



# GROUND COVERS FOR KENTUCKY LANDSCAPES

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“Ground cover” is a term that describes a wide variety of plants useful for special planting situations. A common characteristic of all ground covers is uniform growth that covers the ground with enough density to compete well with weedy plants.

Naturally-occurring ground covers are a delight, although we may often miss the fact that they are indeed serving as ground covers. Think of mixed assortments of perennial flowers and ferns in a wooded area or snowberry blanketing steep slopes along road cuts.

Ground covers are valuable in special sites where turf grass will not thrive, where regular turf maintenance (mowing) is a problem, or where a diversity of color and texture are desirable. Use of woody shrubs, vines, and herbaceous perennials as ground covers has become increasingly popular in residential and commercial landscapes and along highways. They can be deciduous or evergreen, broadleaved or needle-leaved, three feet tall or ground huggers. Most of the time, ground covers serve to refine gardens, to give that final perfect look to an already well-planned landscape.

This publication provides general cultural information about ground covers, lists of ground covers for specific sites, and individual plant descriptions.

## *Designing with Ground Covers*

Ground covers are well-suited for creating landscape patterns. Because many ground covers are low and dense, they can be used in broad, flowing curves, geometric-shaped patches, graceful sloping areas, special carpeting patterns, or anything else that is appropriate in the overall design. As a design element, ground covers work best as a unifying feature for garden beds. Individual trees and shrubs in a landscape are tied together as a unified group by a common mat of ground cover.

Many contrasts and associations can be created with ground covers. You can use ground covers:

- *with lawn*
- *with other ground covers*
- *with trees, shrubs, and vines; and*
- *with annuals and perennials.*

Color and texture offered by ground covers give the designer additional choices. There is a wide array of foliage textures and colors, as well as seasonal flowers and showy fruit.

Ground covers may function as traffic barriers because they do not invite you to walk on them as turf grasses do, yet they are low enough not to be a sight barrier. In this capacity, they give the added benefit of keeping lawnmowers and string trimmers away from valuable woody and herbaceous plants.

## *Soil*

Ground covers grow in close proximity, so well-drained soil and soil with proper nutrient content are two important objectives to achieve before planting. After deciding on your planting site, take a soil sample to your county Extension office to have it tested for pH and fertility. Many county Extension offices have soil probes that can be borrowed for taking soil samples. Otherwise, push a spade seven inches into the soil and throw the soil aside. Take another 1-inch slice of soil from the back of the hole to its full depth. Remove all soil but the center 1- to 2-inch-wide core. Place this core of soil in a clean bucket. Repeat the procedure in different spots within the planting site to get a representative sample of the whole site. Mix the composite sample well, and put it on some paper to dry for several days. Then take it to your county Extension office for analysis. The cost of the soil test varies with the number of elements tested, but at a minimum phosphorous, potassium, and pH analyses should be requested.

## *Soil Preparation*

Preparing the soil for planting is a must, and one should never be satisfied to live with an unfavorable soil. The extra effort taken before planting often determines success or failure.

**Step 1: Weeding.** Remove all plants from the planting area that will interfere with the growth of ground covers. Hoeing will get rid of shallow-rooted weeds, but deep-rooted weeds, like dandelions, must be dug out by hand or

hoed very deeply to remove the whole root or rhizome. If tilling is desirable, do it to a depth of six inches if possible, incorporating organic matter at the same time. If problematic weeds like bermudagrass are in the area to be tilled, kill them first because tilling will help propagate them and guarantee infestation.

Sometimes it is appropriate to kill existing vegetation completely and plant directly into dead sod. The post-emergence systemic herbicide glyphosate (Roundup®) can be used for control of most annual and perennial weeds. Be sure to follow label directions exactly, and carefully avoid plants that are to remain in the site while spraying glyphosate. If weeds or grasses show signs of regrowth, spot spray with glyphosate as necessary for complete kill.

If you prefer non-chemical means of getting rid of the vegetation, cover the area with newspapers or black plastic for at least two weeks to smother the plants that are there. It is appropriate to plant directly into dead sod in four instances:

- *if the existing soil structure is desirable (original topsoil, not compacted, good soil particle aggregation, and channeling by earthworms)*
- *if the area is steeply sloping,*
- *if minimum disturbance of shrub and tree roots is important, and*
- *if there is concern about soil moisture conservation.*

**Step 2: Adding amendments.** “Good soil” means good drainage, soil that has air available to roots. Roots do not develop unless oxygen and moisture are constantly available to them. This ideal situation is realized by adding organic matter to the soil. Amend the soil in level or gently sloping sites with chunky organic matter (wood products, peat moss, animal manure).

Ideally, organic matter should be added in the fall, left alone until spring to decompose, then tilled in to add humus to the soil. Fall or winter is also the time to add any material to alter pH (see section on pH below) and phosphorous and potassium fertilizer, if needed.

Spade or till all amendments and fertilizers into the soil to a depth of about 9-12 inches, rake the soil smooth, and water it. If low spots appear after watering, fill them in before planting.

**Step 3: Digging the Soil.** Dig or till the planting area if the site is level or only slightly sloping. Try to incorporate as much organic matter as possible while digging or tilling. Remove rocks, roots, buried construction debris, and any other foreign matter. Grade level or slightly sloping sites with a rake to eliminate humps and fill in hollows.

On steep slopes, leave the soil surface as undisturbed as possible to minimize soil erosion. Erosion of the soil will cause tremendous problems. Dig planting pockets for each plant, and mulch well over the entire area (two inches deep) once plants are in place.

## **Soil pH**

Soil acidity is measured as “pH.” Soil pH is an index of the amount of acidity present; the pH scale ranges from 0 to 14. At pH 7, soil is neutral. At pH levels below 7, soil is acid, and at pH levels above 7, it is alkaline. Most nutrients required for plant growth are available to plants within certain pH ranges. If the pH level is not correct for your plants, they may not be able to take advantage of the nutrients in the soil. A soil pH between 5 and 7 is within the range of adaptation for most ground covers. To raise pH, lime is added; to lower pH, sulfur is added. For details on changing soil pH, see University of Kentucky Cooperative Extension Service Publication ID-72, *Principles of Home Landscape Fertilization*.

## **Planting and Maintenance**

### **Planting Slopes**

When planting slopes, it is critical to keep the soil in place until the plants are able to better control erosion. Some methods of planting that help keep the soil in place include:

- **digging planting pockets** rather than complete tilling.
- **planting in staggered rows.** Staggered plants do not allow water to run off in a straight line.
- **mulching the entire area** once plants are in place.
- **using netting** such as jute to hold the plants and mulch in place. Jute comes in 4 to 6 ft. wide rolls that can be unrolled from the top of the hill and held in place with wire staples or coat hangers cut and bent into U-shaped fasteners.

### **Mulch**

The primary reasons for applying a mulch at planting are soil and water conservation, weed control, moderation of soil temperature extremes, and reducing the chance of lawn-mower damage to plants. In addition to these benefits, organic mulches add organic matter (humus) to the top layer of soil. Humus helps improve soil structure, water retention, and oxygen diffusion.

Mulch applied at a depth of two to four inches at planting must be reapplied to maintain that depth. The frequency of application depends on the type of mulch used.

### **Types of Mulch**

Commonly used mulches are wood chips, conifer bark products, cypress bark, and hardwood bark. Other types of mulches are shredded leaves, stone, and pine needles.

**Wood Chips.** Wood chips are often readily available and free; however, they lack uniformity since they may come from different sources. Also, they tend to lose much of their decorative appearance with time, weathering to a gray color. They tend to decompose rapidly. A three-inch layer may completely disappear in one growing season.

**Bark.** Commercial bark mulches have greater uniformity and longevity and are readily available. They

are attractive and are resistant to compaction and blowing in the wind. Bark mulches are often by-products of milled hardwood or conifer logs. They are available in three grades: bark chunks or nuggets (decorative bark), bark granules (soil conditioner), and shredded bark. The highest quality mulches have a high bark-to-wood ratio. Bark decomposes much slower than wood chips. Full-sized nuggets last the longest of these three.

