

Establishing Herbaceous Native Woodland Plants



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With over 40 years of experience in research and establishment of native plant communities, Neil is an internationally recognized pioneer in the use of North American plants in contemporary landscapes. His designs emphasize sustainability, aesthetics, and ecological compatibility with the land. Neil is a regular keynote speaker on topics such as establishing prairie meadows, designing with native plants, and the benefits of converting resource-intensive landscapes into self-sustaining ecological sanctuaries.

Woodland wildflowers, grasses, and sedges can be established using either transplants or seeds. Ferns produce spores rather than seeds, and are best established using plants. Transplants typically mature rapidly and provide blooms in one to two years for most species. They can be readily monitored, and weeds easily controlled to hasten establishment and maturation.

Establishing a woodland garden or native landscape using seeds is a much trickier proposition, requiring many years to reach maturity. Some seeds have complex, long-term dormancies, and many species are very slow growing. For instance, the Large Flowered Trillium (*Trillium grandiflorum*) typically requires six to ten years to reach blooming stage when planted from seed. Despite the best efforts, competition from weeds and invasive plants can be intense during the first few years of establishment of a seeded woodland planting, and these must be carefully controlled in order to assure success.

Before planting or seeding your woodland, make sure that you have completely eliminated all invasive woody and herbaceous plants, such as buckthorn, honeysuckle, multiflora rose, Japanese



Barberry, garlic mustard, etc. These aggressive non-native plants will compete heavily with your plantings, and their many of seeds can remain dormant for years in the soil. There is a section on "Repelling Garlic Mustard," at the end of this article.

Propagating Woodland Plants Using Transplants

Most native woodland wildflowers are easily established using transplants. Unlike deep rooted prairie flowers and grasses, most woodland plants are more shallow rooted, often no more than one foot deep. This makes them easy to dig divide, and transplant. Mature clumps of most woodland plants can be easily divided in fall or early spring when dormant.

Many woodland wildflowers go dormant by mid to late summer, and their top growth disappears. Autumn is an excellent time to divide them. It is generally not a good idea to divide plants when they are actively growing, as this can damage or even kill them, or at least retard their growth significantly. Plants that are divided when growing also require regular watering after planting into the new location, increasing the time and labor required to get them established. Plants that are divided when dormant suffer minimal damage, and can be replanted without need of watering or other special care.

Most woodland grasses, sedges, and ferns can also be readily propagated by division. These are best divided in early spring before new growth begins. The root systems of grasses and sedges are finer than those of most wildflower and are thus more subject to winter damage when divided in fall. Most ferns are extremely hardy, and can be successfully divided in fall or spring.

Propagating Woodland Plants by Seed

The majority of woodland wildflowers, sedges, and grasses can be grown from seed. Some are easy to grow, while others are difficult and can require many years to yield blooming plants. Since ferns are not seed-bearing plants and reproduce by spores, they are best propagated by division. Some woodland wildflowers that are relatively easy to grow from seed and mature rapidly include:

- Aquilegia canadensis - Columbine
- Arisaema triphyllum - Jack in the Pulpit
- Asarum canadense - Wild Ginger
- Aster divaricatus - White Woodland Aster
- Aster lateriflorus - Calico Aster
- Aster macrophyllus - Big Leaf Aster
- Eupatorium purpureum - Sweet Joe Pye Weed
- Phlox divaricata - Wild Blue Phlox
- Zizia aurea - Golden Alexanders

The seed of many woodland plants can be difficult to find. For this reason, these are often best propagated by division.



Many woodland wildflowers are members of the Lily Family, and most of these species have seeds that are “double dormant,” which means that they will not germinate until the second spring after they are seeded. These species tend to grow slowly, and many required five or more years to reach blooming stage. Patience is required when growing double dormant wildflowers from seed! These species include:

Maianthemum racemosum - Solomon's Plume
Maianthemum stellatum - Starry Solomon's Seal
Polygonatum biflorum - Solomon's Seal
Trillium grandiflorum - Large Flowered Trillium
Uvularia grandiflora - Bellwort

The seeds of most woodland plants are best planted in the soil immediately upon ripening. Many species have a fleshy attachment on the outer seed coat called an “elaiosome.” The elaiosome is rich in proteins and carbohydrates, and these seeds are much sought after by ants. The ants take the seed back to their underground nests where they consume the elaiosome and then place the seeds on their outdoor “trash heap.” The ants thus help to distribute the seeds across the forest, expanding the range of the plants.

