The Native Plants of Ohio

KEY: = RED denotes plant is toxic to humans. Features: *(x) = a food or cover benefit for...*(bf) = butterflies, *(bf-l) = butterfly larvae, *(w) = wildlife; *(bd) = songbirds; *(be) honeybees; *(hb) = hummingbirds. "Do not disturb in the wild." = plant is endangered (!!!), threatened (!), or potentially threatened (.)

The goal of this bulletin is to provide a comprehensive list of plants for those who wish to include native plants in the landscape. Although there are many lists of native plants available today, most of these sources list plants native to North America or to a specific region of the United States. The plants listed in this bulletin are all native specifically to Ohio, although some may have limited distribution.

Although many plants in this guide are excellent landscape specimens, some may be difficult to grow or propagate. It is our hope that a comprehensive list will be helpful in evaluating existing plants in a given site, as well as in selecting plants for a new landscape.

Please consult other guides for details on cultural information or landscape uses of native plants. This bulletin is not meant to be an authoritative guide on growing environments or plant needs. Several excellent resources, including books, agencies, and web sites, are listed in the last section. Use these for more information on purchasing, propagation, plant care, and landscape establishment.

We are fortunate in Ohio to have a great diversity of plants to choose from, including many that thrive under adverse conditions. Native plants can be found to suit a variety of sites: wet or dry, sun or shade, high or low fertility, and acidic or calcareous soils. When used correctly, native plants may:

- be better adapted to local environmental conditions.
- be used to solve landscape problems like shady or wet areas.
- be of increased value to wildlife.
- require less maintenance.
- provide four-season interest.
- be a good choice for an informal landscape.
- preserve native species and biodiversity.
- add a local accent to the landscape.

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What is a Native Plant?

All native plants once grew in the wild, but many plants currently found in the wild may not be native. The following general definitions might help clarify the difference between native plants and others.

- **native plant**: a plant that grows in the wild without human intervention
- **exotic plant**: a plant that was introduced by human intervention from another area or country (accidentally or purposefully)
- **naturalized**: an exotic plant that has escaped from cultivation and now grows in the wild
- **wildflower**: any flowering plant, usually herbaceous, that grows in the wild (native or naturalized)
- **invasive**: a plant that competes vigorously and takes over habitat
- **noxious**: a plant that is so invasive it is regulated by state or federal laws

Using Native Plants Successfully in the Landscape

The key to using native plants successfully is carefully choosing plants that will match your site conditions. While some native plants are tremendously adaptable to a wide range of environmental conditions, many are quite habitat-specific. Before you start selecting plant materials, know your site, including the exposure, soil texture, pH, fertility, moisture conditions, weed problems, and the history of use. The charts in this bulletin may then be used to determine if your site conditions will be similar to a desired plant's natural habitat. Some discrepancies can be corrected with soil amendments, mulching, fertilization, and other techniques, but these solutions may not overcome a poor match between your selected plant and site.

It is important to understand that most residential, and particularly urban landscapes, do not resemble any natural habitat. In these situations, the soil has been disturbed, natural vegetation has been cleared, and the microclimate has been changed. Furthermore, urban stresses such as compaction, pollution, salt runoff, and reflected heat can have a negative impact on remnant native trees and shrubs. The survival and growth potential of native species in these conditions may be no better or worse than exotic species.

Many plants that are native to river bottomlands are surprisingly adaptable to urban conditions. In their natural environment, these plants experience extreme fluctuations in soil moisture and oxygen. Researchers have found that these plants often can adapt to compacted, overly dry, or overly wet soils that are common to urban areas.

The needs of native plants may differ from conventional landscape plants. Fertilization may not be necessary with some meadow and prairie species. Over-fertilizing these plants may promote weak, spindly growth and invasion by weeds. In contrast, woodland plants need fertile, organic soils. Although most urban sites will not provide an ideal environment for woodland plants, amending soils with organic amendments will help.

