or over archways. The bell-shaped flowers are violet.

Cucurbita pepo var. ovifera

ornamental gourd

This is a trailing plant, which can be used as a ground cover. Usually the vines are trained on supports so that the fruits can grow to perfection and be seen. A strong trellis or arbor is required because the plants are heavy when loaded with fruit. In growth habit they are similar to pumpkins and squash. The seeds can be sown outdoors as soon as the ground is warm, but in districts where the season is short it is better to start them indoors in pots. The fruits, which resemble apples, pears, eggs, and oranges, are not edible and are grown for aesthetic purposes. When the fruits are well ripened and thoroughly dry, their hard skins can be varnished or waxed.

Dolichos lablab

hyacinth bean

This interesting climber has rosy purple, pea-shaped flowers, which are followed by deep purplish red seedpods.

Echinocystis lobata

wild cucumber

This useful climber clambers over shrubs and fences if allowed to do so. It is indigenous to many parts of Canada and its long sprays of creamy white flowers are often seen in hedgerows. The plant grows to 5 m or higher and transforms the appearance of an old shed or fence. Seedlings spring up from self-sown seed but are easily destroyed. The dried fruits are decorative.

Ipomoea purpurea

common morning-glory

Common morning-glory is one of the most useful annual climbers for covering a trellis or training up the side of a veranda. The seed is sold in mixtures, and many beautiful colors are found among the seedlings. The seed coats are rather hard; soaking the seeds in warm water for 24 h speeds germination.

Ipomoea tricolor

moonflower

The flowers are borne profusely from midsummer onward if the seed is started indoors in the spring. Seed can be sown outdoors as soon as the soil warms up. The plant does best in sandy soil and does not require any fertilizer. 'Pearly Gates' is creamy white, and 'Heavenly Blue' is as its name suggests.

Lagenaria siceraria

ornamental gourd

This is the plant from which the large-fruited gourds, dipper, Hercules'-club, and calabash gourd are obtained. They are similar in growth to *Cucurbita* and need the same treatment.

Lathyrus odoratus

sweet pea

To grow show-quality sweet peas requires much hard work. Dig the ground 60 cm deep and manure and lime it in the fall. When the plants are growing in the spring stake them individually, remove the side shoots, and feed, water, and attend them each day. However,

Although the scarlet runner bean is grown mainly for its flowers, the fruit is edible.



for the average gardener sweet peas are fairly easy to grow. Either start them in small pots indoors or sow seed outside when the danger of frost is past. In the past, sweet peas stopped blooming during hot weather, but the newer strains, particularly those called heat resistant, have overcome this fault. Sweet peas require full sun, heavy soil, and an adequate supply of water.

Phaseolus coccineus

scarlet runner bean

This vigorous twining climber grows to 5 m or higher if given support. The bright red flowers are very attractive, and the long fruits when picked young have a better flavor than bush beans. Most people seem to let them get too old and woody before picking them.

Tropaeolum peregrinum

canary creeper

The leaves of this useful vine are light green and the flowers are bright yellow. The plants are quite different from nasturtiums, which are in the same genus, but can be used for the same purposes as the climbing types.

Perennial climbers

This group of plants contains most of the well-known climbers used for screening or decoration. A few may be difficult to obtain but are worth seeking if you want something a little out of the ordinary.

Actinidia arguta zone 4

tara vine, bower actinidia

This rapid-growing vine can climb to 5 m high. The dark green leaves grow up to 12 cm and are fringed with hairs. The flowers are white and fragrant but are rarely produced at Ottawa. The Chinese actinidia, A. sinensis, is slightly smaller and hardy only to zone 7.

Akebia quinata zone 6b

five-leaf akebia

The dark green, five-parted leaves are the chief attraction of this vine, which grows to 7 m long. The small purple flowers in the spring are not conspicuous. The vine is very vigorous and can be cut back as required to keep it within bounds.

Aristolochia durior zone 5

Dutchman's-pipe

Because of its dense heart-shaped foliage, Dutchman's-pipe makes an excellent screen. The common name describes the small white flowers, which are often hidden. In catalogs it is often listed as A. sipho.

This very showy vine clings by small rootlets. In midsummer it is a mass of bright orange trumpet-shaped flowers. There are several large specimens growing in sheltered gardens in Ottawa, but they are occasionally killed back during an unusually cold winter.