Plants with elaiosomes include Trillium, Bloodroot, and Twinleaf. These seeds must be planted immediately after collecting them, or they will dry out and enter “deep dormancy.” This condition can greatly delay or prevent their germination.

Most woodland seeds require exposure to moist, cold temperatures to break dormancy and germinate. By planting the freshly harvested seed directly into the soil, it will spend the winter in the ground and dormancy will be broken naturally. High rates of germination can be achieved for almost all woodland wildflowers using this method. Exceptions include the orchids, most of which are difficult to propagate from seed.

For more information on propagating woodland and prairie plants from seed, refer to Neil Diboll's article “Propagation of Native Herbaceous Perennials.”

Repelling Invasive Garlic Mustard using Wild Ginger and other Native Plants

Something that has become readily apparent as I have worked with various native plants is that some can be surprising aggressive in their own right. With a little help, some native woodland plants can be established in large colonies that can reduce or nearly eliminate incursions by garlic mustard, buckthorn, and other invasive non-native plants, with a minimum of maintenance.

One notable native woodland plant is Wild Ginger. The secret to its success is its ability to form a solid mat of roots at the soil surface, excluding invasion by other plants. The Wild Ginger root has a strong fragrance, very similar to cultivated ginger. Although not documented, it is reasonable to believe that the roots exude chemicals that retard the



growth of other plants (allelopathy). Once established, a bed of Wild Ginger is essentially impervious to invasion by garlic mustard, buckthorn and honeysuckle.

Wild Ginger grows in almost any well-drained soil, and can be established using either transplants or seeds. It seems to prefer limy soils, but will grow fine in slightly acid soils. Transplanting wild ginger is easy, and it establishes quickly. Nursery propagated plants can be planted one to two feet on center into a well-prepared, weed free site in moderate to full shade. Mulching between the plants with two to three inches of clean, weed-free straw, leaf compost, or similar organic material will help reduce weed germination. Existing beds of Wild Ginger can also be dug up and six to twelve inch rhizomes planted laterally, one to two inches deep. The plants expand by rhizomes at a rate of three to six inches per year. When planted one foot on center, it will form a solid cover by the end of the third growing season.

Propagating Wild Ginger from seed is slower and requires patience. The seed must be harvested during a very narrow window just as it ripens. If harvested too early when still white or green, the seeds will not be viable. Once ripe, the seeds turn brown and the reddish pods rapidly disintegrate into a papery thin material. The seeds fall quickly to the ground as the pods deteriorate, so the window of opportunity for harvesting this seed is usually no more than a few days to a week. Seedpods are borne at the ground level underneath the leaves are not readily visible. Harvesting Wild Ginger seed requires carefully crawling around on the ground, or treading lightly through the patch while bending down and turning up the leaves to find the seeds below.

Once harvested, the seedpods should be scattered into a completely weed-free prepared soil in full to medium shade. A light layer no more than one inch deep of clean straw mulch or composted leaves can be placed over the seeded area. The seeds will work their way down into the soil during the summer and winter, and germinate in late April and early May of the following spring.

The Wild Ginger seedlings grow slowly the first year usually only reaching a height of one inch. By the second spring, they begin to put on more rapid growth and begin to expand their territory by means of their rhizomatous root systems. By the end of the second year, each seedling will cover an area about six to eight inches in diameter. If the seeding density was sufficient, by the end of the third growing season the Wild Ginger will have filled in the area completely. If seeded more lightly, full coverage of the area may take up to five years.

Other native woodland plants that can be managed to minimize invasion by undesirable plants include:

- Aster macrophyllus - Big Leaf Aster
- Podophyllum peltatum - Mayapple
- Carex eburnea - Ivory Sedge
- Carex rosea - Golden Star Sedge

Big Leaf Aster spreads by rhizomes to form nearly solid mats that repel invasion by other plants. Mayapple also spreads by rhizomes, but does not form a sod or mat like Wild Ginger or Big Leaf Aster. The “umbrellas” of a well developed stand of Mayapple cast a



dense shade underneath them, discouraging the growth of other plants. However, garlic mustard and other undesirables typically find their way into the Mayapple patch, and will have to be pulled.

The Ivory Sedge and Golden Star Sedge do not expand by rhizomes, but their clumps form a dense sod when planted six to nine inches apart. The dense root systems of these sedges occupy the soil rooting zone, discouraging establishment of undesirable species from seed. Many other clump-forming native sedges can be established using transplants to form a green carpet of growth that repels invasion by unwanted aggressive plants.