While a carefully planned landscape using native plants can be low-maintenance once it has attained maturity, "native" landscapes may require considerable effort to establish, and are rarely maintenance-free. For example, a meadow or prairie community will decline if it is not managed by annual mowing, weed control, and reseeding.
Ohio Natural History

Ohio's native plant communities were dominated by forests. Three major types of forests occurred throughout Ohio: the Mixed Mesophytic Forest, the Western Mesophytic Forest, and the Beech-Maple Forest (see Diagram 1). In addition to forests, other native plant communities that once flourished in Ohio included bogs, swamps, wetlands, wet and dry prairies, meadows, oak openings, and even sandy ridges. The great diversity in Ohio's native plant communities was a function of several factors--most notably glaciers and climate changes (see Diagram 2).

Today, the most biologically diverse area of the state is the unglaciated Allegheny Plateau in southeastern Ohio. This hilly and rugged area has acidic soils and becomes more biodiverse as it stretches south into Tennessee and Virginia. In prehistoric times, the Allegheny Plateau was the only part of the state completely devoid of glaciers; however, nearby glaciers caused plant migrations to and from this area, producing a rich variety of flora and fauna. The plateau later became part of the Mixed Mesophytic Forest, which occupied the southern two-thirds of eastern Ohio.

Before falling to the ax, both the Mixed Mesophytic Forest and the Western Mesophytic Forest found in southwest Ohio were dominated by beech, tuliptree, sweet buckeye, and sugar maple. These forests had fertile soils that were high in organic matter. The Western Mesophytic region also contained a great number of swamps and bogs created by the Illinoian glacier, which was the southernmost glacier in Ohio, and the only glacier to reach into this region (see Diagram 2).

With the exception of the Allegheny Plateau and the Western Mesophytic region, the rest of Ohio was covered by more than one glacier. Most of this area was characterized by calcareous soils and Beech-Maple forests. Beech-Maple forests covered more than half of the state and encompassed at least two forest subtypes: Elm-ash-maple forests were common in flat areas, especially in the acidic Great Black Swamp area of northwest Ohio; drier oak forests thrived by sandy ridges bordering Lake Erie. These sandy ridges can still be found today although modern-day Lake Erie has receded. Swamps and prairies were also found throughout the region. A dry period some 3,000 to 5,000 years ago gave rise to several prairies in western Ohio. Remnants of these prairies can still be found, along with remaining swamps and wetlands.

For county-specific distribution of native species or for further information on forest types and plant communities, consult Deciduous Forests of Eastern North America; The Woody Plants of Ohio; The Monocotyledoneae: Cat-tails to Orchids; The Dicotyledoneae of Ohio Part 2: Linaceae through Campanulaceae; or The Dicotyledoneae of Ohio Part 3: Asteraceae. (See the Resources section in the back of this bulletin for additional information.)

Types of Landscapes to Consider

Many of Ohio's native trees and shrubs are common components of the nursery and landscape trade. While most of these native plants can be integrated successfully with exotic plants in nearly any style of landscape, a naturalistic landscape will maximize the benefits of native plants. Naturalistic landscapes are generally informal, low maintenance, and change with the seasons and the years. They attract wildlife by providing them food and shelter.
Plants listed in this bulletin are appropriate for two basic types of natural landscapes: prairie/meadows and woodlands. Wetland plants are not covered in this bulletin.

For sunny, open areas consider establishing native prairie or meadow plants. Prairie plants can be especially helpful for areas with difficult growing conditions, including poor drainage and fluctuating moisture levels, dry or rocky soils, and low fertility. Meadows and prairies can create four-season interest, a refuge for wildlife, and a fairly low-maintenance landscape for a large area.

A woodland landscape can be planned to create a sense of seclusion and privacy, to provide shelter from the elements, to preserve an existing native tree stand, or to accent a natural area such as a stream. Woodland plants generally prefer moist, fertile soils that are high in organic matter, although some may tolerate dry conditions. While many woodland species prefer acid soils, there are also some that tolerate a wide range in soil pH.

Native wildflowers look best in large clusters. Most native perennials spread by vegetative propagules that will create natural clusters over time. Annuals will usually reseed themselves, but the natural crosses that result may become less interesting over time. If showy flowers and color are the main objective, plan to reseed annuals every year. In a meadow or prairie garden, do this by slit seeding or raking. Disturbing the soil may bring weed seeds to the surface.

