



# Deciduous Woody Groundcovers

**Low-growing shrubs and woody plants provide attractive, protective cover for gardens, slopes and many difficult sites.**



When most people think of groundcovers, they think of low-growing perennials, such as periwinkle (*Vinca minor*), Bugleweed (*Ajuga reptans*), Sweet Woodruff (*Gallium odoratum*) or Lily-of-the-Valley (*Convallaria majallis*). But deciduous woody shrubs growing up to 4 feet tall can also fill the groundcover niche in a variety of soil and sun conditions, according to research at Cornell University's Urban Horticulture Institute.

## **Good reasons to plant**

Matching the right deciduous woody species to the site – and carefully planting and caring for them – can provide many benefits:

- Reduced mowing expenses when used to replace turfgrasses,
- Better erosion control when used to replace species poorly adapted to shady sites, steep slopes or other challenging locations.
- Reduced competition from turfgrasses and less damage from foot traffic, mowers and string trimmers when used around trees.
- Transpirational cooling and more porous ground surfaces to improve drainage when used as an alternative to pavement.
- Habitat and food for wildlife.

Also, many deciduous woody groundcovers perform best in full sun and grow up to 4 feet tall, while many of the common herbaceous perennial groundcovers are low-growing and perform better in part shade or shade.

Many of the species best-suited for deciduous woody groundcover plantings would never be considered spectacular specimen plants. Up close or planted singly, some are rather plain. But planted in masses and viewed from a distance, well-designed plantings can be aesthetically quite pleasing. Designs that take advantage of the diverse growth forms, leaf and stem colors, and textures can provide year-round interest.

Both gardeners and public landscape managers may find deciduous woody groundcovers effective alternatives for:

- Difficult-to-mow slopes.
- Raised planters.
- Roadsides and median strips.
- No-foot-traffic tree lawns.
- Creek and river banks.

There are potential downsides, but also ways to minimize them:

- Deciduous woody plantings are traditionally considered difficult, expensive and labor-intensive to establish and maintain. But smart design and establishment can minimize the investment, and reduced maintenance compared with mowing can provide a payback after a few years.
- The plantings require good weed control, possibly including hand weeding during establishment. It pays to get weeds under control before planting.
- Blowing trash can get caught in and accumulate in the plantings.
- Evergreen species can provide shelter for rodents. That's one reason we're advocating deciduous species.
- Some of the characteristics that make species good candidates for groundcovers might also

make them potentially invasive in rare circumstances. Invasiveness is very much a local issue. Check with local Extension staff or other experts during your planning process. You should be able to select species that are aggressive enough to be effective groundcovers for your site with minimal risk that they will escape to and threaten natural ecosystems.

## The Study

Much of the information here is based on a two-year study in Ithaca, N.Y., conducted by Jamie Blackburn under the tutelage of Urban Horticulture Institute director, Dr. Nina Bassuk. Jamie is now on the staff of Fairchild Tropical Botanic Garden in Coral Gables, Florida.

According to the USDA Hardiness Zone map, Ithaca is squarely in Zone 5. But many microclimates in this small city on the shores of Cayuga Lake are much milder. Many plants usually thought hardy only to Zones 6 or 7 performed quite well in the study, according to Blackburn.

Blackburn limited his study to plants with above-ground shoots that remain viable overwinter, break bud from overwintered shoots in spring, produce leaves that senesce and drop in autumn or winter, and top out around 4 feet tall or less.

He chose species that he thought might have good potential for groundcovers because of their quick growth or spreading tendencies. Some produce multiple stems from a central crown that quickly spread to create a shade canopy to discourage weeds. Others spread by adventitious rooting of stems that contact the ground (tip-layering), adventitious shoot growth from roots (suckering), by underground rhizomes or aboveground stolons.



More information publications and other resources:  
[www.hort.cornell.edu/uhi](http://www.hort.cornell.edu/uhi)

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## Assess Your Site

As with any planting, you need to carefully assess your planting site before choosing what species to plant. Consider:

**Exposure.** Most species used in the study thrive in full sun, though some also do well in part-shade.

**Hardiness.** Make sure plants you choose are hardy in your USDA Hardiness Zone.

**Microclimates.** Localized microclimates – particularly in urban areas – may increase your choice of plants that will overwinter. But during summer, heat reflected from buildings and pavement may stress plants, as can windy sites.

**Soil fertility and pH.** Start with a soil test. Keep in mind that urban soils often have high pH due to alkaline materials leaching from nearby concrete. It is usually easier to match species to soil pH than to adjust soil pH radically over a large area.

**Salt tolerance.** If planting near roads or walkways where salts are used for deicing, choose plants that tolerate salt. Not as much is known about salt tolerance of many of these species compared with more common trees and shrubs. If you know salt will be a problem, seek species that are native to seashore or other high-salt environments. With other species, watch for evidence of salt damage such as scorching of leaf margins. If you see damage, flush soil with fresh water in spring.

**Soil conditions.** Soil texture, drainage, and soil compaction are as important as fertility and pH. Restricted rooting space in urban plantings can be an issue, though it usually isn't as limiting in groundcover plantings as it is with trees.

### How well does your soil drain?

Poor drainage can quickly kill the majority of woody plants that are not adapted to having “wet feet.”

Drainage is the rate that water percolates through a soil profile. You can perform this simple test to find out how well soil drains at your site:

1. Dig a hole one foot wide and one foot deep.
2. Fill it with water and then allow the hole to drain.
3. Refill the hole with water.
4. Time how long it takes the water to drain.

Here's how to interpret your results:

- If your soil drains **less than 4 inches per hour**, your site is **poorly drained**. Choose a species that tolerates poorly drained sites.
- If your soil drains **4 to 8 inches per hour**, your site is **moderately well- to well-drained**. Many species will thrive under these conditions.
- If your soil drains **more than 8 inches per hour**, your site is **excessively drained or droughty**. Choose species that tolerate dry conditions.

**Water access.** Plantings may need supplemental watering while they are establishing. Make sure you can get water to your site.

For more information on site assessment, see:  
[www.hort.cornell.edu/uhi/outreach/recurbtrees](http://www.hort.cornell.edu/uhi/outreach/recurbtrees)

### **Prepare the soil, get a jump on weeds**

In many cases, you can prepare the bed for your planting as you would for other tree, shrub or herbaceous perennial plantings. Kill competing vegetation with tilling, mulch or nonselective herbicides. Adjust soil fertility and pH based on your soil testing and assessment. To mitigate the shortcomings of clay or sandy soils, add up to 30 to 50 percent by volume of thoroughly composted and decomposed organic matter to a depth of 6 to 18 inches.



Access to water is helpful – sometimes crucial – during establishment, especially at sites where soil is likely to dry quickly.

Where existing trees and shrubs make it impossible to use tillage or nonselective herbicides, you can gently dig and plant single holes, avoiding the existing plants' roots as much as possible.

