Prairie Restorations - What to Expect, When and Why
Or “War of the Weeds”
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The reasons for planting a prairie are as varied as the plants within one. Yes, prairies are beautiful, they provide incredible rainwater infiltration and control, they filter and improve the quality of groundwater, they attract amazing numbers and variety of wildlife and insects, and they require almost no maintenance once established.

Whether you’re planning a small raingarden or restoring hundreds of acres to prairie, many of the same principles apply. There is always preparation, installation, a small amount of initial maintenance and--of course--the anticipation. So we’ve put this primer together for those of you who haven’t gone through the process yet. And we do encourage you to go through the process, because there is nothing as stunningly beautiful and ecologically beneficial as a natural, native prairie.

Moving Foreword
Within the first year of a prairie planting, we almost always receive calls asking “Where’s the prairie? All I see are weeds!” First, let’s make sure we mean the same thing; a “weed” to a prairie is a non-native unwanted species. Second, make sure what you see are really weeds. If you’re used to turf-grass lawns, any native prairie plant may look like a weed. Third and most important, realize that because of the previous uses of the land, the methods of prairie restoration and the growth habit of prairie plants, weeds are almost always present in the initial phase of the prairie planting. The following explanation will help you understand the process involved in prairie restoration and what you should expect from your prairie planting.

Year One - Site Preparation
In most cases, agricultural fields, old pastures, and fallow fields are selected for prairie plantings. This is not surprising, since historically these areas were probably once prairie or savanna and were converted to farm fields because of their excellent soils.

Site preparation for a prairie uses the same practices and equipment a farmer uses in farming. Depending on the situation, it may be necessary to apply herbicides to kill weedy vegetation, or it may involve diskng, tilling, and recontouring. Unfortunately, these practices are also extremely conducive to weeds. In addition, years of agricultural practice has allowed thousands (sometimes hundreds of thousands) of weed seeds to build up in the soil. This is
known as a “seed bank.” While a farmer can apply selective herbicides to control most weeds, the prairie restorationist can’t, since the herbicides are also lethal to many prairie plants.

The Plant’s Strategies
So if your big question during Year One of a prairie restoration is, “Aren’t there a lot of weeds out there?” the answer is “Probably.” But don’t panic. It’s only natural. And …

Weeds associated with farm fields and prairie plantings are annuals, which means they germinate, grow, set seed, and die in one growing season. This also means they tend to grow early, fast, and tall.

On the other hand, most native prairie plants are either biennials (which require two seasons to flower and seed) or perennials (which continue to grow year after year). Biennials typically form a low-growing rosette the first year and flower the second year. Perennials, since they depend on below-ground structures for so much of their existence, invest in large amount of time and energy in root production and may show very little above the surface in the beginning. A typical native prairie perennial may have ten to thirty times as much root as it shows above ground. For example, Amorpha canescens (Lead plant) is a plant about 2’ tall with small purple blossoms, purple filaments and bright orange anthers. While it is relatively attractive up close, its real beauty is below the surface (as with all of us) – its can roots can reach down as much as 30 feet.

So these contrasting plant strategies of rapid growth vs. slow growth results in what many people see as just a field of weeds (you can think of it as the fable of the tortoise and the hare; we all know who eventually wins). Again, don’t panic, be patient. The native prairie plants are in there. And now we can use the weeds’ strategy against them.

Site Maintenance
During the first growing season, when the vegetation reaches about one foot, we urge you to mow at a height of six inches. Remember that the weeds’ strategy is to grow fast and tall, and cutting dramatically affects the weeds and prevents them from producing seeds. However, the perennials are too short to be injured by a six-inch mowing. We also recommend that you refrain from watering or fertilizing because those only benefit weedy species. Native perennials are adapted to the natural conditions and require no additional watering or fertilizer.

Year Two
All the weedy annuals that germinated in Year One will have died and, if proper maintenance was done, the number of weed seeds in the soil has been greatly reduced. The perennials, with their well-established root system, now begin to allocate a greater portion of their energy to above-ground plant parts. What you begin to see is called “succession,” the process by which one plant community replaces another plant community. In this case, it is the beginning of the perennial prairie species replacing the weed community. Remember, this is not an “all-or-nothing” process, and some weed species can persist for years. Prairie plants—with their increased production of above ground structures and their superior below-ground (root) systems—will gradually out-compete and replace the weeds. Expect some prairie plants to flower in Year Two.

Site Maintenance
Since soil disturbance is essential for the weeds to continue to survive, it is
recommended that you refrain from pulling out the weeds by roots. (That’s right; we recommend that you do not to work on your prairie.) Even the small area of disturbed soil from pulling a weed can let many seeds that are still in the soil emerge.

Fire is an integral part in the maintenance of a healthy native prairie. Fires have maintained native prairies for thousands of years. By investing a large portion of their nutrients to an underground structure, prairie plants can endure most, if not all, prairie fires. Weedy annuals have no such protection and can not cope with repeated fires. Again, be patient; one initial fire will not rid your prairie planting of all weeds. Burning is most effective in early spring or late fall, and if you are not familiar with controlled burning (and the often-required certifications, licenses and permits), please consult a professional.

Year Three, Four and Beyond

Burning may be required, if there is sufficient above-ground dried fuel, for several consecutive years. Generally after Year Four, the prairie plants will be well on their way and it may only be necessary to burn every two or three years. Years Three and Four should become increasingly colorful as more and more of the prairie plants reach sufficient size (vigor) to flower.

FAQs

Here are some additional and common questions and answers concerning prairie restoration sites:

Q) Will there ever be a time when all the weeds are gone?
A) No. Even minor soil disturbances such ant mounds and animal tracks provide sufficient habitat for some weeds to establish.

Q) Is it harmful to have some weeds?
A) No. As long as weeds are kept to manageable levels they will not present a problem. In fact, some weeds are quite attractive when they flower.

Q) Are there alternatives/options to burning?
A) Not really. Prairie plants are adapted to fire, which concentrates nutrients and blackens the surface which, in turn, let’s the soil warm faster in spring which, in turn, allows prairie plants to begin growth early.

Q) Are all weedy species annuals?
A) No, some weedy species, such as bluegrass, are perennials. These species are not as easily removed or replaced through succession, competition, mowing or fire. While they might not be eliminated for a number of years, good practices can reduce them to minor components within the prairie landscape.