Wildlife

As undeveloped land dwindles in Ohio, natural habitats will continue to disappear. Not only is this a problem for native plant diversity, but also for wildlife and birds. Many native plants rely on animals and insects for pollination and seed dispersal. These native plants have, in exchange, been providing food, cover, and forage for wildlife over many centuries. Berries, nuts, and other fruits provide color for the winter landscape by themselves and through the birds and wildlife that feed on them. The right mix of native plants can create a haven for butterflies, birds, and other wildlife of Ohio, while also enhancing the life and enjoyment of a landscape.

Preserving Native Plants

Native plants are a special part of our state heritage and need to be preserved in the wild as much as possible. This can be accomplished by respecting wild stands of these plants and supporting measures that protect them. Biodiversity is important to the plant industry and can serve as a source for pest and disease resistance and other potentially useful traits. You can help preserve native plants by not collecting whole plants from the wild and by not buying from companies who collect from the wild.

You may want to propagate your own native plants from existing plants in your area. This will ensure a local genetics base and plants adapted to your area. Here are some general guidelines for collecting seed:

- Always get permission from the landowner before collecting seed. Never collect from state or national parks. It may be possible to get permission to collect in arboretums and botanical gardens.
Be sure you have properly identified the species. This is usually easiest to do when the plant is in bloom.

Before you start, know what to collect, when to collect, and how to collect. Consult one or more references.

Never collect more than five percent of the seed in a wild population. If few seeds are available from natural populations, locate a commercial source of the desired plant.

It is advisable to maintain genetic diversity by collecting from several large, healthy populations if possible.

Native Woody Plants

Obtaining Plants

The majority of native Ohio trees and shrubs listed here are available in the trade, although it may be necessary to find a specialty grower. Species, but no cultivars, are listed in this bulletin. Many fine cultivars may be available that offer improved or additional characteristics that native species lack, such as more attractive flowers, better form, or disease resistance. However, if a cultivar was not selected in a climate similar to Ohio's, it may not be adapted to Ohio conditions. If you desire a selection native to Ohio, consider propagating plants from an existing wild stand. The Ohio Department of Natural Resources Division of Forestry also offers several species of trees and shrubs. These are produced from Ohio seed and/or cuttings.

About this List

This list includes large, medium, and small trees, woody vines, and shrubs. To the best of our knowledge, all species listed are native to at least part of Ohio (see "distribution" for more specific details). Plants are alphabetized by scientific name. Common names are also listed, but may vary regionally. The average height at maturity is also listed.

If the plant has an especially showy flower, the last row gives information on its primary bloom season and flower color. Similarly, attractive fall foliage is indicated by "foliage:" followed by the primary fall leaf colors. Note that wild species may vary in these traits because of genetic diversity.

"Availability" indicates whether the specific tree or shrub is available in the nursery trade or from the Ohio Department of Natural Resources Forestry Division (ODNR). Some species in this bulletin are not readily available in the trade, but are provided as a guide to species that may already exist on a site.
Native Herbaceous Plants

Native herbaceous plants may be useful in one or more of the following situations:

- wild flower meadows
- prairies
- storm water basins, runoff areas, riparian zones
- perennial borders
- wetland or pond borders
- locations with growing limitations such as poor drainage, low fertility, dry soils
- informal, naturalistic landscapes
- golf courses
- roadsides
- parks
- landfill site reclamation
- corporate parks

Woodland plants are specifically suited to the following situations:

- shady sites
- woodland or shade gardens
- streamsides with tree cover

Obtaining Herbaceous Plants

Most annual plants, and some perennials, can easily be grown by seed. It may take a few years for perennials to establish themselves well. Many companies provide their own custom mixes. If purchasing a commercial "native" seed mix, be aware that the definition of "native plant" can vary. Native mixes may include species native to the region or the U.S., but not native to Ohio.

Cultivars of native species may be available in the trade that offer superior flower color, size, disease resistance, or other characteristics. As previously noted, some selections may not be appropriate for Ohio, but probably most are. Consider the available cultivars, especially for formal and residential landscapes.

Woodland flowers may be especially difficult to find, but many suppliers and new businesses are beginning to serve this growing interest. Check with local nursery suppliers or write to one of the groups referenced in the resource section in the back of this bulletin.

