

# Implementation Guide Series

## Finding and Selecting Native Plant Material

### Inside:

You've decided to enhance your surroundings with the use of native plants. You have chosen the appropriate species for the site based upon the slope, exposure to the sun, soil moisture levels, overall design, safety and function of the project area. Now it's time to determine how to realize the beautiful planting that you envisioned based upon what is most feasible, reasonable and economical.

The purpose of this implementation guide is to provide you with information about where to find native plant materials, their selection and purchase from the native plant nursery or dealer and to help you determine whether you would rather establish your area from seed or by plants.



Although native plants are defined differently by different people, for the purposes of this guide we will refer to native plants as those plants that were historically found within a specific ecological community prior to settlement, and the subsequent introduction and invasion of plant materials from other geographic areas or ecological communities. The information presented here pertains to native grasses and native wildflowers (forbs) of some of Iowa's ecological communities including the tallgrass prairie, oak savanna, hardwood forests and wetlands. (Refer to the implementation guide **Why Plant Native?** for more information on native species.)



Purchase plants from a nursery specializing in natives.

## Finding Native Plants to Purchase

If you have spent any amount of time at local nurseries and garden centers looking for native grasses and forbs, you are probably wondering if they are even available for purchase. Although nurseries and garden centers sometimes carry a variety of native trees and shrubs, they do not typically carry other native plant materials. Do not allow this apparent lack of availability dissuade you from using native plants.

## Questions to Ask the Nursery

There are many nurseries and seed dealers throughout the Midwest that specialize in the seed and plants of native species. Contact Tallgrass Prairie Center for an up-to-date list of Midwest Native Plant Nurseries. Other valuable resources include the Iowa Ecotype Project at [www.uni.edu/ecotype](http://www.uni.edu/ecotype), Living Roadway Trust Fund at [www.iowalivingroadway.com](http://www.iowalivingroadway.com) and the Iowa Prairie Network at [www.iowaprairienetwork.org](http://www.iowaprairienetwork.org).

Just like shopping for a car, when buying native plant materials it is important that you do your homework and ask a lot of questions so that you don't end up with something you do not want. It is very important that you be well informed about your purchase. The following is intended to give you an idea of some questions to ask and information to get before you decide which nursery to purchase your plant materials from.

- Know exactly what species you are getting, and in what quantities
- Ask for references for other customers in the area, and follow up with phone calls and visits to those references to see how the nursery's plant materials look and have worked out for those particular projects
- Find out the source of origin (source identification) of the plant materials that you are ordering. Plants are best adapted to the specific climate, soils, and unique characteristics of an area, and they may become weedy, be susceptible to disease, or not survive well in areas distant from their source of origin, even if they are native. Additionally, stock from distant sources may contaminate the genetics of any valuable remnant species in an area. Ask what ecotype plant materials are available for species that you will use in your project, as they are from similar sites that are within a reasonable range (what is reasonable is open for interpretation) from your project.
- If you are unable to pick up the order in person, ask when and how it will be shipped, when it will arrive, and if there is any special care needed once you receive it (especially if you are not going to plant everything immediately!).
- Last but not least, don't hesitate to ask advice and discuss with the nursery your plans for site preparation, what planting techniques you will be using and how you plan to maintain the site. Odds are they have established a number of sites themselves and have a lot of valuable experience that they can share.



Ask your nursery about the source of origin of its plants.

## To Seed or Not to Seed

The decision to start with seed or live plants for your project is almost as critical as the species selection that has already been undertaken. Often the type and size of planting you are undertaking will easily help you determine which approach to use. If the decision is not yet clear, analysis of your budget, available equipment, labor force for maintenance, and how long you are willing to wait to have a “mature” planting will assist in selecting the method. Table 1 will help determine which technique to use.

## Purchasing Seed

If using seed is the best choice for your project, you are not yet done making critical decisions! You need to determine if developing your own custom seed mixture or if a seed mixture prepared by your seed dealer will best suit the project you have in mind. Seed is generally sold by its bulk weight in pounds or ounces. You may come in contact with the term *Pure Live Seed*, which is the bulk seed weight multiplied by the purity and germination percentages, which are obtained by the nursery when they have the seed tested. The *Pure Live Seed* number tells you what percentage of those seeds you can expect to germinate, and can help determine more specifically how much seed to plant.