The success of your planting – and how much labor it takes you to establish it – will be determined in large part by how well you control weeds. If your species is well matched to the site, your site is well prepared, and you are able to water to get plants through stressful dry periods, the plants should grow quickly and you can expect a weed-shading canopy to form in two or three years. Mulch can help smother weeds, but can't be expected to do the entire job on its own.

We had very good success with weed control using a no-till establishment method on steep slopes, while still maintaining enough cover to keep soil from washing away. First, we applied a nonselective herbicide in fall when foliar herbicides are usually most effective. In spring, we resprayed any vegetation that regrew.

Several weeks later after the herbicides had a chance to act, we used string trimmers to mow down the dead plant residue as close to the ground as possible. Then we planted the ground covers through the roots and residue of the dead plants, which helped hold the soil until the groundcovers established.

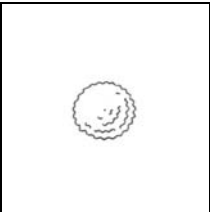
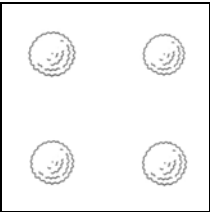
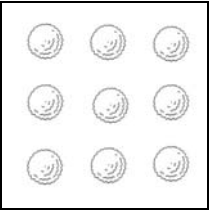
By not tilling, this method also prevented bringing dormant, buried weed seeds to the surface to germinate. The method works even better if weed control is maintained through an entire fallow season before planting in the second spring. The downside is that the unplanted area can be an eyesore and there is greater potential for soil erosion on steep slopes as the dead plant residue breaks down.

**Use smaller plants, closer spacings**

One strategy to consider to get quick coverage and weed suppression in just one or two growing seasons is to plant many smaller plants at closer spacings, rather than a few larger plants farther apart. A typical approach to establish a woody deciduous planting is to use 3-gallon containers spaced 3 feet apart on center. But using larger plants is relatively more expensive and takes longer for the canopy to close in. Using smaller plants closely spaced is less expensive and provides quicker coverage. If you propagate those plants yourself, it's even more cost-effective.

Consider the three scenarios in Figure 1 based on wholesale prices: Planting 3-gallon containers costing \$10 to \$18 per plant on 3-foot spacings costs \$10 to \$18 per square yard. Using 4 rooted cuttings (liners) at \$.50 to \$1.50 per plant to cover the same space costs just \$2 to \$6 per square yard. Even increasing the density of the planting to 9 rooted cuttings per square yard generally costs less than using 3-gallon containers (\$4.50 to \$13.50 per square yard), and provides much faster cover.

**Figure 1: Using many smaller plants is more economical than a few big ones.**

	Plants per square yard	Spacing (inches)	Price per plant (wholesale)	Plant cost per square yard
 3-gal. container	1	36	\$10 to \$18	\$10 to \$18
 Rooted cuttings	4	18	\$.50 to \$1.50	\$2 to \$6
 Rooted cuttings	9	12	\$.50 to \$1.50	\$4.50 to \$13.50

Furthermore, many of the groundcovers used in our study root very easily from cuttings with little or no rooting hormones using a simple mist or polytunnel system in a peat/perlite or sand mixture. Easy rooting is the exact attribute that makes many of these species so good at spreading by tip-layering. (Be sure that varieties aren't protected by plant patents before propagating.)

Planting rooted cuttings does have its difficulties, however. It is tedious to mulch closely spaced rooted cuttings. One solution is to mulch the bed before planting, then pull away the mulch when inserting the rooted cutting. Be sure to make good soil contact with the roots.

You must also be careful not to step on the small rooted cuttings during planting. Plant cuttings one row at a time, working down the slope on steep plantings.

One common misconception is that rooted cuttings will dry out faster than larger plants. But as long as there is a proportional balance between the size of the roots and shoots desiccation is not usually a problem. Watering rooted cuttings just after transplanting is crucial, just as it is for larger transplants. But if planted with care in a well-prepared site, they should survive just as well.



Using many smaller plants (instead of fewer big ones) reduces the cost of establishment. Plus the quick canopy closure (along with mulch) helps control weeds.

In fact, we planted many of the rooted cuttings in our study in August in the middle of a droughty summer, and they received only one post-transplant watering immediately after planting. We only lost 5 percent of the cuttings, the same mortality we had in plantings installed in early spring during periods of consistent rainfall. One other advantage of these close spacings is that surrounding plants quickly fill in the gaps left when neighboring plants don't make it.

Finally, the labor needed to plant rooted cuttings is much less than for larger transplants, which require bigger planting holes and larger tools. Once the site is prepared, it takes only a trowel or planting knife to plant rooted cuttings. Volunteers with little or no experience can be enlisted to help with large plantings.

## **Maintenance**

The single biggest chore in deciduous woody groundcover maintenance is hand weeding. It is virtually impossible to use non-selective herbicides to control weeds between closely spaced rooted cuttings. Careful, judicious, wick applications of contact herbicides are possible if hand weeding just isn't enough to control the problem. Walking in closely planted beds to hand weed is also difficult.

Other maintenance includes:

- Refreshing mulch around established plants.
- Watering during dry spells, especially in first two years.
- Pruning and thinning depending on species. Some benefit from annual coppicing or pruning to encourage flowering and fruiting. Also remove deadwood and storm damage.

Supplemental fertilizer is rarely needed, particularly if you identified and addressed soil problems during site assessment and planting preparation. Never use fertilizers at planting time. If soil tests determine that nutrients are potentially limiting to plant growth, use a balanced (e.g. 10-10-10), time-released, granular fertilizer at the start of the second growing season after plants are established.

### **Plant selection**

The list below details recommended deciduous woody groundcovers (several can be considered evergreen) either used in our two-year study or previously studied and proven worthy of culture in the Northeast. This list is by no means comprehensive. Rather, it is a tested and observed sample of the large array of wonderful groundcover plants.

**Use the characteristics listed for each to match plants to your site and your aesthetic needs.** Note that specific cultural parameters – such as exact soil pH, drought- and salt-tolerances – have rarely been empirically quantified for each taxon. So often evidence for these tolerances is either observational or has been gleaned from literature on the subject.

The origin/nativity and geographic distribution notes are generalizations at best and serve only to provide a general idea of which plants may or may not be native to a given region.

### ***Abelia x grandiflora* ‘Compacta’**

**Common name:** glossy abelia

**Family:** Caprifoliaceae

**Origin/nativity:** Hybrid of *Abelia chinensis* x *Abelia uniflora*

**Cold hardiness:** Zone 6, possibly Zone 5 when treated as a spring “cutback” like an herbaceous perennial.

**Exposure:** Full sun. Tolerates part shade.

**Soil/cultural tolerances:** Acidic (5.0 to 6.4) to neutral (6.4 to 7.2) soil pH, abelias can develop foliar chlorosis in highly alkaline soils. Moist, well-drained soil is best, but established plants display good drought tolerance. Does not fare well in poorly drained soils.

**Growth rate:** Very vigorous. Needs judicious pruning to obtain a neat appearance, although as the name suggests, ‘Compacta’ is much more compact than the hybrid species. In Zone 6, a very dense canopy can be achieved after two or three growing seasons.

