

Gardening with Native Plants  
Leah R. Knapp, D.V.M.  
Professor of Biology  
Olivet College

Throughout our history, Americans have desired and sought out those things that are unusual or exotic: furniture from the orient, art from Europe, or plants from foreign places. But there is a new movement afoot, with so many things in our lives coming from outside the US, to seek out things from closer to home, things made in America, including a new appreciation for native plants, through the restoration of original habitats and as additions to our gardens.

**So, what is meant by “native”?** All living things including plants are native to somewhere, each having adapted and evolved to its particular niche in nature – climate, soil, predators, parasites, pollinators, fire, wind, nutrient availability, etc. – all the biotic (living) and abiotic (non-living) components of its original home. The place a plant or other organism is native to isn't just a continent or country, but potentially a specific place within that landmass. For example, a plant that is native to California isn't native to Michigan just because it's in the same country. An organism is native to the place in which it originally developed. In the US we tend to refer to native as anything that was here prior to European settlement. This is as opposed to things brought into an area where they didn't originate, either intentionally or accidentally. We refer to these as alien, non-native or introduced. In some cases these organisms may die out or fail to reproduce extensively or fill an unfilled niche, but very often, if allowed to reproduce and spread into the wild, can have serious, even catastrophic ecological impacts. Certainly many non-native plants we have imported for our gardens have proven to be such a threat. Other non-natives that we plant in our gardens are labor and resource-intensive, requiring considerable time, energy and chemicals to keep them alive away from their place of origin. Though some non-natives are well behaved and easy care, native plants are as good, or even a better choice, and deserve space in America's gardens. Natives have evolved with their climate, weather, diseases, parasites and grazers. They are survivors, native to an area because they are adapted to the conditions of that area without our help.

America has been blessed with an impressive variety of native plant species. While the last Ice Age, which ended 10,000 years ago, covered most of Europe and Asia, reducing much of their diversity of plants, in North America, less of the continent was covered in ice, so fewer plant species were lost or forced out, and subsequently others developed, giving North America a relative wealth of plant diversity by comparison. It is an irony, and perhaps because of the comparative paucity of native European plant species that many American natives have been grown more in the gardens of Europe than in those of the US. The question is, why have we so neglected our natives?

Let's take a look at a little history of the garden in America.

When Europeans first came to the New World, they were too concerned with growing food crops (and, ironically, tobacco, for sale back to Europe) to worry about gardening. When they did grow plants for pleasure, they preferred what was familiar from their homes back in Europe – tulips, foxgloves, hollyhocks, daisies and the like. As a species we tend to feel suspicion or discomfort from what is unfamiliar, and the sheer wildness of this “untamed” continent was sometimes disturbing or even frightening to the settlers after the intensely human-controlled Europe they'd left behind. Planting what was familiar provided a comfort and a sense of control. As European settlement of America grew, Colonial gardeners favored the formal geometric gardens that were popular in Europe at the time, such as we can now see in historic sites such as Williamsburg. Following the Revolutionary War to the mid 1800's, the preferred garden style became the “natural look”, which sometimes incorporated some native plants. Thomas Jefferson was a fan of natives, planting many at Monticello. As trade with other parts of the world expanded, plants were imported to the US and Europe, creating a thirst for more color and large exotic flowers, particularly tropical and subtropical plants from South America, Africa and Asia. The development of greenhouses allowed for easy propagation and sale of these plants, and the interest in what were, in America, annuals, meant even more profits for growers as people had to replace many of the plants each year. The Victorian craze for “bedding out” with blankets of petunias, begonias, geraniums and other such profusely blooming

tropicals spread from Europe to the US, displacing the use of native plants that had previously gained some popularity. There were those who resented this obsession with copying whatever Europe did, and as a sort of rebellion during the later 1800's, and the "prairie style garden" was developed in the Midwest as a sort of rebellious response, incorporating what many saw as "common weeds" into a low-maintenance gardening scheme. Post World War II the dramatic increase in middle class home ownership brought with it an increased interest in gardening, including an enthusiasm for lower maintenance landscaping with both native and non-native plants. In the 1960's Lady Bird Johnson's "Beautify America" promoted the planting of native plants, and various government incentives and mandates since then have increased the use of native species on many federal or state-funded sites. In the wake of all this and a growing concern for our beleaguered environment, native plants are starting to enjoy a renewed interest. When grown in the conditions they are adapted to – light, soil, moisture, etc., these plants can thrive without the need for pesticides, fertilizer, watering and other extraneous gardening methods. It is ironic that it is the native plants that have become unusual and even rare, and so, more desirable.