**Pine Needles.** In the Southeast, pine needle mulch is often used. Pine needles decompose slowly, are resistant to compaction, and are easy to apply. Over time, pine needles will lower soil pH, so use them around acid-loving plants.

**Leaves.** Shredded leaves can be used as a summer mulch, but they are not long-lasting and need to be applied every year. Leaves should be shredded and allowed to partially rot before use. If not shredded finely enough, leaves can mat together and block water penetration and oxygen diffusion into the soil.

**Mineral Mulches.** Crushed stone, gravel, or volcanic rock can be used if increasing organic matter content of soil is not a concern. Mineral mulches are very persistent, do not harbor weed seeds or diseases, and are not blown about by the wind. However, they are not suitable for many ground cover areas. Unless underlaid with a landscape fabric (generally NOT a recommended practice), they migrate down into the soil over time. Also, individual particles can be thrown by lawn mowers, possibly causing injury. Limestone chips raise soil pH and should not be used around acid-loving plants. You could try a living mulch of flowering annuals or organic mulch while the ground cover is filling the area, which is more satisfactory in most cases than using landscape fabrics and mineral mulch.

In the past, plastic films have been placed under organic or mineral mulches to aid in weed control. This practice has fallen out of favor due to poor growth of ground covers after several years.

**Landscape Fabrics.** Landscape fabrics also have their drawbacks. Although fabrics allow water and oxygen to penetrate and inhibit some weed growth, over a period of time weeds penetrate the fabric as well as grow in the organic matter on top of the fabric. Use of fabrics for ground cover plantings around trees may harm the tree because tree roots will grow along the soil surface just under the fabric. If these roots dry out, the tree will suffer.

For ground covers listed in this publication, mulching over plants in late fall for winter protection is not necessary. Kentucky does not receive excessive drying winter winds in a normal year. However, mulch helps prevent plants from heaving out of the ground due to alternate freezing and thawing of soil.

## Weeds

Weeds offer greater frustration to gardeners than any other problem. Until newly planted ground covers are dense enough to compete aggressively with weeds, hand-weeding (especially early in spring) is a must. Mulches

applied to the soil surface after planting and replenished every year or two help stave off weeds, especially annual types. It also makes pulling weeds by hand easier. Walking through the garden area weekly and immediately pulling weeds is a good practice, by far the most practical recommendation for homeowners.

One pre-emergent type herbicide that is readily available to homeowners is trifluralin (Preen®). All of the others listed on page 12 are sold to commercially licensed pesticide applicators only.

## Fertilizers

An all-purpose fertilizer should be added at the time of bed preparation and planting. A 5-10-10 or 10-10-10 (nitrogen-phosphorous-potassium) fertilizer worked into the soil at planting gets plants off to a good start. A reasonable amount of 5-10-10 is 4 to 5 lb. per 100 sq. ft.; if using 10-10-10, use 2 to 2 1/2 lb. per 100 sq. ft.

Annual fertilization of ground covers may or may not be necessary; plant performance is the key to making this call. Sparse plantings where additional filling-in is desired should be fertilized once a year, in late fall when plants are dormant (late October-early November). The same rate as mentioned above is a good starting point.

Other indicators of nutrient-deficient plants are minimal growth, small yellowish-green leaves, premature leaf drop, and poor flowering. If the ground cover is thriving and additional growth is not desired, little or no fertility is required. A minimal annual fertility program would be 1 lb. of 5-10-10 per 100 sq. ft. or 0.5 lb. of 10-10-10 per 100 sq. ft.

## Spacing

No hard and fast rules can be given for proper spacing of ground cover plants. Recommended spacings for each plant are given in the plant descriptions to follow. This is a start, but variations of this recommendation are necessary depending on the effect wanted, how quickly you want the effect, location of planting (i.e., front door vs. hill in back yard), available funds, etc. Some woody ground covers mound up if they are placed too closely together (i.e., junipers, *Stephanandra*), and pruning may become necessary to achieve the desired effect. Otherwise, some plants need to be moved when crowding becomes a problem.

## Propagation

Sometimes bare spots develop in the ground cover bed, or you may decide to enlarge the bed a little. To get additional plants, you may wish to propagate plants from your existing bed. This is usually simply done by dividing clumps of established plants and spacing the divisions in areas where they are needed.

If division is not feasible for some plants, you can take cuttings from late spring through early fall, root them, and plant them once a good root system is established. The best

season for cuttings varies with the plant type, but most cuttings of herbaceous perennials and deciduous woody plants are taken when the shoot snaps in two when bent. These can be dipped into rooting hormone; placed in moistened, sterile, loose medium in the shade; and rooted.

Evergreen conifers (i.e., junipers) are best rooted while they are dormant during the months of December through February. Since cuttings do not have roots at first to take up water, it is essential that they be kept in a humid environment until roots develop. This can be achieved by misting the cuttings or covering them with clear plastic.

Layering works well for some plants. Some plants layer (and thus spread) naturally when roots form at joints or along the stem as they touch the soil. To layer a plant, hold the stem you want to layer next to the soil with a cut paper clip, bent hair pin, stake, or some other creative method you devise. Mound several inches of soil over the lowest point, keep it moist during dry periods, and—once roots have formed—cut it from the parent plant, and move it to the desired location.

For more information on propagating ornamental plants at home, see University of Kentucky Cooperative Extension Service Publication HO-67, *Propagating Plants In and Around the Home*.

## **Maintenance**

Ground covers do not thrive on neglect any more than any other plant. Even lawns require weekly attention, and so do ground covers. Maintenance includes:

- *watering during dry periods,*
- *pruning to rejuvenate new growth,*
- *edging beds to keep ground covers within boundaries,*
- *weeding, and*
- *watching closely for disease and insect problems.*

Most disease and insect infestations are not serious enough to harm the health and appearance of ground covers. Natural enemies do a lot to keep problem pests from becoming too serious. Non-chemical controls include pruning out and removing pest-infested plant parts from the area, reducing fertility and watering regimes if excessive amounts of new succulent growth (disease- and insect-prone tissues) are produced, and hand-picking insects and diseased leaves from the ground cover.

If chemical controls become necessary, seek help from your county Extension agent or garden center/nursery personnel for labeled and approved practices.

## **Lists of Ground Covers**

The following lists of ground covers are all hardy in Kentucky. They are organized by specific cultural requirements (sun, shade, water-thrifty, etc.) Ground covers listed under sun and shade headings are further divided by height. Individual plants may appear in more than one list.

Following the lists are detailed descriptions of the individual plants, including height, leaf and flower

descriptions, specific cultural requirements, spacing, and cultivars.