Celastrus rosthornianus (loeseneri) zone 5 Chinese bittersweet

The red and yellow berries, which are produced in abundance in the fall, are attractive to birds. The plants do not start to flower until they are well established. Both this species and the next have some plants that produce only male flowers and no fruit. It is best to plant more than one vine to ensure good cross-pollination.

The small-flowered clematis grows well on a rail fence or tree stump.



Celastrus scandens zone 3b

American bittersweet

The fruit of this native climber is often sold in the fall for winter decoration. The yellow clusters open to disclose the red berries inside. They last well when dried.

Clematis

The small-flowered species of this queen of the climbers have attractive, silky seedpods in addition to flowers. All clematises do best in an alkaline soil with their roots kept cool. Add lime if the soil is acid and either plant a ground cover or place flat stones over the roots. Except for the few that bloom on the old wood, cut back the large-flowered hybrids to about 50 cm each spring. They need a trellis to climb on and require a minimum of 6 h sunshine each day to flower well.

Clematis dioscoreifolia var. robusta sweet autumn clematis zone 2

Usually listed as C. paniculata, this late-flowering species from Japan reaches 5 m when well grown. It needs a well-drained soil. The white fragrant flowers appear in late summer.

Clematis tangutica zone 4 golden clematis

This is the best of the yellow-flowered clematises and grows to 3 m. In midsummer it bears many bright bell-shaped flowers.

Clematis virginiana zone 2

virgin's bower

Native to Eastern Canada this is one of the most vigorous clematises and reaches up to 6 m. The flowers are white and appear a little earlier than those of the sweet autumn clematis. A similar species, the western virgin's bower, C. liquiticifolia is sometimes offered by prairie nurseries.

Clematis X jackmanii zone 4

Jackman's clematis

This is the hardiest of the large-flowered type and has violetcolored flowers. All of these large-flowered hybrids have the main flush of bloom in midsummer and scattered flowers until frost. Cultivars of Jackman's clematis have white or red flowers.

Clematis hybrids zone 5

There are almost 100 named clones of large-flowered clematis and about half of them are available in Canadian nurseries. Most nurseries sell only three or four different cultivars and it may be necessary to search for a specific one. Most cultivars grow to 2.5-3 m high.

The following are the most widely grown:

'Comtesse de Bouchard' — pink, to 15 cm across 'Crimson King' — bright crimson, to 12 cm

across



The large-flowered clematises will cover a considerable area with time.

'Duchess of Edinburgh'

'Henryi'

'Nelly Moser'

'Ramona'

'Ville de Lyon'

 white, scented, double blooms, to 18 cm across, on previous year's wood

 often called 'Henry I', pure white, with brown stamens, to 15 cm across

 large, pale mauve flowers with a carmine bar down the center of each petal, on old wood

 lavender blue, with contrasting stamens, to 15 cm across

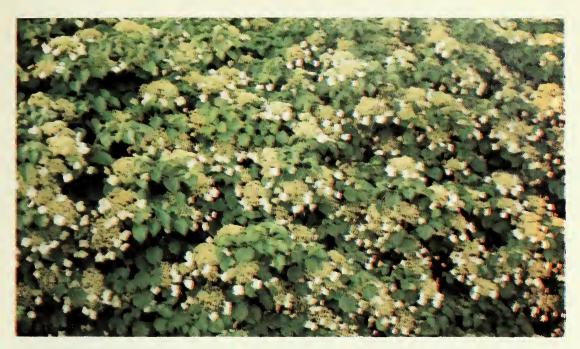
—deep carmine, centers fade in the sun to give a two-tone effect

Euonymus fortunei zones 5 and 6 wintercreeper In addition to the wintercreepers listed as ground covers, the following cultivars make good climbing plants for shade.

'Coloratus' — equally at home as a climber, to 3 m high

'Emerald Charm' — dark glossy foliage, to 2 m

'Sarcoxie' — can be trained to climb a wall or it can be used as a hedge in climates milder than in Ottawa



Climbing hydrangea will cover a large area in several years.

Hedera helix 'Baltica' zone 6

When used as a climber, this is hardy only to zone 6. It will climb to 10 m if given an eastern or northern exposure. The leaves are small, dark green, and glossy, and the plant can cling to brickwork without a trellis.

Hydrangea anomala ssp. petiolaris climbing hydrangea zone 5

In zone 5 this plant needs to be grown on the east side of a building. In warmer areas it can be grown in full sun. Although slow growing, it is an unusual climber with large, flat heads of white flowers in early summer.