Yet our native plants face many threats in the wild, and many are in serious decline and even threatened with extinction. These threats include:

- 1) The greatest single reason for the worldwide decline of plant species, and animals as well, is the **loss of habitat**. After all, an organism can't survive if it has no place to live, and human expansion and development and our thirst for more and more resources have led to tremendous losses of habitat. Whether it is clear cutting an old growth forest or filling a wetland for a strip mall or bulldozing a desert for a housing development, we are consuming our wild spaces at an alarming rate.
- 2) **Non-native species pose a grave threat to native plants and animals**. Some of the more familiar non-natives in Michigan that have become problematic are the zebra mussel, sea lamprey, purple loosestrife, crabgrass, gypsy moth, autumn olive, Canada thistle, emerald ash borer, Queen Anne's lace, dame's rocket, gypsy moth, creeping Charlie/ground ivy, watercress, garlic mustard, Japanese beetle, Dutch elm disease, and most recently the Asian carp – the list goes on and on. Non-native species can be a threat to natives in multiple ways – as predators or parasites, competitors, diseases or disease-transmitters. In terms of our native plants, non-native animals (including insects, which make up well over half the animal kingdom) prey on or parasitize the plants, infect and weaken or even kill native plants, or outcompete native plants for resources, such as space, water, nutrients, pollinators and light. An introduced plant that is well-behaved in one place may be disastrous in another. For example, foxgloves or butterfly bush are overall pretty inoffensive when grown in Michigan, but are serious pests in the climate of the Pacific Northwest. And many so-called native or "wildflower" seed mixes commonly contain seeds of aggressive introduced species.
- 3) **Illegal/unethical removal of plants from the wild**. It has often been easier and more profitable to take natives from the wild for commercial or even black market sale than to grow them in cultivation, sometimes decimating local populations. Ignorant or uncaring people dig huge numbers of plants from the wild for their gardens and landscapes. Many plants such as ginseng and Echinacea are taken for medicinal uses. Even simply picking the flowers of native plants means a loss of seed production to maintain wild populations.
- 4) **Climate change is disrupting habitats**, leading to habitat loss and changes in growing conditions. Plants may find themselves struggling to survive in areas with dramatically changing surroundings and coping with expanding populations of insect pests. For example, the melting permafrost in the tundras of Canada and Alaska are resulting in invasion of trees and reductions of tundra wildflowers and grasses. Abnormal weather patterns are increasing with global warming, resulting in floods in areas that should be dry and drought in other areas, and native plants frequently suffer serious losses. Abnormally cold or warm weather all over the world places increased stress on native plants, making them more susceptible to disease, infestation and death.

So, what can concerned gardeners do?

- 1) **Plant native plants!** Add them to your garden in conditions where they would normally grow – prairie plants in the sunny spots, woodland natives for shade, etc. Don't baby these plants – given the right planting site, they will thrive.
- 2) **Purchase only “nursery propagated” native plants, not “nursery grown” ones** which can mean they were dug from the wild and grown for a period of time in the nursery.
- 3) **Avoid cultivars of natives when possible** – these can be lovely plants, but the “wild type” natives, the way the plants are found in the wild, are better for the environment and are often easier to grow.
- 4) **Never dig native plants from the wild unless an area is being destroyed for development, etc.**
- 5) **Avoid planting aggressive/invasive non-native plants.** If you want non-natives, make sure they are ones that won't spread to wild places.
- 6) **Avoid using insecticides in the garden and use them with care if they are truly needed -** insecticides kill important pollinators as well as insect pests, and can deprive garden and wild plants of the chance to reproduce.
- 7) **Reduce, reuse, recycle** – this means less habitat destroyed for resources and landfills, less fossil fuel burning.
- 8) **Support organizations that promote the preservation of habitat for native species** – The Nature Conservancy, Michigan Nature Association, Audubon Society, Wildflower Association of Michigan, etc.
- 9) **Tell others.** Ignorance is the greatest enemy of social change, and education is the greatest tool.

**So, go get some native plants for your garden, even if just a few. They are easy care, environmentally responsible, ecologically sound, economical to maintain, beneficial to wildlife, part of America's heritage, and simply beautiful!**

Some especially good, readily available (at stores, nurseries or plant sales) native plants suitable for most Michigan gardens include:

- 1) wildflowers/grasses - cardinal flower, black-eyed Susans, liatris/blazing star, purple cone flower, switch grass, early sunflower, white trillium, various violet species, hepatica, wild(red) columbine, various milkweeds including butterfly milkweed, Indian grass, dropseed, penstemon, Solomon's seal, many white water lily, creeping phlox, many asters, coreopsis, sneezeweed, Jack inn the pulpit, bee balm, trumpet honeysuckle vine, baptisia (indigo), obedient plant, Joe Pye weed, goldenrods, etc.
- 2) Shrubs and trees – several dogwoods (red twig, white flowering, silky, gray), redbud, potentilla/shrubby cinquefoil, ninebark, several viburnums, pussy willow, sugar, silver and red maple, many oaks, beeches and hickories, serviceberry, bear berry, chokeberry, rug junipers, arborvitae (“white cedar”), white pine, red pine, jack pine, hemlock, paper birch, elderberry, etc.
- 3) Ferns – lady, ostrich, maidenhair, cinnamon, Christmas, sensitive, etc.

For more information, contact the following:

Wildflower Association of Michigan  
Wild Ones native plant gardening association, including your local chapter  
Prairie Moon Nursery (Minnesota) - their catalog has a wealth of information on plants native to the Great Lakes region  
Michigan Native Plant Growers Association  
Your local conservation district  
Michigan Department of Natural Resources  
Nativeplants.msu.edu  
Michigan Botanical Clubs  
Michigan Natural Features Inventory