**Size:** 3 to 4 feet tall by 3 to 4 feet wide

**Transplant type/spacing:** 2-inch pot rooted cuttings at 12 to 18 inches on center.

**Spreading method:** Can occasionally tip-layer and sucker, but is usually best employed as a groundcover by massing plants via spacing closely at planting time.

**Ornamental characteristics:** Attractive reddish-purple new growth. Pinkish-white summer flowers and persistent bracts attract butterflies. Bloom time can last well into autumn. Good reddish-purple to purple-bronze fall color. Exfoliating bark.

**Related taxa:** *Abelia* x 'Edward Goucher' and *Abelia zanderi* 'Sherwood' are also excellent small abelias, but both are less cold hardy, probably only to Zone 6(7).

### *Arctostaphylos uva-ursi*

**Common name:** bearberry, kinnikinick, sandberry, to name a few

**Family:** Ericaceae

**Origin/nativity:** Widespread distribution in Europe, Asia, and eastern and northwestern North America.

**Cold hardiness:** Zone 2

**Exposure:** Full sun. Tolerates part shade.

**Soil/cultural tolerances:** Regarded as acid-loving, but will certainly grow into the neutral range. Wild colonies have even been reported on limestone outcroppings, which presents a useful ecotype from which high soil pH tolerant selections could be made. Thrives on dry, infertile, sandy soils, but will not tolerate poor drainage and will grow much less vigorously in "heavy," i.e. clayey soils. Very tolerant of salt spray and soil salt.

**Growth rate:** Slow. 4 to 6 inches of growth in a great season.

**Size:** 6 to 12 inches tall by 4 feet wide, spreading from there.

**Transplant type/spacing:** 2-inch pot rooted cuttings at 12 to 18 inches on center.

**Spreading method:** Tip-layers profusely to form large, prostrate mats.

**Ornamental characteristics:** Small, glossy, finely textured, bright green evergreen leaves changing to bronze in the fall and winter. Very small, white flowers early to mid-spring give a modest but reliable show.



*Arctostaphylos uva-ursi* planting (top), foliage and fruit.



### ***Comptonia peregrina***

**Common name:** sweetfern

**Family:** Myricaceae

**Origin/nativity:** Southeastern Canada south to the upper southeastern U.S. Fairly common on roadsides in the northeastern U.S.

**Cold hardiness:** Zone 2

**Exposure:** Full sun. Tolerates part shade

**Soil/cultural tolerances:** Prefers acidic, infertile, sandy soils. Does best in moderately to excessively well-drained soils, and will not take poorly drained conditions. Extremely salt tolerant.

**Growth rate:** Fairly slow, especially during establishment, which can be difficult. Like some other members of its family, sweetfern has the ability to fix its own nitrogen through a symbiotic fungal relationship in the soil, explaining how it is able to thrive on such infertile, sandy sites.

**Size:** 3 feet tall by up to 6 feet wide. Suckers profusely.

**Transplant type/spacing:** Can be difficult to transplant. Starting with larger (up to 2-gallon) container plants is sometimes more successful than using the rooted cutting approach. Space plants as closely as 1 foot on center for the quickest canopy closure.

**Spreading method:** Mainly by suckering, forming large colonies.

**Ornamental characteristics:** Finely textured fern-like foliage. Erect deciduous stems can give an interesting winter appearance. No impressive flower or fall color show.

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### ***Cornus foemina* (formerly *Cornus racemosa*) Muskingum®**

**Common name:** Muskingum® Gray Dogwood

**Family:** Cornaceae

**Origin/nativity:** A cultivar selected at Lake County Nursery, Ohio, for its size and habit. It is one of several cultivars of the trademarked Counties of Ohio dogwood series. Species gray dogwood occurs natively all over the northeastern, midwestern, and southeastern U.S., especially in wet sites.

**Cold hardiness:** Zone 4, possibly Zone 3b

**Exposure:** Full sun to part shade

**Soil/cultural tolerances:** Great adaptability to many soil types from wet to dry, acid to alkaline, sandy to clayey. Not fussy at all in extremely high pH soils. Good weed exclusion.

**Growth rate:** New growth is very vigorous, with 2 to 4 feet of shoot extension per year common.

**Size:** 3 feet tall by 4 to 5 feet wide, suckering and tip-layering wider, especially in moist soils.

**Transplant type/spacing:** Patented, propagation-prohibited cultivar, so we used larger field- and container-grown plants in our study. It's probable that rooted cuttings spaced 1 to 2 feet on center would provide complete ground coverage in two growing seasons.

**Spreading method:** Simple crown expansion via lateral shoot growth, tip-layering, and suckering. This is a workhorse groundcover that can do it all.

**Ornamental characteristics:** Highly ornamental, with large, white flower clusters in mid-spring, tremendous red fall color, and beautiful whitish-blue fruit in autumn and early winter that contrast nicely with the foliage. Newly emerging leaves in spring have a nice reddish purple cast as well.

**Related taxa:** *Cornus alba* (syn *C. sericea*; *C. stolonifera*) is another low-growing shrub dogwood of merit from Lake County Nursery. Red Gnome™ is larger than Muskingum® with a smaller leaf and finer texture, but similar reddish new growth. It also has the added bonus of bright red winter stem color, something the gray-stemmed *Cornus foemina* lacks. *Cornus pumila* is also a diminutive dogwood of note and can be used in a similar groundcover setting.



*Cornus alba* Red Gnome™

**Comments:** The diversity among the shrub dogwoods is amazing and is part of the good reason why they are so common in our landscapes. Unfortunately, for the purposes of groundcover plantings, most selections mature taller than 3 feet, something to bear in mind when selecting dogwoods for groundcovers.

### ***Deutzia gracilis* 'Nikko'**

**Common name:** Nikko deutzia

**Family:** Saxifragaceae or Hydrangaceae, depending on which authority referenced.

**Origin/nativity:** Native to Japan, with the cultivar 'Nikko' having a confused parentage and horticultural taxonomic classification.

**Cold hardiness:** Zone 4

***Deutzia gracilis* 'Nikko'**

**Exposure:** Full sun to very light shade.

**Soil/cultural tolerances:** Adaptable to most soil pH and textures. Drought-tolerant once established. Will not tolerate poor drainage.

**Growth rate:** Rooted cuttings really just sit there for the first season growing little, if any. In the second season of our study, however, the plants doubled in size.

Sometimes a slow start to shoot growth is good, however, because it gives the plant time to establish its roots without overextending itself physiologically. However, there was little weed exclusion during the first season, making establishment more labor intensive due to the extra hand-weeding involved. 'Nikko' requires a cleaning out of dead wood every two years or so to maintain a healthy appearance.

**Size:** 12 inches tall by 6 feet wide with arching branches.



*Deutzia gracilis* 'Nikko'

**Transplant type/spacing:** 4-inch pot rooted cuttings at 8-inch spacing or 1-gallon containers at 18- to 24-inch spacing. Again, be prepared to wait a season for 'Nikko' to take off, which will require more hand weeding between plants as the canopies grow.