Generally, native plants do not transplant well; many have sensitive or very deep roots. Transplanting is not recommended and will probably lead to poor performance in the landscape. Help preserve native wildflower stands by not collecting whole plants and by not purchasing wildflowers that have been collected unless the wild habitat is about to be destroyed. It is against the law to collect plant material from public parks.
About this List

This list includes ferns, grasses, and wildflowers, but not aquatic plants. To the best of our knowledge, all species listed are native to part or all of Ohio. Check local resources if you want a plant native to your county—a plant native to Lake County may or may not be native to Hamilton County. By no means is this list all-inclusive. It includes only native plants that are easy to cultivate, have landscape appeal, and are available in Ohio. Plants are alphabetized by scientific name. Common names are also listed, but may vary regionally. Average heights are given as an approximation, as these may vary among natural populations and different environments.

"Availability" indicates whether the specific plant is available in the trade as plants or as seed. "Specialty dealers" indicates the plant is available from specialty nurseries and seed suppliers who specialize in wildflowers and native plants.

Native Plant/Natural Landscaping Resources

Choosing Plants

The National Wildflower Research Center, 4801 La Cross Blvd, Austin, TX 78739; http://www.wildflower.org [Publishes recommended species lists by state.]


Landscaping


Field Guides/Identification/Flora


Plant Supplier Lists

The National Wildflower Research Center, 4801 La Cross Blvd, Austin, TX 78739; http://www.wildflower.org [List of potential regional suppliers and a bimonthly member newsletter.]

New England Wild Flower Society, Garden in the Woods, Book Shop, 180 Henway Rd., Framingham, Mass. 01701-2699 [Regularly updated list: Nursery Sources, Native Plants and Wildflowers]

Ohio Nursery and Landscape Association, 72 Dorchester Square, Westerville, Ohio 43081-3350; 614-899-1195; http://www.onla.org [Annually publishes: Ohio Nursery Stock Survey.]

American Seed Trade Association, Wildflower Group, 601 13th St. N.W. Suite 570 South, Washington D.C. 20005-1593 [Updated list of native seed suppliers.]

Propagation


Creating Wildlife Habitats


Backyard Wildlife Habitat Information Packet, National Wildlife Federation. 8925 Leesburg Pike; Vienna, Va 22184; 703-790-4100; http://www.nwf.org/nwf/habitats


Educational Groups and Initiatives

Ohio State University Extension factsheets online at http://ohioline.ag.ohio-state.edu

Ohio Department of Natural Resources; http://www.dnr.ohio.gov/odnr/publications/publications.html

Division of Forestry: 1855 Fountain Square Court Columbus, Ohio 43224; 614-265-6694; http://hortwww-2.ag.ohio-state.edu/ODNR/Forestry.html [Seedling sales.]

Division of Natural Areas and Preservation: Fountain Square, Building F; Columbus, Ohio 43224; 614-265-6453 [Slide sets, posters, pamphlets and books available.]

United States EPA, Great Lakes National Program Office's Green Landscaping with Native Plants; 77 West Jackson Boulevard; Chicago, Illinois 60604; (312) 886-4040; http://www.epa.gov/grtlakes/greenacres

Purdue University Consumer Horticulture Department http://www.hort.purdue.edu/ext/prairie_wildflowers.html

Ohio State University Horticulture and Crop Science in Virtual Perspective; "Plant Dictionary" and "A Sense of Place;" http://www.hcs.ohio-state.edu/hcs/hcs.html

Sources Used in Creating this Bulletin


Native Plant Solutions Sampler

Dry Soils

Trees
Diospyros virginiana
* Gleditsia triacanthos
  (variety inermis)
Ostrya virginiana
Quercus coccinea
Quercus macrocarpa
Quercus muehlenbergi
Quercus velutina
Rhus copallina
Rhus glabra
Rhus tephina
Robinia pseudoacacia

Shrubs
Aronia melanocarpa
Ceanothus americanus
Comptonia peregrina
Juniperus communis
Potentilla fruticosa
Rhus aromatic
* Vaccinium angustifolium
* Viburnum prunifolium

Perennials
* Anaphalis margaritacea
Asclepias tuberosa
Aster azureus
Aster divaricatus
Aster ericoides
Baptisia australis
* Bouteloua curtipendula
* Ecchinaea purpurea
* Helianthus maximilianii
Hepatica americana
Liatris aspera
Lupinis perennis
*Opuntia humifusa*