Lonicera X brownii 'Dropmore Dropmore scarlet honeysuckle Scarlet' zone 2b

Originating on the prairies, this is one of the hardiest of flowering vines. The flowers are in clusters and are bright red with an orange red interior. The main flowering period is midsummer, but flowers are produced until frost.

Lonicera heckrottii zone 4 goldflame honeysuckle Usually listed as L. 'Goldflame' in catalogs, this species is similar to 'Dropmore Scarlet' but is not as hardy. The fragrant flowers are bright pink outside and golden yellow inside.

Lonicera japonica 'Halliana' zone 6b

Hall's Japanese honeysuckle

This vigorous climber reaches 3m or more. The fragrant white flowers turn pale yellow with age. 'Reticulata' has yellow leaves with a green network of veins and is slower growing.

Lonicera periclymenum var.

early Dutch honeysuckle

belgica zone 5b

Although some nurseries list this plant for zone 2, it is not reliably hardy at Ottawa. Generally grown for its beautiful scent, it has small, pale yellow flowers tinged with pink.

Lycium chinense zone 5

Chinese matrimony vine

This very vigorous climber will overpower any nearby plants unless it is pruned back each spring. The lilac-colored flowers are followed by red fruits.

Menispermum canadense zone 4

moonseed

This native climber is not generally available from nurseries but can be raised from seed. It grows about 4 m high and has maplelike foliage and inconspicuous whitish flowers followed by very dark blue fruit.

Parthenocissus (Ampelopsis) quinquefolia zone 3

Virginia creeper

This rapidly growing native vine can reach almost 17 m high by climbing with tendrils. It is also good as a ground cover for slopes and banks. The large leaves are divided into five leaflets, which have a brilliant fall color.

'Engelmannii', known as Englemann's ivy, has smaller leaves. At the end of the tendrils it also has small discs with which it gains additional support. It is slightly hardier than the species.

Parthenocissus (Ampelopsis) tricuspidata zone 5b

Boston ivy, Japanese ivy

Easily distinguished from the Virginia creeper because its leaves are three parted rather than five parted, the Boston ivy shares the same well-deserved popularity. The form 'Veitchii', whose young leaves are copper tinted, is widely grown. It is often listed as a species in catalogs.

Polygonum aubertii zone 6

silver lace vine

When established this plant grows to 3 m per year. It has pale green foliage and frothy white flowers in late summer.

Rosa climbing cultivars zone 6

climbing roses

Many people are willing to put in a lot of time and effort in order to be able to grow roses. With extra care climbing roses, as well as the regular bush roses, can be grown in places far colder than the hardiness zone listed. For details of rose cultivation and overwintering see *Growing roses*, Agriculture Canada Publication 1675.

Climbing roses are divided into two groups; true climbers, which flower on the new wood, and ramblers, which flower on the previous year's wood. Climbers are pruned in the spring and ramblers after they have finished flowering. Ramblers have a shorter flowering season but are slightly hardier.

The following climbers are among the hardiest:

'Elegance' — medium yellow, moderately

fragrant

'Flame Dance' — red, slight fragrance 'Heidelberg' — coral red, fragrant

'Illusion' — medium red, some fragrance

'Improved Blaze' — good red, fragrant 'New Dawn' — light pink, fragrant

Few ramblers are sold because of their shorter periods of bloom; the following are among the best:

'Dorothy Perkins' — pale pink, fragrant
'Excelsa' — deep crimson
'Patricia Macoun' — pure white

Vitis vulpina zone 2

frost grape

This plant is often listed in catalogs as the riverbank grape, which is *V. riparia*. One difference between the species is the shape of the leaf base, but both are good climbing vines with shiny leaves and fragrant white flowers. It takes a frost to make the fruit edible hence the common name.

Wisteria floribunda zone 6

Japanese wisteria

Japanese wisteria is slightly hardier than the Chinese wisteria and is able to survive and bloom at Ottawa with protection. When in flower, it is an extremely showy plant with pendulous trusses of violet blooms up to 50 cm long.

Wisteria sinensis zone 6b

Chinese wisteria

This plant is similar to the former species, but the flowers are more of a lilac color and in shorter trusses.