**Spreading method:** Crown expansion with occasional suckering and tip-layering in moist soils.

**Ornamental characteristics:** Many small, white flowers in mid-spring. Unimpressive fall color, though occasionally produces soft yellowish to purplish-green tint. Very twiggy in winter texture.

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### ***Diervilla lonicera* 'Copper'**

**Common name:** 'Copper' dwarf bush honeysuckle

**Family:** Caprifoliaceae

**Origin/nativity:** Species *Diervilla lonicera* occurs in southeastern and south-central Canada south to the upper-southeastern U.S.

**Cold hardiness:** Zone 3

**Exposure:** Full sun to part shade.

**Soil/cultural tolerances:** Acid, neutral, to alkaline soils,

moist or extremely dry—in other words very adaptable.

*Diervilla* species and cultivars are some of the best choices for dry, alkaline shade, a very difficult set of cultural conditions.

**Growth rate:** Extremely vigorous. 3 to 4 feet of shoot growth per season is common, even in the first year of establishment.

**Size:** 3 feet tall by 5 feet or more wide.

**Transplant type/spacing:** 2-inch or 4-inch pot rooted cuttings at 1- to 2-foot spacings are the way to go with this plant, as it is a rapid grower and exhibits great drought tolerance even during root establishment.

**Spreading method:** Suckering and tip-layering profusely, almost overnight.

**Ornamental characteristics:** 'Copper' was selected for its coppery-red new growth which remains evident on new shoots throughout the growing season. Yellow flowers on the terminals of new shoots in



*Diervilla lonicera* 'Copper'



*Diervilla lonicera* 'Copper' foliage

summer. Flower production, foliage color and overall vigor are reduced in deep shade.

**Related taxa:** *Diervilla sessilifolia* (southern bush honeysuckle), *Diervilla rivularis* (Georgia bush honeysuckle), and the hybrid *Diervilla x splendens*, are all fairly similar in habit, general appearance, and culture. Any of the bush honeysuckles make excellent groundcovers, are very culturally adaptable, and are especially low-maintenance, requiring only rejuvenation pruning once every five years or so.

### ***Forsythia x 'Courtasol' Gold Tide***<sup>®</sup>

**Common name:** Gold Tide<sup>®</sup>  
forsythia

**Family:** Oleaceae

**Origin/nativity:** A complex hybrid, of European garden origin.

**Cold hardiness:** Zone 5, and possibly vegetatively hardy (as opposed to not being flower bud hardy) to Zone 4.

**Exposure:** Full sun.

**Soil/cultural tolerances:** Very tolerant of high alkaline soils, but in no way requires it.

Grows best in a moist loam, but very adaptable to all but poorly drained soils.

**Growth rate:** Very fast. Rooted cuttings in our trials grew 3 feet their first season in the ground. If conditions are favorable, forms a dense canopy only one season, resulting in excellent weed exclusion.

**Size:** 3 feet tall by 6 feet wide and spreading even by tip-layering.

**Transplant type/spacing:** 2-inch pot rooted cuttings at 1-foot spacings, 1-gallon containers at 2-foot spacings, and field-grown B&B (balled and burlapped) plants at 3-foot spacing all provided complete ground coverage within two growing seasons. Rooted cuttings were most economical. This plant is under a patent and is therefore illegal to commercially propagate, which means that liner plants (i.e. rooted cuttings) must be purchased directly from a licensed nursery source.

**Spreading method:** Tip-layers quite well even into mulch without intimate soil contact.

**Ornamental characteristics:** As with most other forsythias, Gold Tide<sup>®</sup>'s two-week period of yellow flowers in the early spring is its most ornamental time. The light lime-



*Forsythia x 'Courtasol' Gold Tide*<sup>®</sup> in flower.



The same planting of *Forsythia x 'Courtasol' Gold Tide*<sup>®</sup> in midseason.

green foliage (not chlorotic, but normal) can also be used effectively as a contrast to plants with darker green foliage.

**Related taxa:** There are many selections of lower-growing *Forsythia*, but none come close to providing the flower show, longevity, or neat, compact habit of Gold Tide®.

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### ***Genista lydia***

**Common names:** common woadwaxen, dyer's greenwood, dwarf broom

**Family:** Fabaceae

**Origin/nativity:** Europe and western Asia.

**Cold hardiness:** Zone 4

**Exposure:** Full sun.

**Soil/cultural tolerances:** Adapts very well to extremely dry, sandy, infertile soils. Can tolerate highly alkaline or highly acidic soils without missing a beat. Exhibits good salt tolerance. Thought to be the cold-hardest species within the genus.

**Growth rate:** Fairly slow, although rooted cuttings placed into a very droughty soil in high summer grew 3 inches that season and about 5 inches on average during the second season. Hand-weeding definitely needed during the first season.

**Size:** 2 feet tall by 3 feet wide in a mounding, cushiony habit.

**Transplant type/spacing:** 2-inch or 4-inch pot rooted cuttings at 1-foot spacing or up to 1-gallon containers at 2-foot spacing. Reportedly difficult to transplant, but we have not found that to be the case.

**Spreading method:** Normal crown growth, with very fine, twiggy branching habit, necessitating close spacing for quick canopy closure.

**Ornamental characteristics:** Very showy, bright, buttery-yellow flowers in mid-spring. The very small, linear leaves and



Top to bottom, *Genista lydia* planting in flower, stems and flowers.

photosynthesizing green stems are interesting upon close inspection and give the plant a very fine-textured, almost grass-like appearance from a distance when used in mass.

**Related taxa:** *Genista tinctoria* is a larger, earlier-blooming species which is not as cold hardy and therefore more reliable in Zone 6. Many other species exist, but are not at all common in American landscapes. These include *Genista hispanica*, *Genista horrida*, *Genista pilosa*, *Genista sagittalis*, and *Genista sylvestris*. They are all certainly worth a try for hot, dry, sandy, sunny groundcover beds in Zones 6 or 7.

### ***Hypericum kalmianum* ‘Ames’**

**Common name:** Kalm St. Johnswort

**Family:** Hypericaceae

**Origin/nativity:** Upper Midwest U.S. and south-central Canada.

**Cold hardiness:** Zone 4. The most cold-hardy species of *Hypericum*.

**Exposure:** Full sun.

**Soil/cultural tolerances:** Performs well in dry, sandy, infertile soils of any pH, as do most *Hypericum*, but can also grow in less well-drained sites, as it grows on lake shores and creek banks in its wild state. Most other *Hypericum* do not handle anything less than good drainage. Somewhat salt tolerant as well.

**Growth rate:** Fast, up to 1 to 2 feet per year in the first growing season from rooted cuttings.

**Size:** 3 feet high by 3 feet wide with a dense, upright, rounded habit.

**Transplant type/spacing:** 2-inch pot rooted cuttings at 1-foot spacing.

**Spreading method:** Crown expansion, so a mass planting of closely spaced individuals works best. In moist sites, modest suckering can occur over time.