## **FLOWERING GROUND COVERS**

### **Spring (March through May):**

*Ajuga reptans* (Ajuga, Carpet Bugle)  
*Alchemilla mollis* (Lady's Mantle)  
*Arctostaphylos uva-ursi* (Bearberry, Kinnikinnick)  
*Aronia arbutifolia* 'Brilliantissima' (Red Chokecherry)  
*A. melanocarpa* (Black Chokecherry)  
*Astilbe* spp. (Astilbe)  
*Brunnera macrophylla* (Siberian Bugloss)  
*Chaenomeles japonica* (Japanese Flowering Quince)  
*Chrysogonum virginianum* (Green and Gold, Goldenstar)  
*Convallaria majalis* (Lily-of-the-Valley)  
*Cornus canadensis* (Bunchberry)  
*Cotoneaster dammeri* 'Lowfast,' 'Skogholm' (Bearberry Cotoneaster)  
*C. salicifolia* (Willowleaf Cotoneaster)  
*C. adpressus* (Creeping Cotoneaster)  
*Dicentra eximia* (Fringed Bleeding Heart)  
*Epimedium x rubrum* (Barrenwort, Bishop's Hat)  
*E. x versicolor* (Barrenwort, Bishop's Hat)  
*Forsythia viridissima* 'Bronxensis' (Bronx Forsythia)  
*Forsythia* 'Arnold Dwarf' (Arnold Dwarf Forsythia)  
*Galium odoratum* (Sweet Woodruff)  
*Gaultheria procumbens* (Wintergreen)  
*Geranium* spp. (Cranesbill, Hardy Geranium)  
*Iberis sempervirens* (Perennial Candytuft)  
*Lamium maculatum* 'Alba,' 'Beacon Silver,' 'White Nancy,' 'Chequers' (Spotted Deadnettle)  
*Lonicera japonica* 'Halliana' (Hall's Honeysuckle)  
*Mahonia aquifolium* (Oregon Grape Holly)  
*Pachysandra terminalis* (Pachysandra, Japanese Spurge)  
*P. procumbens* (Alleghany Pachysandra)  
*Phlox subulata* (Moss pink, Ground pink)  
*Pulmonaria* spp. (Lungwort)  
*Rhus aromatica* 'Low-Gro' (Fragrant Sumac)  
*Stephanandra incisa* 'Crispa' (Crisp Cutleaf Stephanandra)  
*Tiarella* spp. (False Miterwort, Foamflower)  
*Viburnum opulus* 'Nana' (Dwarf European Cranberrybush Viburnum)  
*Vinca minor* (Periwinkle)

### **Summer (June through August):**

*Aegopodium podagraria* (Goutweed, Bishop's Weed)  
*Alchemilla mollis* (Lady's Mantle)  
*Coronilla varia* (Crownvetch)  
*Hemerocallis* spp. (Day lily)  
*Heuchera* spp. (Alumroot, Coral Bells)  
*Hosta* spp. (Hosta, Plaintain Lily)  
*Hydrangea anomela* subsp. *petiolaris* (Climbing Hydrangea)  
*Hypericum calycinum* (Creeping St. Johnswort)  
*Indigofera incarnata* 'Alba' (White Chinese Indigo)

*Liriope muscari* (Liriope, Big Blue Lilyturf)  
*Lonicera x brownii* ‘Dropmore Scarlet’ (Brown’s Honey-suckle)  
*L. x heckrottii* (Goldflame Honeysuckle)  
*L. sempervirens* (Trumpet Honeysuckle)  
*Lysimachia nummularia* (Loosestrife)  
*Polygonum affine* (Himalayan Fleeceflower)  
*P. cuspidatum* ‘Compactum’ (Dwarf Japanese Fleeceflower)  
*Rosa wichuriana* (Memorial Rose)  
*Sedum* spp. (Stonecrop)  
*Spiraea japonica* var. *alpina* (Alpine spirea)  
*Thymus* spp. (Thyme)  
*Veronica* spp. (Vervain, Garden Verbena) Choose a species with a prostrate form.  
*Waldsteinia ternata* (Barren Strawberry)

### **Fall (September through November):**

*Ceratostigma plumbaginoides* (Blue Ceratostigma)  
*Clematis paniculata* (Sweet Autumn Clematis)  
*Lonicera x brownii* ‘Dropmore Scarlet’ (Brown’s Honey-suckle)  
*Sedum spectabile* (Showy Stonecrop)

### **WATER-THRIFTY (Requires no supplemental irrigation)**

*Arctostaphylos uva-ursi* ‘Point Reyes’ (Bearberry, Kinnikinnick)  
*Aronia arbutifolia* ‘Brilliantissima’ (Red Chokecherry)  
*A. melanocarpa* (Black Chokecherry)  
*Artemisia schmidtiana* ‘Silver Mound’ (Silver Mound Artemisia)  
*Brunnera macrophylla* (Siberian Bugloss)  
*Chaenomeles japonica* (Japanese Flowering Quince)  
*Clematis paniculata* (Sweet Autumn Clematis)  
*Convallaria majalis* (Lily-of-the-Valley)  
*Cotoneaster dammeri* ‘Lowfast,’ ‘Skogholm’ (Bearberry Cotoneaster)  
*C. salicifolia* (Willowleaf Cotoneaster)  
*C. adpressus* (Creeping Cotoneaster)  
*Euonymus fortunei* (Big Leaf Wintercreeper)  
*Forsythia viridissima* ‘Bronxensis’ (Bronx Forsythia)  
*Forsythia* ‘Arnold Dwarf’ (Arnold Dwarf Forsythia)  
*Geranium* spp. (Cranesbill, Hardy Geranium)  
*Hedera helix* (English Ivy)  
*Hemerocallis* spp. (Day lily)  
*Heuchera* spp. (Alumroot, Coral Bells)  
*Hosta* spp. (Hosta, Plaintain Lily)  
*Houttuynia cordata* (Houttuynia)  
*Hypericum calycinum* (Creeping St. Johnswort)  
*Iberis sempervirens* (Perennial Candytuft)  
*Indigofera incarnata* ‘Alba’ (White Chinese Indigo)  
*Juniperus chinensis* (Chinese Juniper) Many cultivars  
*J. conferta* (Shore Juniper) Many cultivars  
*J. horizontalis* (Creeping Juniper) Many cultivars  
*Lamium maculatum* ‘Alba,’ ‘Beacon Silver,’ ‘White Nancy,’ ‘Chequers’ (Spotted Dead Nettle)

*Liriope muscari* (Liriope, Big Blue Lilyturf)  
*Lonicera x brownii* ‘Dropmore Scarlet’ (Brown’s Honey-suckle)  
*L. x heckrottii* (Goldflame Honeysuckle)  
*L. japonica* ‘Halliana’ (Hall’s Honeysuckle)  
*L. sempervirens* (Trumpet Honeysuckle)  
*Mahonia aquifolium* (Oregon Grape Holly)  
*Parthenocissus quinquefolia* (Virginia Creeper, Woodbine)  
*P. tricuspidata* (Japanese Creeper, Boston Ivy)  
*Phlox subulata* (Moss pink, Ground pink)  
*Rhus aromatica* ‘Low-Gro’ (Fragrant Sumac)  
*Rosa wichuriana* (Memorial Rose)  
*Sedum* spp. (Stonecrop)  
*Stephanandra incisa* ‘Crispa’ (Crisp Cutleaf Stephanandra)  
*Symphoricarpos albus* (Common Snowberry)  
*Teucrium* spp. (Germander)  
*Thymus* spp. (Thyme)  
*Vinca major* (Large Periwinkle)  
*V. minor* (Periwinkle)  
*Xanthorhiza simplicissima* (Yellowroot)

### **WET TOLERANT (Periodic Flooding)**

*Aronia melanocarpa* (Black Chokecherry)  
*Hedera helix* (English Ivy)  
*Houttuynia cordata* (Houttuynia)  
*Liriope muscari* (Liriope, Big Blue Lilyturf)  
*Lonicera japonica* ‘Halliana’ (Hall’s Honeysuckle)  
*Lysimachia nummularia* (Loosestrife)

### **SUN (More than 5 hours per day)**

#### **Low-Growing (Less than 12 inches tall):**

*Aegopodium podagraria* (Goutweed, Bishop’s Weed)  
*Ajuga reptans* (Ajuga, Carpet Bugle)  
*Artemisia schmidtiana* ‘Silver Mound’ (Silver Mound Artemisia)  
*Ceratostigma plumbaginoides* (Blue Ceratostigma)  
*Clematis paniculata* (Sweet Autumn Clematis)  
*Cotoneaster dammeri* ‘Lowfast,’ ‘Skogholm’ (Bearberry Cotoneaster)  
*C. salicifolia* (Willowleaf Cotoneaster)  
*Euonymus fortunei* (Big Leaf Wintercreeper)  
*Forsythia viridissima* ‘Bronxensis’ (Bronx Forsythia)  
*Geranium* spp. (Cranesbill, Hardy Geranium)  
*Hedera helix* (English Ivy)  
*Iberis sempervirens* (Perennial Candytuft)  
*Juniperus chinensis* (Chinese Juniper) Many cultivars  
*J. conferta* (Shore Juniper) Many cultivars  
*J. horizontalis* (Creeping Juniper) Many cultivars  
*Lonicera x brownii* ‘Dropmore Scarlet’ (Brown’s Honey-suckle)  
*L. x heckrottii* (Goldflame Honeysuckle)  
*L. japonica* ‘Halliana’ (Hall’s Honeysuckle)  
*L. sempervirens* (Trumpet Honeysuckle)  
*Lysimachia nummularia* (Moneywort)  
*Parthenocissus quinquefolia* (Virginia Creeper, Woodbine)  
*P. tricuspidata* (Japanese Creeper, Boston Ivy)

*Paxistima canbyii* (Canby Paxistima)  
*Phlox subulata* (Moss pink, Ground pink)  
*Polygonum affine* (Himalayan Fleecflower)  
*Rosa wichuriana* (Memorial Rose)  
*Sedum* spp. (Stonecrop)  
*Thymus* spp. (Thyme)  
*Veronica* spp. (Vervain, Garden Verbena) Select species  
 with prostrate forms.