COMMON AND SCIENTIFIC NAMES

Ground covers

COMMON NAME

Andorra juniper

arbutus, trailing
aster, fall
baby's-breath
Baltic ivy
Bar Harbor juniper
basket-of-gold
bearberry
bearberry cotoneaster
bellflower, Carpathian
birdsfoot trefoil
bishop's weed
broom
golden carpet

prostrate
purple
bugleweed
Canby pachistema
candytuft, perennial
Carpathian bellflower
carpet bugle
Chinese juniper
chrysanthemum, fall
common juniper
common thyme
common yarrow
coralberry, Hancock
cotoneaster
bearberry

creeping Charlie creeping gypsophila creeping Jenny creeping juniper creeping mahonia creeping rockspray cutleaf stephanandra daylily

Skogsholm

SCIENTIFIC NAME IN TEXT

Juniperus horizontalis
'Plumosa'
Epigaea repens
Aster
Gypsophila repens
Hedera helix 'Baltica'
Juniperus horizontalis 'Glauca'
Aurinia saxatile
Arctostaphylos uva-ursi
Cotoneaster dammeri
Campanula carpatica
Lotus corniculatus
Aegopodium podagraria

Cytisus X beanii 'Golden
Carpet'
Cytisus decumbens
Cytisus purpureus
Ajuga reptans
Paxistima canbyi
Iberis sempervirens
Campanula carpatica
Ajuga reptans
Juniperus chinensis
Chrysanthemum
Juniperus communis
Thymus vulgaris
Achillea millefolium
Symphorecarpos 'Hancock'

Cotoneaster dammeri Cotoneaster dammeri 'Skogsholmen' Glechoma hederacea Gypsophila repens Lysimachia nummularia Juniperus horizontalis Mahonia repens Cotoneaster adpressus Stephanandra incisa Hemerocallis

COMMON NAME

dogwood, red osier dyer's greenweed fall aster fall chrysanthemum false spirea, Ural golden carpet broom

goldentuft grape, Oregon greenweed, dyer's ground ivy ground pink goutweed gypsophila, creeping Hancock coralberry heath, spring heather hen-and-chickens houseleek ivy Baltic ground Japanese rose Japanese spurge Jennie, creeping juniper Andorra Bar Harbor Chinese common creeping savin

Waukegan

tamarix

lily-of-the-valley
lily, plantain
loosestrife, tufted
magic carpet
mahonia, creeping
mayflower
moneywort
moss phlox
Oregon grape
pachistema, Canby

SCIENTIFIC NAME IN TEXT

Cornus sericea Genista tinctoria Aster Chrysanthemum Sorbaria sorbifolia Cytisus X beanii 'Golden Carpet' Aurinia saxatile Mahonia aquifolium Genista tinctoria Glechoma hederacea Phlox subulata Aegopodium podagraria Gypsophila repens Symphorecarpos 'Hancock' Erica carnea Calluna vulgaris Sempervivum Sempervivum

Hedera helix 'Baltica' Glechoma hederacea Rosa multiflora Pachysandra terminalis Lysimachia nummularia

Juniperus horizontalis 'Plumosa' Juniperus horizontalis 'Glauca' Juniperus chinensis Juniperus communis Juniperus horizontalis Juniperus sabina Juniperus sabina 'Tamariscifolia' Juniperus horizontalis 'Douglasii' Convallaria majalis Hosta Lysimachia thyrsiflora Polygonum capitatum Mahonia repens Epigaea repens Lysimachia nummularia Phlox subulata Mahonia aquifolium Paxistima canbyi

COMMON NAME

perennial candytuft periwinkle pinks pink, moss pink, sea plantain lily plume poppy prostrate broom purple broom red-osier dogwood rock cress, wall rockspray creeping rose Japanese rugosa smooth rugosa rose savin juniper sea pink silkyleaf woadwaxen Skogsholm cotoneaster

smooth rose snow-in-summer spirea, Ural false spring heath spurge, Japanese stephanandra, cutleaf stonecrop tamarix juniper

thrift
thyme, common
trailing arbutus
tufted loosestrife
Ural false spirea
wall rock cress
Waukegan juniper

wintercreeper wintergreen woadwaxen, silkyleaf yarrow, common yellowroot

SCIENTIFIC NAME IN TEXT

Iberis sempervirens Vinca minor Dianthus Phlox subulata Armeria maritima Hosta Macleaya cordata Cytisus decumbens Cytisus purpureus Cornus sericea Arabis caucasica Cotoneaster horizontalis Cotoneaster adpressus Rosa Rosa multiflora Rosa rugosa Rosa blanda Rosa rugosa Juniperus sabina Armeria maritima Genista pilosa Cotoneaster dammeri 'Skogsholmen' Rosa blanda Cerastium tomentosum Sorbaria sorbifolia Erica carnea Pachysandra terminalis Stephanandra incisa Sedum Juniperus sabina 'Tamariscifolia' Armeria maritima Thymus vulgaris Epigaea repens Lysimachia thyrsiflora Sorbaria sorbifolia Arabis caucasica Juniperus horizontalis 'Douglasii' Euonymus fortunei Gaultheria procumbens Genista pilosa Achillea millefolium Xanthorhiza simplicissima