**Ornamental characteristics:** Unrivaled in summer for its repeating bloom. Bright yellow, 1-inch flowers with showy yellow stamens adorn the terminal shoots. Will bloom on new wood. So don't be afraid to cut it back hard in early spring if it has become too leggy. The lanceolate leaves of 'Ames' give it an almost grassy texture from a distance. Due to its fine leaf texture, however, it is slow to ever form a dense canopy and therefore is not the best choice for superior weed exclusion.



*Hypericum kalmianum* ‘Ames’

**Related taxa:** Almost too many to name. *Hypericum* is a wonderfully useful genus which has received much greater attention in European gardens than in American landscapes. Some other notable species include *Hypericum erectum*, *Hypericum calycinum*, *Hypericum buckleyi*, *Hypericum androsaemum*, *Hypericum frondosum*, *Hypericum kouytchense*, and *Hypericum olympicum*. None are quite as cold hardy as *Hypericum kalmianum*, but for those in Zone 6, all of these species are worth planting and can be treated culturally in the same manner.



*Hypericum kalmianum* 'Ames' flower.

### ***Indigofera kirilowii***

**Common name:** kirilow indigo

**Family:** Fabaceae

**Origin/nativity:** Northern China, Korea, and Southern Japan.

**Cold hardiness:** Zone 5.

**Exposure:** Full sun to light shade.

**Soil/cultural tolerances:** Performs well in calcareous, highly alkaline soils. Prefers evenly moist soil, but can tolerate slight drought once established. *Indigofera* will also thrive in infertile soils, as it is yet another member of the pea family used in this study which can fix its own nitrogen with the help of the soil bacteria *Rhizobium* spp.

**Growth rate:** Fast, up to 2 feet per year. May die back to the roots in a severe Zone 5 winter, but can quickly recover by means of root suckers. Blooms on new wood so flowering is not affected by winter damage. Eventually forms a gangly mass of erect stems.

**Size:** 3 feet tall and spreads indefinitely by suckers. Appropriate for a large area.

**Transplant type/spacing:** Rooted cuttings at 1- to 2-foot spacing.

**Spreading method:** Root suckers.

**Ornamental characteristics:** Showy racemes of rose pink flowers appear on new wood in midsummer. Variety 'Alba' has white flowers. Foliage is bright green but has no fall color or winter interest to speak of.

**Related taxa:** *Indigofera decora* has larger racemes and usually stays smaller at just under 12 inches. *Indigofera pseudotinctoria* has a smaller overall stature as well.

*Indigofera* x 'Rose Carpet' is a fine selection with darker pink flowers that repeat bloom sporadically throughout the summer.

### ***Itea virginica* 'Sprich' Little Henry™**

**Common name:** Little Henry™ Virginia sweetspire

**Family:** : Take your pick from Iteaceae, Saxifragaceae, Grossulariaceae, or others, as taxonomists love to argue over the correct placement of this genus.

**Origin/nativity:** The cultivar *Itea virginica* 'Henry's Garnet,' from which LITTLE HENRY™ was derived as a branch sport, is a cultivar selected from the species *Itea virginica* which occurs in wet areas throughout the mid-Atlantic and southeastern U.S.

**Cold hardiness:** Zone 5, possibly Zone 4 with protection.

**Exposure:** Full sun to full shade.

**Soil/cultural tolerances:** Very tolerant of poorly drained soils, but can also fare well in drier soils. Tolerates wide range of soil pH though seems to prefer acidic soils in the wild. A great choice for a slightly compacted, hence poorly aerated soil.

**Growth rate:** Fast under good growing conditions. Expect 1 to 2 feet of growth per year on young plants. Good tolerance to partial shade.

**Size:** 3 feet tall by 4 feet wide.

**Transplant type/spacing:** 2-inch or 4-inch pot rooted cuttings at anywhere from 6-inch to 2-foot spacing, depending on the planting budget and the size of the area to be covered. As with all groundcovers, the closer the spacing, the faster the canopy closure and therefore the greater the weed suppression. This plant is under a patent and is therefore illegal to commercially propagate, which means that liner plants (i.e. rooted cuttings) must be purchased directly from a licensed nursery source.

**Spreading method:** Suckers profusely if conditions are favorable, as in moist soils in full sun to partial shade.

**Ornamental characteristics:** A true four season plant, with 4- to 6-inch-long, white racemes in early summer; clean, glossy foliage throughout the season; bright scarlet fall color which can persist well into winter; and reddish-purple winter stem color on the previous season's growth.

### ***Lonicera pileata***

**Common name:** privet honeysuckle

**Family:** Caprifoliaceae

**Origin/nativity:** China

**Cold hardiness:** Zone 6. (Zone 5 if sheltered from winter sun and wind.)

**Exposure:** Full sun to part shade.

**Soil/cultural tolerances:** Tolerates wide range of soil pH. Performs best in moist soils with light shade and some winter protection. Not particularly heat-tolerant, so avoid planting in areas warmer than Zone 7.

**Growth rate:** Fairly slow, especially for a *Lonicera*, with 8 to 10 inches of shoot growth a year common.

**Size:** 2 feet tall by 5 or more feet wide.

**Transplant type/spacing:** 2-inch or 4-inch pot rooted cuttings at 8- to 12-inch spacing. 1- or 2-gallon container plants can also be used.

**Spreading method:** A modest spreader that can occasionally tip layer but more often just grows laterally and lays down more shoots on top of and beside older growth.

**Ornamental characteristics:** Flowers and fruits, which rarely set on plants in American gardens, are not very showy. Best qualities include glossy green foliage (often evergreen in mild climates) and neat, compact appearance. For those looking for a dense, uniform appearance on a groundcover with small leaves and a soft overall texture, this is a reasonable choice.

**Related taxa:** Use care. The genus *Lonicera* is infamous for its invasive tendencies among certain species, with thugs such as *Lonicera tatarica* and *Lonicera japonica* wreaking havoc in many regional ecosystems. However, many species exist within the



genus that are non-invasive and make wonderful, behaved, landscape plants. Most do not lend themselves to groundcover applications as well as *Lonicera pileata*.

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### ***Paxistima canbyi***

**Common names:** cliff green, mountain lover, rat stripper. Aren't common names great?

**Family:**

Celastraceae

**Origin/nativity:** Central Appalachian Mountains

**Cold hardiness:** Zone 3.

**Exposure:** Full sun to part shade.

**Soil/cultural tolerances:**

Extremely tolerant of high pH soils. Found growing in its native range on limestone outcroppings. Drought-tolerant once established but grows best in an evenly moist, well-drained soil. Will absolutely not handle poor drainage. Surprisingly good salt tolerance was observed along roadside plantings in Ithaca.

**Growth rate:** Very slow, with 1 to 3 inches of growth per season maximum. For this reason, not a great weed excluder, but very useful in dry shade.