**Medium (1 to 3 feet tall):**

*Alchemilla mollis* (Lady's Mantle)  
*Astilbe* spp. (Astilbe)  
*Coronilla varia* (Crownvetch)  
*Cotoneaster adpressus* (Creeping Cotoneaster)  
*Hemerocallis* spp. (Daylily)  
*Heuchera* spp. (Alumroot, Coral Bells)  
*Houttuynia cordata* (Houttuynia)  
*Hypericum calycinum* (Creeping St. Johnswort)  
*Indigofera incarnata* 'Alba' (White Chinese Indigo)  
*Juniperus chinensis* (Chinese Juniper ) Many cultivars  
*Liriope muscari* (Liriope, Big Blue Lilyturf)  
*Rhus aromatica* 'Low-Gro' (Fragrant Sumac)  
*Sedum* spp. (Stonecrop)  
*Spiraea japonica* var. *alpina* (Alpine spirea)  
*Stephanandra incisa* 'Crispa' (Crisp Cutleaf Stephanandra)  
*Teucrium* spp. (Germander)  
*Viburnum opulus* 'Nana' (Dwarf European Cranberrybush  
 Viburnum)

**Tall (greater than 3 feet tall):**

*Aronia arbutifolia* 'Brilliantissima' (Red Chokecherry)  
*A. melanocarpa* (Black Chokecherry)  
*Astilbe* spp. (Astilbe)  
*Chaenomeles japonica* (Japanese Flowering Quince)  
*Forsythia* 'Arnold Dwarf' (Arnold Dwarf Forsythia)  
*Hemerocallis* spp. (Day lily)  
*Symphoricarpos alba* (Common Snowberry)

**SHADE (Less than 2 hours direct sun)**

**Low (Less than 12 inches tall):**

*Aegopodium podagraria* (Goutweed, Bishop's Weed)  
*Ajuga reptans* (Ajuga, Carpet Bugle)  
*Arctostaphylos uva-ursi* (Bearberry, Kinnikinnick)  
*Asarum canadense* (Wild Ginger)  
*Ceratostigma plumbaginoides* (Blue Ceratostigma)  
*Chrysogonum virginianum* (Green and Gold, Goldenstar)  
*Convallaria majalis* (Lily-of-the-Valley)  
*Cornus canadensis* (Bunchberry)  
*Epimedium x rubrum* (Barrenwort, Bishop's Hat)  
*Epimedium x versicolor* (Barrenwort, Bishop's Hat)  
*Euonymus fortunei* (Big Leaf Wintercreeper)  
*Galium odoratum* (Sweet Woodruff)  
*Gaultheria procumbens* (Wintergreen)  
*Hedera helix* (English Ivy)  
*Hosta* spp. (Hosta, Plaintain Lily)

*Lamium maculatum* 'Beacon Silver,' 'White Nancy,'  
 'Chequers' (Spotted Dead Nettle)  
*Lonicera japonica* 'Halliana' (Hall's Honeysuckle)  
*Lysimachia nummularia* (Moneywort)  
*Pachysandra terminalis* (Pachysandra, Japanese Spurge)  
*Parthenocissus quinquefolia* (Virginia Creeper, Woodbine)  
*P. tricuspidata* (Japanese Creeper, Boston Ivy)  
*Paxistima canbyii* (Canby Paxistima)  
*Pulmonaria* spp. and hybrids (Lungwort)  
*Tiarella* spp. (False Miterwort, Foamflower)  
*Vinca major* (Large Periwinkle)  
*V. minor* (Periwinkle)  
*Waldensteinia ternata* (Barren Strawberry)

**Medium (1 to 3 feet tall):**

*Alchemilla mollis* (Lady's Mantle)  
*Astilbe* spp. (Astilbe)  
*Brunnera macrophylla* (Siberian Bugloss)  
*Dicentra eximia* (Fringed Bleeding Heart)  
*Heuchera* spp. (Alumroot, Coral Bells)  
*Hosta* spp. (Hosta, Plaintain Lily)  
*Houttuynia cordata* (Houttuynia)  
*Hydrangea anomela* subsp. *petiolaris* (Climbing  
 Hydrangea)  
*Hypericum calycinum* (Creeping St. Johnswort)  
*Indigofera incarnata* 'Alba' (White Chinese Indigo)  
*Liriope muscari* (Liriope, Big Blue Lilyturf)  
*Mahonia aquifolium* (Oregon Grape Holly)  
*Rhus aromatica* 'Low-Gro' (Fragrant Sumac)  
*Stephanandra incisa* 'Crispa' (Crisp Cutleaf Stephanandra)  
*Teucrium* spp. (Germander)  
*Xanthorhiza simplicissima* (Yellowroot)

**Tall (greater than 3 feet tall):**

*Astilbe* spp. (Astilbe)  
*Hosta* spp. (Hosta, Plaintain Lily)  
*Mahonia aquifolium* (Oregon Grape Holly)

**INTENSE REFLECTED LIGHT AND HEAT**

*Aronia arbutifolia* 'Brilliantissima' (Red Chokecherry)  
*A. melanocarpa* (Black Chokecherry)  
*Artemisia schmidtiana* 'Silver Mound' (Silver Mound  
 Artemesia)  
*Chaenomeles japonica* (Japanese Flowering Quince)  
*Clematis paniculata* (Sweet Autumn Clematis)  
*Euonymus fortunei* (Big Leaf Wintercreeper)  
*Hemerocallis* spp. (Day Lily)  
*Hypericum calycinum* (Creeping St. Johnswort)  
*Indigofera incarnata* 'Alba' (White Chinese Indigo)  
*Juniperus chinensis* (Chinese Juniper)  
*J. conferta* (Shore Juniper)  
*J. horizontalis* (Creeping Juniper)  
*Liriope muscari* (Liriope, Big Blue Lilyturf)  
*Lonicera japonica* 'Halliana' (Hall's Honeysuckle)  
*Parthenocissus quinquefolia* (Virginia Creeper, Woodbine)

*P. tricuspidata* (Japanese Creeper, Boston Ivy)  
*Rhus aromatica* 'Low-Gro' (Fragrant Sumac)  
*Rosa wichuriana* (Memorial Rose)  
*Sedum* spp. (Stonecrop)  
*Stephanandra incisa* 'Crispa' (Crisp Cutleaf Stephanandra)  
*Thymus* spp. (Thyme)