Climbing plants

COMMON NAME

actinidia bower Chinese akebia, five-leaf Alleghany vine American bittersweet Baltic ivy

bean hyacinth scarlet runner

bittersweet
American
Chinese
Boston ivy
bower actinidia
canary creeper
Chinese actinidia
Chinese bittersweet
Chinese matrimony vine
Chinese wisteria

clematis golden Jackman's sweet autumn

climbing hydrangea

common morning-glory creeper, canary creeper, Virginia cucumber, wild cup-and-saucer vine Dropmore scarlet honeysuckle

Dutchman's-pipe early Dutch honeysuckle

Engelmann's ivy

five-leaf akebia frost grape golden clematis goldflame honeysuckle

SCIENTIFIC NAME IN TEXT

Actinidia arguta
Actinidia sinensis
Akebia quinata
Adlumia fungosa
Celastrus scandens
Hedera helix 'Baltica'

Dolichos lablab Phaseolus coccineus

Celastrus scandens
Celastrus rosthornianus
Parthenocissus tricuspidata
Actinidia arguta
Tropaeolum peregrinum
Actinidia sinensis
Celastrus rosthornianus
Lycium chinense
Wisteria sinensis

Clematis tangutica
Clematis X jackmanii
Clematis dioscoreifolia var.
robusta
Hydrangea anomala ssp.
petiolaris
Ipomoea purpurea

Tropaeolum peregrinum
Parthenocissus quinquefolia
Echinocystis lobata

Cobaea scandens Lonicera X brownii 'Dropmore

Scarlet'

Aristolochia durior

Lonicera periclymenum var.

belgica

Parthenocissus quinquefolia

'Engelmannii'
Akebia quinata
Vitis vulpina
Clematis tangutica

Clematis tangutica Lonicera heckrottii

COMMON NAME

grape frost riverbank gourd, ornamental

Hall's Japanese honeysuckle honeysuckle Dropmore scarlet

early Dutch

goldflame Hall's Japanese hyacinth bean hydrangea, climbing

ivy

Baltic Boston Engelmann's

Japanese
Jackman's clematis
Japanese ivy
Japanese wisteria
matrimony vine, Chinese
moonflower
moonseed
morning-glory, common
mountain-fringe
ornamental gourd

pea, sweet riverbank grape rose scarlet runner bean silver lace vine sweet autumn clematis

sweet pea tara vine trumpet vine vine Alleghany Chinese matrimony

cup-and-saucer

SCIENTIFIC NAME IN TEXT

Vitis vulpina Vitis riparia Cucurbita pepo var. ovifera, Lagenaria siceraria Lonicera japonica 'Halliana'

Lonicera X brownii 'Dropmore Scarlet'
Lonicera periclymenum var.
belgica
Lonicera heckrottii
Lonicera japonica 'Halliana'
Dolichos lablab
Hydrangea anomala ssp.
petiolaris

Hedera helix 'Baltica' Parthenocissus tricuspidata Parthenocissus quinquefolia 'Engelmannii' Parthenocissus tricuspidata Clematis X jackmanii Parthenocissus tricuspidata Wisteria floribunda Lycium chinense Ipomoea tricolor Menispermum canadense Ipomoea purpurea Adlumia fungosa Cucurbita pepo var. ovifera, Lagenaria siceraria Lathyrus odoratus Vitis riparia Rosa Phaseolus coccineus Polygonum aubertii Clematis dioscoreifolia var. robusta Lathyrus odoratus Actinidia arguta Campsis radicans

Adlumia fungosa Lycium chinense Cobaea scandens



COMMON NAME

vine
silver lace
tara
trumpet
Virginia creeper
virgin's bower
western

wild cucumber wintercreeper wisteria Chinese Japanese

SCIENTIFIC NAME IN TEXT

Polygonum aubertii
Actinidia arguta
Campsis radicans
Parthenocissus quinquefolia
Clematis virginiana
Clematis ligusticifolia
Echinocystis lobata
Euonymus fortunei

Wisteria sinensis Wisteria floribunda RECEIVED

FE# 23 1994

SERVICE DES PROGRAMES
DE RECUERCHE