**Size:** 12 inches tall by 4 feet wide after many years.

**Transplant type/spacing:** Easily transplanted.

But due to its slow growth rate, spacing should be kept close, around 6 to 8 inches if using rooted cuttings or small container plants. We used 3-quart container plants with good results.

**Spreading method:** Simple shoot expansion and occasional tip-layering in moist, well-drained soils.

**Ornamental characteristics:** *Paxistima canbyi* is reliably evergreen, with winter foliage changing to a pleasant bronze. Flower and fruit are nothing to write home about. As with *Lonicera pileata*, if you like small-leaved plants with a uniform neatness, the rat stripper is an excellent choice.



*Paxistima canbyi*



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### **Rosa Landcruiser™ Series**

**Common name:** Landcruiser™ roses

**Family:** Rosaceae

**Origin/nativity:** Hybrids of complex parentage, as are most modern landscape roses.

**Cold hardiness:** Zone 5 at least, but this will vary somewhat from cultivar to cultivar as further hardiness data becomes available.

**Exposure:** Full sun.

**Soil/cultural tolerances:** Prefer acid, loamy, evenly moist soil, although they have grown quite well in neutral to slightly alkaline soils in Ithaca. Won't tolerate poor drainage.

**Growth rate:** Extremely vigorous, with both upright-arching and procumbent canes growing 5 to 6 feet or more with good lateral branching within the first growing season from bare root planting.

**Size:** On average, 3 feet tall by 6 to 8 feet wide.

**Transplant type/spacing:** Bareroot plants spaced at least 3 feet on center provides dense coverage within two growing seasons.

**Spreading method:** Lateral growth, with occasional tip-layering.

**Ornamental characteristics:** A variety of flower colors exists within the series. Some will repeat bloom several times throughout the season, especially if they are pruned hard after their first bloom period, although for the best coverage and weed suppression, this is not a recommended cultural practice.

**Comments:** The Landcruiser™ Series is a new line of roses from Bailey Nurseries which is still “in the works.” We trialed about six different selections for their rose breeding and evaluation program. All performed well, with good to excellent disease resistance depending on the variety. Keep an eye out for these roses as they become available in the trade within the next several years, after which time more specific cold hardiness and disease resistance information for various growing regions can be gained.



Dwarf pavement roses

**Related taxa:** Other ground-covering roses that deserve merit include:

The Pavement Series (unfortunate translation from the German) of *Rosa rugosa* hybrids. Selected in Germany, the smallest cultivar ('Dwarf Pavement') grows to 3 feet tall. *Rosa rugosa* has long been known for its drought tolerance, disease resistance, and salt tolerance. It is wonderful that these roses now exist in a compact, spreading form.

*Rosa wichuriana* is a vigorous, procumbent rose native to Japan which is often used for soil and bank stabilization. It, too, offers excellent disease resistance, and has been a breeding parent of many of our modern climbing and rambling roses.

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### ***Rhus aromatica* 'Gro-low'**

**Common name:** 'Gro-low' fragrant sumac

**Family:** Anacardiaceae

**Origin/nativity:** Selected from species native to most of eastern North America.

**Cold hardiness:** Zone 3

**Exposure:** Full sun to part shade.

**Soil/cultural tolerances:** Extremely adaptable, and although reports in the literature suggest it favors acid soils, we have found it to grow wonderfully in disturbed urban soils with a pH as high as 8.4. Prefers full sun but can remain dense and vigorous in partial shade. Performs well in loamy and sandy soils and is very drought tolerant, but does not fare as well in heavy clay soils with poor drainage.

**Growth rate:** Incredibly vigorous, exceeding 2 to 3 feet per year even on older plants. A mass planting of this groundcover in a median strip in Ithaca grows over the curb and into the street and is pruned continually by car tires.

**Size:** 3 feet tall by 6 feet or more wide in only two growing seasons from rooted cuttings.

**Transplant type/spacing:** 2-inch pot rooted cuttings at spacing of up to 3 feet on center.

**Spreading method:** Prodigious tip-layering and suckering. Suspected to be allelopathic. (Roots may exude compounds that inhibit germination of and/or are toxic to other plants.)

**Ornamental characteristics:** Yellow catkins on male plants and small yellow panicles on female plants in early to mid-spring. At its best in fall with bright red color developing very late, after most other deciduous plants have finished their show. Leaf emergence in spring is also late. Wait until at least early summer until you decide whether it is dead or not. Chances are you cannot kill this plant anyway.

***Salix arenaria*** (syn. *Salix repens* ssp. *arenaria*; *Salix repens* var. *argentea*)

**Common name:** creeping silver willow

**Family:** Salicaceae

**Origin/nativity:** Northern European Atlantic coastal areas into the North Sea and Baltic Sea. Also found in the moorlands of Scotland.

**Cold hardiness:** Zone 5 (possibly Zone 4).

**Exposure:** Full sun.

**Soil/cultural tolerances:** Native to sandy, acidic, coastal soils. Adaptable to most soil pH ranges and soil textures. Will not grow well in poorly drained clays with a pH above 8.4. Not shade tolerant.

**Growth rate:** Fairly slow, even while young. Expect 8 to 12 inches per year at most for the first two growing seasons, and a slower rate thereafter.



*Salix arenaria*



**Size:** 2 feet tall by 5 feet wide after several years

**Transplant type/spacing:** 2-inch pot rooted cuttings at 8 to 12-inch spacing.

**Spreading method:** Lateral, decumbent growth will easily tip-layer. The main stems emerging from the crown are decidedly prostrate, almost stoloniferous in appearance.

**Ornamental characteristics:** Highly pubescent, silvery leaves shine in the sunlight. Most all plants in the trade are males, whose yellow-anthered catkins are highly decorative in the early spring, especially as a foil to the newly emerging silver leaves.

**Related taxa/comments:** Many fine willows exist that can be put to great use as groundcovers, either because of their natural habit or our pruning. As a genus, we would probably say that in this study the willows have proven the most useful and ornamental for a wide range of very difficult sites. Note that most of the willows listed here are not the large-growing, water-hogging, floodplain species most people think of, but are mostly smallish, drought-tolerant plants. Truly, the diversity within the genus *Salix* is astounding.

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### ***Salix x grahamii* 'Moorei'**

**Common name:** 'Moorei' Graham's willow

**Family:** Salicaceae

**Origin/nativity:** Hybrid from Sutherland in Scotland.

**Cold hardiness:** Zone 4

**Exposure:** Full sun.

**Soil/cultural tolerances:** This hybrid alpine willow prefers well-drained, loose soils, but will adapt well to any soil pH or texture as long as drainage is sufficient.

**Growth rate:** On average, about 12 to 18 inches per year with proper cultural conditions.

**Size:** 1 foot tall by 5 feet wide after several years.

**Transplant type/spacing:** 2- or 4-inch pot rooted cuttings at 8- to 12-inch spacing.

**Spreading method:** Lateral, decumbent growth which, as for most willows, will easily tip-layer. Modest suckering-type from the immediate base of the crown has also been observed.