### **HILLSIDES AND SLOPES**

*Arctostaphylos uva-ursi* (Bearberry, Kinnikinnick)  
*Aronia arbutifolia* 'Brilliantissima' (Red Chokecherry)  
*A. melanocarpa* (Black Chokecherry)  
*Artemisia schmidtiana* 'Silver Mound' (Silver Mound Artemisia)  
*Chaenomeles japonica* (Flowering Quince)  
*Clematis paniculata* (Sweet Autumn Clematis)  
*Convallaria majalis* (Lily-of-the-Valley)  
*Cotoneaster dammeri* 'Lowfast' (Lowfast Bearberry Cotoneaster)  
*C. salicifolia* (Willowleaf Cotoneaster)  
*C. adpressus* (Creeping Cotoneaster)  
*Euonymus fortunei* (Big Leaf Wintercreeper)  
*Forsythia viridissima* 'Bronxensis' (Bronx Forsythia)  
*Forsythia* 'Arnold Dwarf'  
*Hedera helix* (English Ivy)  
*Hemerocallis* spp. (Day Lily)  
*Hosta* spp. (Hosta, Plaintain Lily)  
*Hydrangea anomela* subsp. *petiolaris* (Climbing Hydrangea)  
*Hypericum calycinum* (Creeping St. Johnswort)  
*Juniperus chinensis* (Chinese Juniper)  
*J. conferta* (Shore Juniper)  
*J. horizontalis* (Creeping Juniper)  
*Liriope muscari* (Liriope, Big Blue Lilyturf)  
*Lonicera japonica* 'Halliana' (Hall's Honeysuckle)  
*Parthenocissus quinquefolia* (Virginia Creeper, Woodbine)  
*P. tricuspidata* (Japanese Creeper, Boston Ivy)  
*Phlox subulata* (Moss pink, Ground pink)  
*Rhus aromatica* 'Low-Gro' (Fragrant Sumac)  
*Rosa wichuriana* (Memorial Rose)  
*Sedum* spp. (Stonecrop)  
*Stephanandra incisa* 'Crispa' (Crisp Cutleaf Stephanandra)  
*Symphoricarpos albus* (Common Snowberry)  
*Vinca major* (Large Periwinkle)  
*V. minor* (Periwinkle)  
*Xanthorrhiza simplicissima* (Yellowroot)

### **SALT/HIGH pH**

*Arctostaphylos uva-ursi* (Bearberry, Kinnikinnick)  
*Euonymus fortunei* (Big Leaf Wintercreeper)  
*Hedera helix* (English Ivy)  
*Hemerocallis* spp. (Day Lily)  
*Juniperus chinensis* (Chinese Juniper)  
*J. conferta* (Shore Juniper)  
*J. horizontalis* (Creeping Juniper)  
*Lonicera japonica* 'Halliana' (Hall's Honeysuckle)  
*Parthenocissus quinquefolia* (Virginia Creeper, Woodbine)

*P. tricuspidata* (Japanese Creeper, Boston Ivy)  
*Paxistima canbyii* (Canby Paxistima)  
*Rhus aromatica* 'Low-Gro' (Fragrant Sumac)  
*Sedum* spp. (Stonecrop)  
*Symphoricarpos albus* (Common Snowberry)

### **INVASIVE/VIGOROUS**

(Use in unusually difficult spots only, never small yards. Some are pernicious weeds (see \*) and should never be used).

*Aegopodium podagraria* (Goutweed, Bishop's Weed)  
*Ajuga reptans* (Ajuga, Carpet Bugle)  
*Clematis paniculata* (Sweet Autumn Clematis)  
*Convallaria majalis* (Lily-of-the-Valley)  
*Euonymus fortunei* (Big Leaf Wintercreeper)  
*Hedera helix* (English Ivy)  
 \**Houttuynia cordata* (Houttuynia)  
*Hypericum calycinum* (Creeping St. Johnswort)  
*Lamium maculatum* 'Beacon Silver,' 'White Nancy,' 'Chequers' (Spotted Dead Nettle)  
 \**Lonicera japonica* 'Halliana' (Hall's Honeysuckle)  
 \**Lysimachia* spp. (Loosestrife)  
 \**Parthenocissus quinquefolia* (Virginia Creeper, Woodbine)  
*P. tricuspidata* (Japanese Creeper, Boston Ivy)  
 \**Polygonum cuspidatum* (Mexican Bamboo, Japanese Knotweed)  
*Sedum* spp. (Stonecrop)  
*Symphoricarpos albus* (Common Snowberry)  
 \**Vinca major* (Large Periwinkle)  
*V. minor* (Periwinkle)  
*Waldsteinia ternata* (Barren Strawberry)  
*Xanthorrhiza simplicissima* (Yellowroot)

### ***Ground Covers for the Landscape***

*Aegopodium podagraria* (Goutweed, Bishop's Weed) - 6 to 14 inches tall. Flowers are white in carrot-like heads, blooming in late May to late June. Vigorous grower, can become invasive in good soil. Will grow in sun or shade; can be mowed two or three times per year with a lawnmower to maintain neat appearance. Foliage dies to the ground in winter leaving soil bare. Variety *variegatum* has leaves with white margins. Spacing: 12 inches.

*Ajuga reptans* (Ajuga, Carpet Bugle) - 6 inches tall. One of the best ground covers for full sun to shade. Evergreen; leaves are green, purple or variegated depending on cultivar. Will not tolerate traffic but recovers rapidly when fertilized; may become invasive in turf. Mow plantings after flowering to remove stems and tidy up appearance. Spacing: 6 to 12 inches (18 inches for large types).

*Alchemilla mollis* (Lady's Mantle) - 18 to 24 inches tall. Gray-green leaves, to 6 inches wide, densely covered with soft hairs. Produces many stems of lime-green flowers in late spring, early summer. Grows in full sun to partial shade. Spacing: 18 inches.