*Phlox subulata*

*Rudbeckia hirta*

*Solidago nemoralis*

**Wet Soils**

**Trees**

**Acer negundo**

*Acer rubrum*

*Acer saccharinum**

**Betula nigra**

**Carpinus caroliniana**

**Larix laricina**

*Nyssa sylvatica*

*Populus deltoides**

**Quercus bicolor**

**Quercus palustris**

**Shrubs**

*Aronia melanocarpa**

**Cephalanthus occidentalis**

**Clethra alnifolia**

**Salix discolor**

*Sambucus pubens*

*Thuja occidentalis*

*Viburnum cassinoides*

*Vaccinium corymbosum*

**Perennials**

*Aruncus dioicus*

*Asclepias syriaca*

*Aster novae-angliae*

*Aster umbellatus**

**Caltha palustris**

*Carex muskingumensis*

*Chelone glabra*

*Cornus canadensis**

**Elymus virgatum**

*Filipendula rubra**

**Iris shrevei**

*Juncus effusus*

*Lobelia cardinalis*

*Monarda didyma*

*Physostegia virginiana*
Spartina pectinata  
** Verbena hastata  
Viola spp.

**Rocky or Gravelly Soils**

**Trees**

Celtis occidentalis  
Craetegus crugallii  
Craetegus phaenopyrum  
Diospyros virginiana  
Juglans cinerea  
Juniperus virginiana  
Quercus coccinea  
Quercus imbricaria  
Rhus glabra  
Sassafras albidum

**Shrubs**

Aralia spinosa  
Diervilla lonicera  
Juniperus communis  
Physocarpus opulifolius  
Rhus aromatica  
Rubus odoratus  
Vaccinium angustifolium  
Viburnum lentago

**Perennials**

Cystopteris bulbifera  
Elymus canadensis  
Hepatica americana  
Opuntia humifusa  
Phlox subulata

**Clay Soils**

**Woody**

Diervilla lonicera  
Quercus palustris  
Quercus velutina  
Symphoricarpos albus  
Herbaceous  
Cassia hebecarpa  
Elymus canadensis
Ratibida pinnata  
Solidago nemoralis  
Solidago rigida  

**Sandy Soils**  

**Trees**  
Betula nigra  
Diospyros virginiana  
Populus grandidentata  
Quercus coccinea  
Quercus velutina  

**Shrubs**  
Comptonia peregrina  
Diervilla lonicera  
Gaylussacia baccata  
Physocarpus opulifolius  
Vaccinium corymbosum  

**Perennials**  
Elymus canadensis  
Eragrostis spectabilis  
Euphorbia corollata  
Liatris aspera  
Lupinis perennis  
Opuntia humifusa  
Phlox subulata  
Solidago nemoralis  
Solidago rigida  
Solidago speciosa  
Verbena stricta  

**Low Fertility Soils**  

**Trees**  
Acer negundo  
Diospyros virginiana  
Populus grandidentata  
Quercus coccinea  
Quercus velutina  
Rhus typhina
Shrubs
Comptonia peregrina
Juniperus communis
Potentilla fruticosa
Rhus aromatica
Spiraea tomentosa
Vaccinium angustifolium

Perennials
Asclepias tuberosa
Baptisia australis
Helianthus mollis
Iris cristata
Lupinus perennis
Phlox subulata
Potentilla simplex
Rudbeckia hirta
Solidago nemoralis

Shady Areas

Trees
Acer nigrum
Acer saccharum
Amelanchier arborea
Amelanchier laevis
Carpinus caroliniana
Cornus alternifolia
Cornus florida

Shrubs
Hamamelis virginiana
Hydrangea aborescens
Ostrya virginiana
Staphylea trifolia
Symphocarpus albus
Taxus canadensis
Tsuga canadensis

Perennials
Aruncus dioicus
Asarum canadense
Aster divaricatus
Caltha palustris
Carex plantaginea
Chamaelirium luteum
Cornus canadensis
Dodecatheon meadia
Heuchera americana
Phlox subulata
Polophyllum peltatum
Tiarella cordifolia
Trillium grandiflorum
Viola spp.
most ferns

*drought tolerant
**tolerates flooding/standing water