**Ornamental characteristics:** Dark-green, rounded, glossy leaves are very attractive. All known 'Moorei' willows in the trade are females, bearing small, grayish-white catkins appearing in early spring. This cultivar will form a dense, prostrate mat, and is the most closely ground-hugging willow in this study.

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### ***Salix purpurea* 'Pendula'**

**Common name:** weeping purple willow, weeping basket willow.

**Family:** Salicaceae

**Origin/nativity:** Europe, northern Africa, central Asia, and Japan.

**Cold hardiness:** Zone 5.

**Exposure:** Full sun

**Soil/cultural tolerances:** Extremely tolerant of both poor drainage and



*Salix purpurea* 'Pendula'

prolonged drought. Soil pH adaptable. Very deer resistant, as the stems contain high amounts of extremely bitter-tasting salicylic acid, the compound from which pharmaceutical companies derive aspirin. As with most willows, not shade tolerant.

**Growth rate:** Almost too fast, with arching branches growing apically 6 feet or more in a single growing season, with accompanying lateral shoot growth as well. For this reason, *Salix purpurea* 'Pendula' requires coppicing (cutting back to within 6 inches of the ground) every two or three years or it will start to send up erect shoots which will eventually become too tall for the groundcover bed. This cultivar can also be trained into a handsome espalier or small weeping tree in other garden settings.

**Size:** 3 feet tall by 10 feet wide in as little as two years.

**Transplant type/spacing:** 2-inch pot rooted cuttings at 2- to 4-foot spacing or more.

**Spreading method:** Lateral, arching shoot growth will easily tip-layer in moist soils. Also a negligible amount of root suckering.

**Ornamental characteristics:** Ah, where to begin? Beautiful linear, blue-green foliage contrasts wonderfully with the reddish-purple stems of the current season's growth. As stems age, they change to a dull grayish-brown color. Coppicing will help maintain the brighter stems. The stems are extremely flexible, which sway nicely in the breeze and give the groundcover bed a sense of movement. Represented in cultivation as a female clone bearing 1-inch, grayish catkins in early spring.

**Related taxa/comments:** 'Streamco' is a USDA Soil Conservation Service selection used for bank stabilization. It certainly will fulfill this purpose, but will need to be coppiced annually to prevent it from reaching its 12- to 15-foot mature height. 'Nana' is another cultivar which, although its name would indicate a relatively dwarf plant, will still reach 6 to 8 feet tall requiring annual coppicing. As a species, *Salix purpurea* is one of the most versatile, culturally tolerant, fastest growing, and ornamentally beautiful of all the various plants (not just willows) listed in this study.

### ***Salix repens* 'Voorthuizen'**

**Common name:** 'Voorthuizen' creeping willow

**Family:** Salicaceae

**Origin/nativity:** A Dutch selection, the species occurs throughout Europe.

**Cold hardiness:** Zone 5.

**Exposure:** Full sun.

**Soil/cultural tolerances:** Prefers an acidic, well-drained, loose soil in full sun, although it has performed well in one test site in Ithaca in moderately-drained clay loam, receiving only 3 hours of direct sun.

**Growth rate:** Slow, at up to 3 inches per season, with internodes as short as 1/16 inch and very small leaves.

**Size:** 6 inches high by 2 to 3 feet or more wide over time.

**Transplant type/spacing:** 2- or 4-inch pot rooted cuttings or small containerized plants at 6- to 8-inch spacings.

**Spreading method:** Prostrate, lateral growth with some tip-layering noted.

**Ornamental characteristics:** Very diminutive stature with a cushiony habit gives this plant an interesting appearance. Recent stems are a reddish. Leaves are dark green above and silvery-pubescent below, although close inspection is required to notice this. 'Voorthuizen' is a female clone with very minute white catkins in early spring.

**Related taxa:** In general, *Salix repens* is best used as a groundcover in a rock garden-type context. Too small and slow growing to be used in mass on roadsides or other

large areas, it makes a terrific groundcover for small spaces in between stepping stones or in small raised planters. When not in bloom (the catkins are a giveaway as to the identity of its genus), it is a terrific plant with which to stump your know-it-all horticulturist friend. Other worthy cultivars of diminutive *Salix repens* include 'Iona' (male), 'Boyd's Pendulous' (male), and 'Lundy' (female).

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### ***Spiraea decumbens* and other Spiraeas**

**Common name:** spreading spiraea

**Family:** Rosaceae

**Origin/nativity:** Southeastern alpine regions of Europe.

**Cold hardiness:** Zone 5.

**Exposure:** Full sun to part shade.

**Soil/cultural tolerances:** Native to limestone soils, *Spiraea decumbens* tolerates high pH soil and (once established) drought. Prefers full sun but does well in part shade underneath small deciduous trees in Ithaca.

**Growth rate:** Very slow during its first year of establishment. Expect 6 to 8 inches per year thereafter.

**Size:** 18 inches tall and up to 5 feet wide at maturity.

**Transplant type/spacing:** Rooted cuttings at 8-inch to 2-foot spacings.

**Spreading method:** Will tip-layer well along prostrate shoots and after several years of establishment can occasionally sucker.

**Ornamental characteristics:** White inflorescences in mid-spring with attractive bluish-green leaves. Fall color is a soft buttery yellow in a good year.

**Related taxa/comments:** *S. decumbens* 'White Lace' is more floriferous and has same growth habit and cold hardiness as the species. *S. japonica* 'Magic Carpet', 'Goldmound' and 'Little Princess' are other compact, low-growing spiraea cultivars of merit.



Top to bottom, *Spiraea decumbens*,  
S. 'Magic Carpet', S. 'Little  
Princess', S. 'Goldmound'.

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### ***Stephanandra incisa* 'Crispa'**

**Common name:** cutleaf stephanandra

**Family:** Rosaceae

**Origin/nativity:** Japan and Korea.

**Cold hardiness:** Zone 4.

**Exposure:** Full sun to part shade.

**Soil/cultural tolerances:** Requires acidic, moist, well-drained soils. Leaf chlorosis will result in soil with pH above neutral, although the resulting yellow foliage is not terribly unattractive if uniform throughout the planting and will not hurt the vigor of the plant.

Best in full sun, but will tolerate light shade.

**Growth rate:** Fast. 2 to 3 feet per year common.

**Size:** 2 to 3 feet tall, spreading indefinitely.

**Transplant type/spacing:** Rooted cuttings or small containerized plants transplant easily. Because of the vigor and tip-layering ability of this species, 2- to 3-foot spacing on center is reasonable.

**Spreading method:** Tip-layers profusely wherever it touches the ground. Forms an amazingly dense, tangled cushion of stems on which one could almost sleep comfortably supported.

**Ornamental characteristics:** Leaves have an interesting incised (cut) margin. In good years, develops reddish-orange fall color.

**Related taxa:** *Stephanandra* x Oro Verde™ is a new, low-growing, patented cultivar from Holland and is a cross between *Stephanandra incisa* 'Crispa' and the larger-growing *Stephanandra tanakae*. Only time will tell how this new hybrid will perform in American landscapes, as it is just now starting to make its way into the trade.