- Arctostaphylos uva-ursi*** (Bearberry, Kinnikinnick) - 12 inches tall. Forms a dense, spreading mat, rooting along its stems. Grows best in poor, sandy, infertile soils; pH 4.5 to 5.5. Needs shade. Bright-green, inch-long leaves turn red in winter. White or pink flowers followed by red or pink fruits. 'Point Reyes' has dark green foliage and is best for hot, dry summers. 'Radiant' has heavy crop of red fruits. Spacing: 3 to 4 feet.
- Aronia arbutifolia*** 'Brilliantissima' (Red Chokecherry) - Suckering shrub 6 to 8 feet tall. Forms colonies. Requires thinning of older stems annually. Waxy, lustrous dark green leaves turn brilliant scarlet in fall. White flowers appear in May, glossy red fruit from September through November and later. Full sun. Spacing: 3 to 5 feet.
- A. melanocarpa*** (Black Chokecherry) - Similar to *A. arbutifolia* except fruit is blackish-purple. This species grows from 3 to 5 feet tall and forms large colonies. Very adaptable; grows in low, wet areas as well as dry, sandy hillsides. Full sun. Spacing: 3 to 5 feet.
- Artemisia schmidtiana*** 'Silver Mound' - 12 inches tall. Grows in a rounded mound of silvery foliage. Leaves are 1 3/4 inches long, dissected into linear segments, and appear to be in rosettes. Flowers are yellow, pyramidal panicles. Needs full sun, infertile soil. Trim to keep mounded shape. Spacing: 18 inches.
- Asarum canadense*** (Wild Ginger) - 6 inches tall. Grown chiefly as a foliage ground cover. Deciduous, heart-shaped leaves, about 6 inches across sent up from creeping rhizomatous roots. Interesting purplish-brown flowers develop at soil level. Needs shade or partial shade. Spacing: 12 inches.
- Astilbe*** spp. - Many species and hybrids, ranging in size from 12 inches to four feet tall. Leaves are divided into toothed leaflets. Many tiny flowers make up feathery panicles that are borne on slender stems. Flower colors are mostly white, creamy white, bright red, peach, and pink. Astilbes like organically rich, moist soils and thrive in semi-shade, but will tolerate full sun. They do not tolerate high summer temperatures. Spacing: 1 to 3 feet.
- Brunnera macrophylla*** (Siberian Bugloss) - 12 to 18 inches tall. Leaves emerge with the flowers and expand to full size (6 to 8 inches wide) after flowering. Small, intensely blue flowers resemble forget-me-nots. Self-seeds freely, but not invasive. A superior, low-maintenance plant. Clumps can be divided in spring. Can be grown in full sun or shade. The variegated cultivar, 'Variegata,' needs a cool, sheltered place, since variegated areas of leaves are prone to burning by wind and sun. Spacing: 18 inches.
- Ceratostigma plumbaginoides*** (Blue Ceratostigma) - 6 to 12 inches tall. Flowers deep cobalt blue, 1/2 inch across; blooms profusely in late August to September. Foliage deep, glossy green; tufted habit; fall color reddish-bronze; considered evergreen. Grows in sun or light shade; can become invasive unless confined. Spacing: 12 to 18 inches.
- Chaenomeles japonica*** (Japanese Flowering Quince) - Wide-spreading deciduous shrub, 4 to 5 feet tall with thorny stems. Flowers are orange-red, scarlet or blood-red. Fruit is a greenish-yellow, fragrant pome similar to an apple, ripening in late September to October. Flowers on year-old wood, so older stems must be removed by pruning at the base. Needs sun. Spacing: 2 to 3 feet.
- Chrysogonum virginianum*** (Green and Gold, Goldenstar) - 4 to 12 inches tall. Grows in partial shade. Starry, 1 1/2" yellow flowers bloom spring through fall. Prefers average soils, adequate moisture. Spacing: 12 inches.
- Clematis paniculata*** (Sweet Autumn Clematis) - Vigorous-growing vine with fragrant white flowers blooming in August and September. Leaves are glossy green. Silvery seed heads are ornamental in the fall. Naturalizes well in fence rows and on banks. Full sun. Spacing: 3 feet.
- Convallaria majalis*** (Lily-of-the-Valley) - 8 inches tall, having two or three stiffly erect dark green leaves. Fragrant white bell-shaped flowers appear on angular stems. Globular orange to red berries follow. Prefers organic soil in a shady location. Can be invasive. Rootstocks and berries are poisonous. Spacing: 6 to 12 inches.
- Coronilla varia*** (Crownvetch) - 12 to 24 inches tall. A fine-textured, sprawling plant that mounds upon itself. Spreads by underground stems. One plant may cover an area 6 feet in diameter. Pink and white pea-like flowers bloom from June to September. Performs best in full sun. Thrives in poor, dry sites after it is established. Often used for soil stabilization on cuts and fills in poor, infertile soil where little else will grow. It controls sheet erosion on level ground, but is not effective in controlling gully erosion on steep slopes. Not suitable for the small landscape or for good soils where other plants can be grown. Spacing: 3 to 5 feet.
- Cornus canadensis*** (Bunchberry) - 3 to 9 inches tall. Wide-spreading but spreads slowly. Forms a carpet-like mat. Leaves are shiny green in summer, changing to red in fall. Flowers bloom from May to July with white bracts borne in fours, like a flowering dogwood. Fruit is a scarlet berry-like drupe, ripening in August and later. Requires moist, organic soil, prefers a cool atmosphere, partial or full shade. Spacing: 12 inches.
- Cotoneaster dammeri*** 'Lowfast' (Lowfast Bearberry Cotoneaster) - 12 inches tall. Very hardy; glossy, dark green foliage; white flowers in late May; abundant glossy red fruit. 'Skogholm' is an extremely vigorous form with prostrate or serpentine branches. It is not a free-fruited form. Both cultivars are best planted where they will not need restrictive pruning; stubbed off branch ends are unattractive. When pruning is necessary to limit spread, cut back to branch juncture

within foliage mass to retain irregular, natural appearance and ground cover effect. Full sun. Spacing: 3 to 5 feet.

***C. salicifolia*** (Willowleaf Cotoneaster) - 'Repens' and 'Gnome' are ground cover forms of this species reaching a height of only 12 inches instead of 10 to 15 feet. Lustrous, dark green leaves and small red fruits. Prune according to *C. dammeri*. Not reliably hardy. Full sun. Spacing: 3 to 5 feet.

***C. adpressus*** (Creeping Cotoneaster) - 1 to 1 1/2 feet tall and 4 to 6 feet broad. White flowers in spring and red fruits in fall. Prune according to *C. dammeri*. Full sun. Spacing: 3 to 5 feet.

***Dicentra eximia*** (Fringed Bleeding Heart, Wild Bleeding Heart) - 12 to 18 inches tall. Neat mounds of finely dissected foliage, gray-green in color. Pink flowers are heart-shaped. May rebloom in late summer or early fall. 'Alba' has white flowers, 'Luxuriant' is a hybrid with blue-green foliage and carmine flowers. Cultivars and hybrids are more readily available than the true species. Needs shade or partial shade, but most hybrids are more tolerant of direct sun. Spacing: 12 to 18 inches.

***Epimedium x rubrum*** (Barrenwort, Bishop's Hat) - 6 inches to 1 1/2 feet tall. Semi-evergreen. Forms thick clumps of fresh, green foliage; long flower stems bear many dainty, crimson flowers 3/4 - 1 inch long. Blooms best when planted on 15 - 18 inch centers. Grows in shade or partial shade. Spacing: 12 inches.

***Epimedium x versicolor*** (Barrenwort, Bishop's Hat) - 12 inches tall. 'Sulphureum' is the most widely grown cultivar of this yellow-flowered hybrid. Grows in shade or partial shade; spreads by rhizomes. Excellent ground cover with good fall color; cut back in late winter. Spacing: 12 inches.

***Euonymus fortunei*** (Big Leaf Wintercreeper) - Evergreen ground cover or climbing vine. Many cultivars with different leaf color and size; does not flower and fruit until very old. Will not tolerate wet feet but tolerant of anything else; may become invasive. Sun or shade. Spacing: 2 feet.

***Forsythia viridissima*** 'Bronxensis' (Bronx Forsythia) - 12 inches tall and 2 to 3 feet broad. Good yellow flower color in late March. Flowers on year-old wood, so older stems must be removed after flowering to rejuvenate plants. Sun. Spacing: 1 1/2 to 2 feet.

***Forsythia*** 'Arnold Dwarf' (Arnold Dwarf Forsythia) - 3 feet tall, 7 feet across. Roots where branches touch soil. Good bank cover. Flowers sparsely. Flowers on year-old wood, so older stems must be removed after flowering to rejuvenate plants. Sun. Spacing: 3 to 5 feet.

***Galium odoratum*** (Sweet Woodruff) - 6 to 12 inches tall. Also known as *Asperula odorata*. Grows in shade to partial shade; fragrant plant with slender stems and white flowers in spring. Prefers moist, slightly acid soil; may become invasive. Spacing: 12 inches.

***Gaultheria procumbens*** (Wintergreen) - 3 inches tall. White, bell-shaped, solitary flowers in mid-May.

Scarlet, edible berries; lustrous, evergreen foliage, bronze fall color. Stems mostly underground. Prefers moist, acid soil, and partial shade. If moss is present and growing well in an area, wintergreen can also be grown there. Spacing: 12 inches.

***Geranium*** spp. (Cranesbill, Hardy Geranium) - 6 to 12 inches tall. Forms low mats, mounds, or sprawling clumps. Leaves, mostly rounded in outline, are palmately divided. Flowers—in pairs or loose clusters—have five petals. Fruits are beaklike, from which cranesbills get their common name. Pest- and disease-free, they bloom from late spring into summer and sometimes fall. Flower colors range from white, blue, magenta, and pink. Do not confuse these plants with geraniums of the genus *Pelargonium* that are commonly sold as annual bedding plants or in hanging baskets in Kentucky. Prefers sun. Spacing: 12 to 24 inches.

***Hedera helix*** (English Ivy) - Evergreen ground cover or climbing vine for sun or shade. Well over 300 cultivars based on leaf color and size; does not flower or fruit until very old. Many cultivars are killed at temperatures below -10°F. Hardier cultivars include 'Thorndale' and 'Wilson.' Pruning is necessary to keep it within limits. Small-leaved or variegated cultivars may be less invasive. Spacing: 18 inches.

***Heemerocallis*** spp. (Daylily) - 12 inches to 3 feet tall with strap-like arching foliage. Lily-like flowers in loose clusters, all colors except blue. Many cultivars are available and by selecting appropriate cultivars expect flowering times from spring until frost. Pests and diseases are seldom a problem. Prefers sun. Spacing: 2 to 3 feet.