Table 1	Seed	Plants
Typical Uses	Roadside enhancements, reconstructions, meadows, borders, large areas	Landscaping around entryway signage, formal landscaping, small areas
Typical Project Size	Greater than 1/2 acre	Under 1/2 acre
Establishment Techniques	Broadcast by hand or machine, seed drill, hydroseeding, dormant or frost seeding, aerial seeding (not common), prairie haying (not common)	By hand: contract labor, volunteer labor (service clubs, school groups, scouts, 4-H, FFA, etc.)
Estimate of Cost for a Typical Project (plant material only)	Per Acre 10 lbs at \$100/lb=\$1000 15 lbs at \$100/lb=\$1500 20 lbs at \$100/lb=\$2000	1/2 Acre=21,780 square feet (1 plant per square foot) 21,780 plants at \$2.00/pot=\$43,560 21,780 plants at \$0.75/plug=\$16,335
Prairie Effect Achieved in	3-5 years	1-3 years
Initial Maintenance Needs	1-3 years of intense maintenance: weed control by removal, mowing or herbicide. Fire management to help plants establish themselves	Mulching, watering, weed control by removal as needed during the first 1 or 2 growing seasons
Application Rate	8-20 lbs per acre, or 30-60 seeds per square foot	1 plant per every 1 to 3 square feet

## Creating a Custom Seed Mixture

Developing your own customized seed mixture is a highly rewarding experience. It affords the best ability to control exactly what is being planted and in what quantities, meet the goals you have for the planting, control its look and feel and enables you to select species that are adapted to the specific characteristics of the site. Application rates for all plantings by seed are in the range of 8-20 pounds to the acre — 8-12 lbs/acre is recommended for planting comprised only of native grasses or a low diversity mixed prairie planting, whereas 12-20 lbs/acre would be more appropriate for a diverse prairie reconstruction or roadside planting. Although pounds per acre is relatively easy to think about, the best understanding of what is being planted and in what quantity is determined at the seeds per square foot level. This requires knowing approximately how many seeds there are per ounce of each species and getting everything to average out at a rate of 30-60 seeds per square foot over the entire area. Suffice it to say that developing a seed mixture using seeds per square foot is an involved process and probably wouldn't be the easiest thing to tackle on your first prairie planting. The staff of native plant nurseries should be able to assist you in creating a customized seed mixture for your project.

## Over-the-Counter Seed Mixtures

Often native plant nurseries offer a variety of pre-made seed mixtures for various types of plantings. These mixes are usually sold by the pound or half pound. For example, a typical variety of seed mixtures that would be offered would include the following mixes: basic prairie, diverse prairie, dry prairie, wet prairie and savanna.

When choosing an over-the-counter seed mixture, it is important to find out exactly what species you are getting and in what quantities. It is equally important to determine if the mix will meet the goals of color, height, bloom time, etc. that you have for the project. Any pre-made seed mixtures that are considered must be from a reputable native plant nursery or dealer, since “wildflower” mixes from the local garden center or super center commonly contain invasive, exotic and alien species.

## Selecting Live Plants

If you have a smaller site, are looking for a more formalized look, or desire the effect of a prairie immediately, the use of live plants may be the best decision for your project. Most native plant nurseries have live plants for sale in addition to seed. A desired application rate for live plants is to have one plant per each square foot of the project area. Live plants come in a variety of container types and sizes. Pots are generally found in 2-inch to 4-inch and 6-inch sizes in round or square shapes. Plugs are cone-shaped containers that have a ¼-inch to ¾-inch opening at the bottom and taper up over their 3-inch to 6-inch height to a ¾-inch to 1½-inch opening at top.

When selecting live plants at the nursery, take some time to look them over. You are checking to see that they are in good health, are not showing signs of stress from wind, too much or too little water, or pest problems. Do not be afraid to pop the plant out of its container to ensure that it has a well-established root system that holds all of the soil in the container together.

It is important to know that plants in the nursery are accustomed to being watered on a very regular, (probably daily) basis, so they are going to require some watering once you get them in the ground. Applying a good organic mulch (woodchips work well) will help hold moisture, prevent weed establishment, and give a more formal look to the project area.

You may encounter varieties of native plant materials in your local garden center. These varieties, or cultivars, are plants that are developed or improved for certain characteristics.

Such plants are given a new common name and include “cv” along with the scientific name. Some of the native plants that have cultivars available include ‘the blues’ little bluestem, ‘heavy metal’ switchgrass, ‘magnus’ purple coneflower and ‘scarlet’ bee balm to name a few. Generally they are not recommended for true prairie reconstructions and should be limited to formalized settings where they cannot contaminate the genetics of remnant species.

Although there are a lot of factors to consider when utilizing native plant materials, with proper maintenance, patience and persistence, your efforts will beautify your community, improve the environment, and be enjoyed and appreciated for many generations to come.



## About Trees Forever

*Our mission – to plant and care for trees and the environment by empowering people, building community, and promoting stewardship – is fulfilled through cutting-edge programs and innovative practices. Through these, our trained and experienced staff has assisted community leaders and landowners across Iowa and Illinois with thousands of planting projects. Each year, on average, we work with and engage more than 7000 volunteers who give generously of their time and talents. To date, they have helped us plant more than 3 million trees and shrubs throughout Iowa and Illinois.*