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### ***Symphoricarpos* x *chenaultii* 'Hancock'**

**Common name:** 'Hancock' snowberry

**Family:** Caprifoliaceae

**Origin/nativity:** Southern and central Canada south to Minnesota and Virginia.

**Cold hardiness:** Zone 4.

**Exposure:** Full sun to part shade.

**Soil/cultural tolerances:** Amazingly adaptable. Found in its native range on alkaline, heavy clays. Transplants very easily.

**Growth rate:** Very vigorous, with arching stems growing 2 to 4 or more feet in a season. Suckers profusely and needs to be rejuvenated by basal pruning every few years to maintain a compact habit and increase flowers/fruit, which occur on new wood.

**Size:** 3 feet tall and up to 10 feet wide if properly maintained.

**Transplant type/spacing:** 2- or 4-inch pot rooted cuttings at 1- to 2-foot spacing on center.

**Spreading method:** You name it. Suckers profusely, even in shade. Sends out prostrate juvenile shoots which root continuously at nodes, in addition to more upright-



*Symphoricarpos* x *chenaultii* 'Hancock'

arching shoots which branch laterally and can then tip-layer whenever they come into contact with the ground.

**Ornamental characteristics:** ‘Hancock’ has attractive, semi-persistent, rose-colored fruit (as opposed to the species, which usually has white fruit). Hard pruning in early spring will encourage better flower and fruit set. Bears small, pink flowers in late spring. ‘Hancock’ shows good powdery-mildew resistance, a great benefit to any plant cultured in the shade.

**Related taxa:** The native species

*Symphoricarpos albus* and *Symphoricarpos orbiculatus* are not nearly as low-growing, disease-resistant, or floriferous as ‘Hancock.’ *Symphoricarpos x doorenbosii* ‘Magic Berry’ is a hybrid cultivar of merit, but will grow 5 to 6 feet tall if unpruned.



*Symphoricarpos x chenaultii* ‘Hancock’

### ***Vitex rotundifolia***

**Common name:** creeping chastetree

**Family:** Verbenaceae

**Origin/nativity:** Coastal areas of Eastern Asia south to Australia.

**Cold hardiness:** Reportedly hardy only to Zone 7, it has proved reliably root hardy to Zone 5.

**Exposure:** Full sun.

**Soil/cultural tolerances:** Extremely salt- and drought-tolerant. It is growing well in Ithaca on a large south-facing slope in a well-drained, sandy-clay loam with a pH of 7.6.

**Growth rate:** Slow early in the growing season. But explodes once the ground dries and soil and air temperatures increase in early summer, putting on 3 to 4 feet of growth. In protected sites within Zone 6, this species will be stem hardy throughout the winter and form a dense, “permanent” groundcover with the same rate of growth throughout the growing season.

**Size:** 1 to 2 feet tall by 6 or more feet wide, spreading almost indefinitely in warmer climates.

**Transplant type/spacing:** In Zone 5, space 2- or 4-inch pot rooted cuttings 8 to 12 inches apart so that ground will be re-covered each season. In Zone 6 or warmer, 1- to 2-feet spacings are reasonable.

**Spreading method:** In warmer climates, suckering can be profuse, and a taller overall habit can be expected. In colder climates at the northern end of its range, expect only lateral shoot expansion.

**Ornamental characteristics:** Interesting rounded, blue-green leaves followed by racemes of violet-purple flowers on new wood in summer. A wonderful summer flower display when massed next to any of the *Hypericum* in a groundcover planting.



***Weigela florida* 'Elvera' Midnight Wine™**

**Common name:** Midnight Wine™ old fashioned weigela

**Family:** Caprifoliaceae

**Origin/nativity:** A complex hybrid cultivar. Parent species native to Japan.

**Cold hardiness:** Zone 4.

**Exposure:** Full sun.

**Soil/cultural tolerances:** Prefers moist, well-drained soil, but very adaptable to soil pH and texture.

**Growth rate:** : 6 to 12 inches per year on average.

**Size:** 18 inches tall by 2 feet wide over several years.

**Transplant type/spacing:** 4-inch pot rooted cuttings at no greater than 1-foot spacing. This plant is still under patent, so propagation of cuttings is illegal. Purchase rooted cuttings directly from licensed liner sources.

**Spreading method:** This plant will not sucker or tip-layer as many other groundcovers in this study. Best used in mass, planted at close spacings.

**Ornamental characteristics:** Beautiful dark-purple foliage throughout the growing season. Pink flowers in mid spring. This is not a plant for fall or winter interest, however.



*Weigela* 'Minuet'

**Related taxa:** 'Minuet' is green-leaved, dwarf selection of *Weigela* which is not under patent and can be more easily and cheaply obtained from nursery sources or propagated without penalty. 'Java Red' is another purple-leaved, dwarf cultivar.

***Xanthorrhiza simplicissima***

**Common name:** Yellowroot

**Family:** Ranunculaceae

**Origin/nativity:** Eastern U.S. from New York to Florida.

**Cold hardiness:** Zone 3

**Exposure:** Full sun to part shade.

**Soil/cultural tolerances:** Thrives in moist, acidic (pH<7.0) soils in its native habitat. Will grow in heavy soils, although much less vigorously. Will develop chlorosis in alkaline (pH>7.0) soils. Tolerates occasional flooding. Good for creek banks and watercourses.

**Growth rate:** Fast once established, especially in its preferred cultural setting.

**Size:** 2 to 3 feet tall and suckering indefinitely.

**Transplant type/spacing:** 2- or 4-inch pot rooted cuttings at 12- to 18-inch spacing.

**Spreading method:** Suckers freely even when newly transplanted.

**Ornamental characteristics:** Summer foliage is a wonderful bright green, changing to a bright orange-yellow in fall, persisting late into the season and sometimes into early winter, similar to *Rhus aromatica* 'Grow-lo.'

## More information:

Many excellent reference works exist on the topic of groundcovers. Here are five that we have found to be the most useful:

- Dirr, Michael. *Manual of Woody Landscape Plants: Their Identification, Ornamental Characteristics, Culture, Propagation, and Uses*. Stipes, Champaign, IL. 1990.
- MacKenzie, David S. *Perennial Groundcovers*. Timber Press, Portland, OR. 1997.
- Michener, David, et.al. *Taylor's Guide to Groundcovers*. Houghton-Mifflin, Boston. MA. 2001.
- Roach, Margaret. *Groundcovers*. Prentice-Hall, New York, NY. 1993.
- Wyman, Donald. *Groundcover Plants*. Macmillan, New York, NY. 1956.

For more pictures and information about many of the recommended cultivars, see:

- Cornell Woody Plant database  
[www.landscape.cornell.edu:591/491Website/search4912.html](http://www.landscape.cornell.edu:591/491Website/search4912.html)
- University of Connecticut Plant Database of Trees, Shrubs and Vines  
[www.hort.uconn.edu/plants](http://www.hort.uconn.edu/plants)

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