***Heuchera*** spp. (Coral Bells) - Several species and hybrids. Size ranges from 1 to 3 feet tall. Flowers bloom during spring and summer in scarlet, coral, pink, or white. Grows well in full sun to partial shade. *xHeucherella* is a hybrid between *Heuchera* and *Tiarella*, producing soft pink flowers above attractive foliage. Spacing: 12 to 24 inches.

***Hosta*** spp. (Plaintain Lily) - Many species and cultivars. Plants have diverse foliage of all colors, from deep green to light green, yellow green, blue, and variegated forms. Flowers are often showy and fragrant, in violet, lavender, or white. Some flower scapes are 5 feet tall. Foliage alone can range in height from 4 inches to 2 1/2 feet tall and from 1 foot to 4 feet in width. Grows best in partial to deep shade. Slugs can be a problem on hostas. Spacing: varies, 1 to 4 feet.

***Houttuynia cordata*** - 6 to 24 inches tall. Forms a dense ground cover of heart-shaped leaves in sun or shade. Flowers are tiny with showy, white bracts; thrives in damp or wet soils and may become invasive. 'Floro Pleno' is a cultivar with enlarged flower bracts, and 'Variegata' has leaves with green, cream, and red variegation. These cultivars are more readily available and more desirable than the species. Spacing: 18 inches.

- Hydrangea anomela* subsp. *petiolaris*** (Climbing Hydrangea) - Deciduous vine that reaches 60 to 80 feet in height. It has glossy dark green leaves and white, fragrant flowers blooming in late June to early July. Beautiful exfoliating bark adds winter interest. Grows in full sun or shade; best used on east or north exposure in adverse climates. Spacing: 15 to 18 feet.
- Hypericum calycinum*** (Creeping St. Johnswort) - 12 to 18 inches tall and spreading 18 to 24 inches. Bright yellow three-inch flowers in June, often killed back by cold weather, but flowers on new wood. Mow to the ground in late winter. Grows in sun and shade. Spacing: 18 inches.
- Iberis sempervirens*** (Perennial Candytuft) - 12 inches tall. Procumbent and spreading with more or less evergreen foliage. Foliage is dark green and leathery; profuse white flowers appear in the spring. Several cultivars available varying from 4 to 10 inches in height. Sun. Spacing: 12 inches.
- Indigofera incarnata* ‘Alba’** (White Chinese Indigo) - 18 inches tall. White pea-like flowers borne on upright stems 5 to 10 inches long in July; hardier than the species. Blooms on current year’s growth; denser and lower-growing than *Indigofera kirilowi*, making a better ground cover. Prune out old stems. Sun or shade. Spacing: 2 to 3 feet.
- Juniperus chinensis*** (Chinese Juniper) - Many cultivars of varying height and forms. ‘Procumbens,’ ‘Procumbens Nana,’ ‘Procumbens Variegata,’ ‘Sargentii,’ and ‘Nana Greenmound’ are among the best. Place in full sun. Spacing: 5 to 10 feet.
- Juniperus conferta*** (Shore Juniper) - Many cultivars, but ‘Emerald Sea’ and ‘Blue Pacific’ are best. Evergreen, interesting needles, salt-tolerant. Place in full sun. Spacing: 5 to 10 feet.
- Juniperus horizontalis*** (Creeping Juniper) - Many cultivars of varying height and forms. ‘Bar Harbor,’ ‘Blue Chip,’ ‘Blue Mat,’ ‘Emerald Spreader,’ ‘Prince of Wales,’ ‘Turquoise Spreader,’ ‘Wiltonii’ (Blue Rug), and ‘Wisconsin’ are among the best. Place in full sun. Spacing: 5 to 10 feet.
- Lamium maculatum*** (Spotted Dead Nettle) - 12 to 18 inches tall. Pink flowers; needs shade or partial shade. Leaves greenish-white along midrib. Cultivars are superior to the species; ‘Album’ has creamy white flowers; ‘Beacon Silver’ has rosy pink flowers and silver leaves edged in green; ‘White Nancy’ is a white-flowered version of ‘Beacon Silver’; ‘Chequers’ has deep mauve flowers. Spacing: 18 to 24 inches.
- Liriope muscari*** (Liriope, Big Blue Lilyturf) - Evergreen. Forms clumps 9 to 12 inches tall. Needs to have dead leaf blades trimmed back in early spring. May be used as a border or in mass. Interesting blue, purple, or lilac flowers formed on a spike. Cultivars have foliage that can be solid green or variegated in yellow or white. Sun or shade. Spacing: 8 to 12 inches.
- Lonicera x brownii* ‘Dropmore Scarlet’** (Brown’s Honeysuckle) - Hybrid vine with red flowers that appear in June and continue into October and November. Considered to be the hardiest vine honeysuckle in the north. Spacing: varies, 2 to 5 feet.
- L. x heckrottii*** (Goldflame Honeysuckle) - A hybrid of unknown origin. Flowers are carmine and yellow from June throughout the summer. Fruit is red and sparsely produced. Spacing: varies, 2 to 5 feet.
- L. japonica* ‘Halliana’** (Hall’s Honeysuckle) - A twining vine; foliage semi-evergreen; stems root when they touch soil, so it can spread rapidly; must be confined and pruned hard or it will **become a pest** that is almost impossible to kill. When used as a ground cover, no upright plants should be in its path, or it will climb them. It thrives in good or poor soils. Flowers are fragrant and white, changing to yellow, blooming in the spring. Spacing: varies, 2 to 5 feet.
- L. sempervirens*** (Trumpet Honeysuckle) - 10 to 20 feet and higher. New flowers are scarlet with yellow-orange throats and not fragrant, blooming from early to mid-June through August. Fruit is a bright red, 1/4" berry that ripens in September and is effective through November. Cultivars include ‘Magnifica’ (bright red flowers), ‘Sulphurea’ (yellow flowers), ‘Superba’ (orange-scarlet flowers on outside). Invasive and can become a pernicious weed.
- Lysimachia nummularia*** (Moneywort) - *L. nummularia* (Moneywort) is the best species for a low ground cover. Several species ranging from 18 inches to 3 1/2 feet in height. Loosestrifes are adapted to damp, informal areas, or watersides. White or yellow flowers are bell- or wheel-shaped, blooming in summer, late summer, and early fall. They grow best in full sun or partial shade. *L. clethroides* and *L. punctata* are both invasive species. Spacing: 12 to 36 inches.
- Mahonia aquifolium*** (Oregon Grape Holly) - Spreading shrub 3 to 6 feet tall, with glossy foliage. ‘Compactum’ is 24 to 36 inches in height. ‘Mayhan Strain’ grows between 30 and 42 inches in height. Slow-growing, flowers are yellow, blooming in April. Fruit is a true berry, looks like clusters of grapes, and ripens in August-September. Develops leaf scorch when exposed to winter sun and wind. Shade. Spacing: 24 inches.
- Pachysandra terminalis*** (Pachysandra, Japanese Spurge) - One of the best of the ground covers but must be used in full shade to develop deep, lustrous, green foliage. May be grown in part sun but when grown in full sun it becomes yellow. Best in a moist, fertile, organic soil. Our native *P. procumbens* makes a good ground cover in a shaded, naturalized area. Spacing: 12 inches.
- Parthenocissus quinquefolia*** (Virginia Creeper, Woodbine) - Deciduous vine with tendrils, growing 30 to 50 feet or more. Leaves are palmately compound, with five leaflets, rich green color in summer, changing to purplish-red or crimson in fall. Greenish-white flowers bloom in June-July, but are inconspicuous.

Berries are black, ripening in September-October. Tolerates many kinds of soil, full sun or full shade, wind, and pollution. Climbs everything, so prune to keep within limits. Invasive. Spacing: 24 inches.

