



Native Plants and Water Quality

Office of Water Quality

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Introduction

Native plants are grasses, wildflowers, trees, shrubs, and vines that have adapted to Indiana's climate over thousands of years and are therefore more beneficial to our environment. Because of their adaptations, native plants are better acclimated to our local environment and thrive with little maintenance or chemical application. Indiana's native plants have co-evolved with pollinating insects and other animals for a mutually beneficial ecosystem.

Conversely, non-native species often offer few benefits to wildlife and may require more resources to thrive. Some of these resources, like fertilizers or pesticides, create environmental problems when they get into our local waterways. Non-native species can also be invasive and aggressive because they do not have natural predators. These invasive species are problematic because they displace native species and can create monocultures that provide little value to animals for food and places to live.

What Are the Benefits of Native Plants?

- They do not need fertilizer or supplemental watering to help them grow.
- They can tolerate Indiana's cold winters and hot summers.
- They have very deep roots, as compared to turf grass, that allow them to be more drought resistant. These roots also help to stabilize the soil and prevent erosion.
- They have natural defenses against harmful insects and animals.
- They provide diverse and long-lasting beauty to the landscape.
- They provide critical habitat and food for native wildlife, including pollinators.
- They help improve water quality. Native plant species can be very efficient at absorbing nutrients, especially nitrogen and phosphorus, the main nutrients in lawn and agricultural fertilizers that contribute to algal blooms within waterbodies.
- Native plant roots create channels in the soil that allows water to infiltrate into the ground, reducing stormwater runoff, flooding, and facilitating recharge of groundwater.

Did You Know?

A half-acre of native plants can intercept 33,000 pounds of nitrogen/year, 4,930 pounds of phosphorus/year, and 2,940,000 pounds of sediment/year.



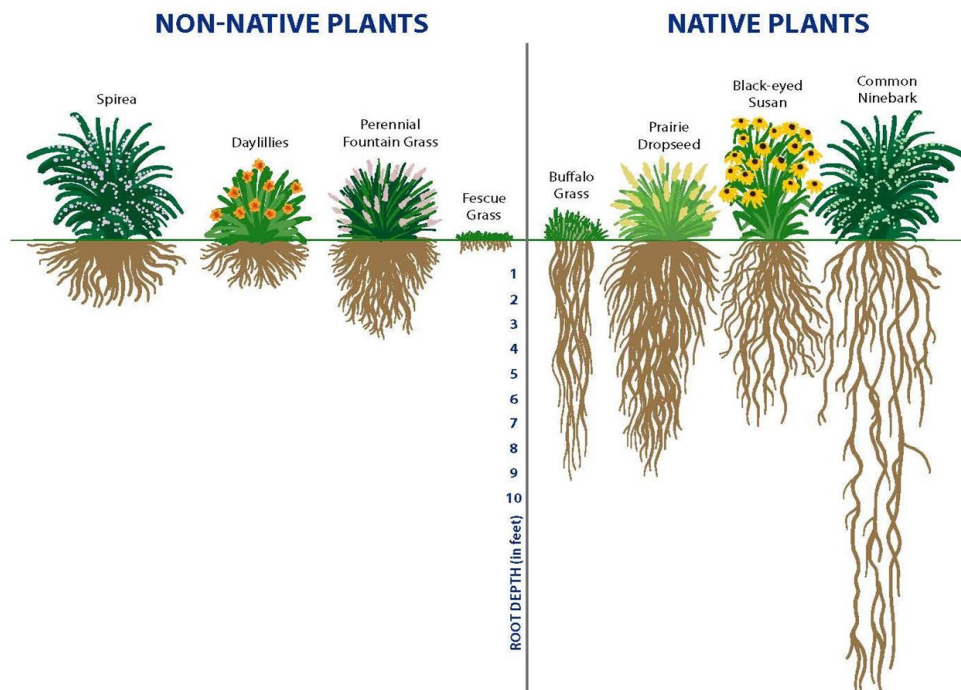


Figure 1. Common non-native landscape plants and lawn grass roots compared to native plant roots

Guidelines for Designing a Planting Area

- Consider the site conditions including existing vegetation, climate, moisture, hours of sun exposure, and soil type (clay, loamy, sandy). To ensure the highest chance of survival, select plants best suited for these conditions.
- Plantings should include varying bloom times, heights, and plant shape/structures including grasses, trees and shrubs. Plantings can be clustered for a manicured appearance or broadcast for a more natural appearance.
- Several nurseries and organizations in Indiana offer native seed mixes and plant plug kits that make native landscaping easy and include streams, wetlands, dryland, sunny or shady applications. Purchase local to ensure native genotypes are used and reduce the spread of disease.

Site Preparation

Remove existing non-native vegetation. This may take a full season and is essential to ensure the new plants thrive. Removal may require selective hand pulling, smothering with fabric, newspaper, or cardboard, and/or the application of herbicide. Follow product labels for best results. Till the soil as much as 6 inches deep if it is compacted. Incorporate a few inches of organic matter such as compost to improve soil health and nourish plant growth. Fertilizers are not needed and should not be used for native plants.

Installation of Native Plants

Install seed mix no deeper than one-fourth of an inch deep from October through May or as recommended by the nursery. A cover crop may be helpful to have quick cover. Lightly rake and cover with light application of weed-free straw mulch to maintain moisture. From seed, native plants can take a couple years to become fully established. Live plant plugs should be installed from May through October, watering deeply at least once per week for the first two months if rainfall is lacking. Trees should be planted in the spring or fall. One or three-gallon container trees are recommended for the best balance between cost/survival/growth rate, but bareroot plants are a good alternative for a large planting area. Ball and burlap trees should only be used in areas where they can be watered regularly. Plant live material as soon as possible to keep from drying out. Plant trees so that the root collar is level with the soil surface and apply a few inches of mulch. Don't pile mulch against the tree trunk. Monitor your planting area for bare soil and invasive species and perform maintenance as necessary.

Learn More About Native Plant Benefits and Plantings

- IndianaNativePlants.org
- Selecting Plants for Pollinators indiana.clearchoicescleanwater.org/plants
- United States Department of Agriculture website <https://plants.sc.egov.usda.gov/java/>