- P. tricuspidata*** (Japanese Creeper) - Similar to *P. quinquefolia* except foliage is more lustrous, leaf is simple and three-lobed. Prune to keep within limits. Spacing: 24 inches.
- Paxistima canbyii*** (Canby Paxistima) - 12 inches in height by 3 to 5 feet in spread at maturity. An evergreen shrub, branches root when in contact with soil. Leaves are dark green in summer, becoming bronze-colored in winter. Sun and shade. Spacing: 12 to 18 inches.
- Phlox subulata*** (Moss pink, Ground pink) - 6 inches tall. Flowers pink, purplish or white 3/4" across in great profusion in late April and May. Almost evergreen; spreads rapidly. A common rock-garden plant; flowers best in full sun. Spacing: 12 to 18 inches.
- Polygonum affine*** (Himalayan Fleeceflower) - 6 inches tall. Spreading plants form a low mat. Small spikes of flowers and fruits are attractive for a long period during summer. An interesting ground cover for small areas. Sun. Spacing: 12 inches.
- P. cuspidatum* 'Compactum'** (Dwarf Japanese Fleeceflower) - Arching, cane-like stems grow to 3 feet tall. Stems topped by loose panicles of pink flowers, maturing to deep rose, followed by crimson seeds. Invasive, requires close attention to keep within bounds. Good for massing on difficult banks. Spacing: 24 inches. Not to be confused with *P. cuspidata* (Japanese Knotweed, Mexican Bamboo) that grows to 8 feet tall and is a pernicious weed, impossible to kill, and should **never be planted** as an ornamental.
- Pulmonaria* spp. and hybrids** (Lungwort) - 9 to 12 inches tall. Handsome foliage, dappled with silver in several species. Spring flowers are purplish-red or blue. Superb ground covers, preferring cool, moist soil. Intolerant of strong sun. Propagated by division. Several excellent cultivars are *P.* 'Johnson's Blue,' *P. officinalis* 'Sissinghurst White,' *P. saccharata* 'Mrs. Moon.' Spacing: 18 inches.
- Rhus aromatica* 'Low-Gro'** (Fragrant Sumac) - Low, wide-spreading habit, 2 feet high, 6 to 8 feet wide. Excellent glossy foliage. Yellow flowers, March-April, red fruit in August-September. Fast-growing cover, excellent for banks. Adaptable, tolerates partial shade or full sun, prefers acid soil. Spacing: 3 to 5 feet.
- Rosa wichuriana*** (Memorial Rose) - Shrub that lies flat on the ground. Canes root where they touch soil. Flowers are fragrant, pure white, 2 inches across, June-July. Red fruits, 1/2 inch across, maturing in September-October. Used on highway slopes. Sun. Spacing: 8 to 10 feet.
- Sedum* spp.** (Stonecrop) - There are many species of *Sedum* ranging in height from several inches to 2 feet tall. Most stonecrops have fleshy leaves and clustered, starchy flowers. They grow best in full sun and well-drained soil, but they will tolerate partial shade. Good

low-growing species include *S. acre*, *S. spurium* 'Dragon's Blood.' Taller growing cultivars of *S. spectabile* provide bright clusters of flowers in early autumn. Spacing: 12 to 24 inches.

- Spiraea japonica* var. *alpina*** (Alpine spirea) - 15 to 25 inches tall and spreading 6 feet. Pink flowers in June. Sun. Spacing: 3 to 5 feet.
- Stephanandra incisa* 'Crispa'** (Crisp Cutleaf Stephanandra) - May be pruned (mowed) to keep it below 18 inches; grows 18 to 36 inches tall, forming a thick tangle of stems. Prefers full sun or light shade. Yellowish-white flowers are small and borne in loose panicles (not showy). Tends to root wherever stems touch soil; develops chlorosis in high pH soils. Spacing: 3 to 5 feet.
- Symphoricarpos albus*** (Common Snowberry) - Deciduous shrub 3 to 6 feet tall by 3 to 6 feet wide. Densely fine and twiggy. Leaves bluish-green. Flowers, pinkish, blooming in June, inconspicuous. Fruit is white, showy, ripening in September through November. Tolerant of any soil, full sun to medium shade, suckers profusely and spreads. Good for use on banks. Spacing: 3 to 5 feet.
- Teucrium* spp.** (Germander) - Several species, 1 to 3 feet tall. Related to *Salvia* (sages) having hairy leaves and square stems. Flowers are borne in heads or spikes, pink, purple, or yellow, in mid- to late summer. Prefers full sun or partial shade, and well-drained soil. If plants become straggly, shear back to encourage lower, branching growth. Spacing: 12 to 24 inches.
- Thymus* spp.** (Thyme) - Aromatic, sun-loving herbs valued as mat-forming or prostrate ground covers. Small gray-green or green leaves. Flowers are rosy-pink or lilac. If plants become straggly, shear or cut back stems. Spacing: 12 inches.
- Tiarella* spp.** (Foamflower, False Miterwort) - 12 inches tall. Forms neat mounds of foliage, evergreen in mild climates. Delicate panicles of white, pink, or red flowers are borne on wiry stems in late spring, early summer. Prefers partial shade and soil rich in humus. Spacing: 12 inches.
- Veronica* spp.** (Speedwell) - Many species. Select ground-hugging species for ground cover, such as *V. prostrata*, *V. repens*, and *V. pectinata*. Blooming in summer, they prefer average, well-drained soil that does not dry out. Most flowers are blue, but there are some red and white flowering cultivars. Spacing: 12 to 18 inches.
- Viburnum opulus* 'Nana'** (Dwarf European Cranberrybush Viburnum) - 18 to 24 inches tall, 24 to 36 inches wide. Densely branched. Makes a good filler plant or used for low hedges. Will not tolerate wet, poorly drained soils. Sun. Spacing: 24 to 36 inches.
- Vinca major*** (Large Periwinkle) - Large leaf form of *V. minor*, not as effective, becoming 12 to 18 inches thick; may become invasive. If plantings mound up too high or become layered with old stems, shear or mow them in late winter. Spacing: 18 inches.

***Vinca minor*** (Periwinkle) - Dark green, vining, evergreen ground cover, becoming 3 to 6 inches thick. Dainty blue flowers. If plantings mound up too high or become layered with old stems, shear or mow them in late winter. Shade. Spacing: 18 inches.

***Waldensteinia ternata*** (Barren Strawberry) - 3 to 4 inches tall. Fast-growing, prefers shade, will tolerate dry or moist soil. Yellow flowers bloom throughout summer. Spacing: 12 inches.

***Xanthorhiza simplicissima*** (Yellowroot) - Interesting leaf form; grows to 18 inches; spreads by underground stolons; may become invasive. Shade. Spacing: 18 to 24 inches.

*Where trade names are used, no endorsement is intended, nor criticism implied of similar products not named.*

## **For Certified Commercial Pesticide Applicators/Landscapers**

Pre-emergent type herbicides can help; for example benefin + oryzalin (XL®), bensulide (Betasan®), DCPA (Dacthal®), EPTC (Eptam®), fluazifop-P-butyl (Ornamec®, Grass-B-Gone®), isoxaben (Gallery®), isoxaben + oryzalin (Snapshot®), Metolachlor + simazine (Derby®), Napropamide (Devrinol®), Oryzalin (Surflan®), pendimethalin (Southern Weedgrass Control®, Pre-M®, Stomp®), and trifluralin (Treflan®, Preen®) may be applied to weed-free soil without contacting already developing desirable plants. These must be applied by knowledgeable persons who have adequate training in herbicides and their correct uses. In established plantings, some herbicides allow for selective removal of weeds once they have emerged, i.e., crabgrass coming through a juniper bed.

Post-emergence herbicides that are cleared for use on some ground covers include benefin + oryzalin (XL®), bentazon (Basagran T/O®), fenoxaprop (Acclaim®), and sethoxydim (Vantage®). Labels should be checked very carefully to know on which plants the herbicides can be used safely. Your County Extension Agent can help you decide which herbicides are most suitable for your particular situation (type of ground cover, other plants in the area, weed problem, time of year, etc.)