

ns

lf Course Grasses



Mary Meyer, Extension Horticulturist and Professor, University of Minnesota

growth starts in the spring, and cutback plants grow much faster than untrimmed plants. Large areas, such as prairies, should be mowed, hayed or burned every few years for best growth and removal of woody species. Once established, the grasses in this article grow with minimal maintenance, fertilizer, or water. As

someone who grows grass, you know that matching the species to the site is key to success. For more information, look for the new 2012 edition of U of M Extension publication, *Ornamental Grasses for Cold Climates*, online: <https://shop-secure.extension.umn.edu/PublicationDetail.aspx?ID=878>.



Previous page: Grasses combine well with other annual and perennial flowers. This mass planting of grasses shows front left, little bluestem; center, the red fall color of Blue Heaven™ little bluestem, and ‘Tara’ prairie dropseed along the front walk; upper right is more little bluestem. photo credit Mary Meyer

Above: Prairie dropseed, *Sporobolus heterolepis*, covers a berm at the entrance to Windsong Farm Golf Club near Watertown, MN. photo credit Mary Meyer

Below: Because switchgrass (*Panicum virgatum*) is native to almost every state in the US, it has a wide range of forms and growth habits. Shown here are ‘Thundercloud’ 7’, left; ‘Prairie Sky’ 4’, center; and ‘Cloud 9’, 6’, right. photo credit Mary Meyer





Create a mass of beauty by using one or two grasses in a large planting. Blue Heaven™ little bluestem (*Schizachyrium scoparium* ‘MinnBlueA’) shown above in the foreground at the Turf Center at the U of M in St Paul, is an introduction from the U. This native selection is upright, about 40” tall and has striking burgundy and red fall color. Blue-green foliage in the summer gives this grass its common name; it prefers well drained sites and full sun. phot credit Mary Meyer

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Natural Areas Management

Why we do things differently in Midwest native plant stands



Editorial by Inger Lamb, Photo credits Mary Meyer

The ultimate goal in natural areas management is to establish and maintain an area completely filled in with native plants, with essentially no bare ground. This is important because *both erosion and management requirements are greatly reduced once the soil is covered with mature vegetation*. Many natural areas management activities are based on this general goal; however additional goals may include increasing plant diversity, improving the stand as habitat for wildlife, improving accessibility, providing educational opportunities, and increasing public acceptance.

Another important management concept is summarized by a phrase often used by successful natural

areas manager Jack Pizzo: “*natural areas management is not so much about making native plants grow, it’s about making non-native plants NOT grow*”. In other words, get the undesirable plants out of the way and the native species will dominate; the competitiveness of mature deep-rooted Midwest native species allows the land manager to stand back and let nature take its course.

An additional natural areas management guideline to remember is that *monitoring and management decisions are adaptive - they vary as the vegetation matures and with weather patterns*. A young stand will require much more work and monitoring than a mature stand, and the management will be significantly different. All natural areas should

In the photograph on the left you can see the best selling grass in the US is feather reedgrass, Calamagrostis xacutiflora 'Karl Forester'. Growing to 4', the wheat-like appearance is attractive throughout summer and fall. Feather reedgrass is sterile and forms a tight bunch, with no rhizomes. phot credit Mary Meyer

be routinely monitored, less so as the stand matures but at least annually. In particular, after extremes of weather it's important to evaluate the stand condition and take action to counter any detrimental effects that have occurred.

Think "low input" when contemplating natural areas management: no fertilizers, no watering, no annual re-planting, minimal mowing after establishment. These and other aspects of native vegetation/ natural areas management that vary significantly from traditional landscape management are outlined below.

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A review of natural area management rationale that differs from traditional landscape management:

1) Fertilizers are bad

- a) Native plants are adapted to our soils and environment and do not need fertilizer.
- b) Use of soil amendments such as compost and/or application of fertilizers will cause the native plants to exceed normal height, sometimes to a dramatic extent, become unattractive and “leggy”, flop over or break off at the ground, and sometimes, die.
- c) Additionally, fertilizers will benefit weedy non-native species.

2) Fire is good

- a) Prescribed fire is a commonly used natural areas management tool. For example, the Polk County Conservation Board staff burn hundreds of acres in Polk County annually.
- b) Prescribed fire not only removes dead vegetation, it stimulates the natural



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Shady, especially dry shade is difficult for most plants, however, the native oak sedge or Pennsylvania sedge is found in woods through Minnesota and the north central states. It grows easily in dry shade and grows only 8-12" tall. Plant Pa sedge along the edge of woods or a shady path and it will increase by rhizomes. photo credit Mary Meyer

vegetation. It is often said that native species are fire tolerant; however, a more accurate phrase would be that our native species are fire dependant.

- c) A large area can be cleared in a short amount of time using prescribed fire. This is much more efficient than mowing and removing clippings, and additionally kills tree seedlings that have to be individually stump-treated with herbicide if only mowing is employed to cut the old vegetation back.
- d) Proper training and preparation is essential before conducting a prescribed fire. The highest standard is the National Wildfire Coordinating Group guidelines & incident commnd system.
- e) Some individuals will coordinate prescribed fires for a fee, in addition to some County Conservation Boards and rural fire departments.
- f) In general, half to a third of a stand is burned at a time, providing refugia for insects and animals in the areas.

3) Bare soil is bad

- a) To take advantage of the low-maintenance aspects of native vegetation, the area needs to be completely covered with vegetation. Otherwise, weeding (both native and non-native species will self-seed) will be a perennial requirement to maintain the site.
- b) Bare soil is subject to erosion, the deep roots of native species stabilize the ground.
- c) Mulched areas “count” as bare soil – weeds will grow just fine on mulch

4) Most weeds are not a problem once a native plant stand is established

- a) This is why mowing is so important the first years after seeding a natural area – it reduces seed set by annual weeds and aids establishment of the native species by reducing competition and increasing availability of sunlight.
- b) Once the native stand is mature, competition for water and nutrients from the deep rooted native species, and lack of bare soil, enormously reduces many weed problems.
- c) Some perennial weeds, and tree seedlings, do need ongoing monitoring and treatment if they become problematic.

5) Pre-emergent herbicides and seed germination inhibitors (e.g. “Preen”) are bad

- a) It is desirable to allow the native plants to reseed naturally (and no weeds should be allowed to set seed anyway). In this manner the natives will “find” micro-environments that are the most suitable for them and the stand will evolve to it’s most stable state and be best suited to withstand environmental extremes.
- b) If a traditional landscaping style of groupings or drifts of similar species separated by mulched areas is desired, a seed inhibitor may be used in the unvegetated areas, but it is to be expected that annual weeding will still be required. This style of landscaping is much higher maintenance than a solid stand of vegetation.

This article is a combination of two from Mary Meyer, who provided photographs and Inger Lamb of Prairie Landscapes of Iowa who did the editorial. If you have an article to write and insert into the Hole Notes or have an idea for an article please contact jack@mgcsa.org

6) Use of fertilizers or herbicides on areas adjacent to native vegetation must be done carefully

- a) This applies especially to grass near ponds and rain garden areas – watch what is downslope and downwind from any chemical application.
- b) The broadleaf weed killer in “weed & feed” products will kill most native species.
- c) Fertilizers will cause native plants to grow inordinately tall AND will benefit weedy species.
- d) Also avoid aerial drift onto native plants if herbicides are sprayed nearby.



Blue grama (Bouteloua gracilis) prefers full sun and well drained sites. Unmowed it grows to 12-18”, as shown here at the front of this flower border. Mass plantings can cover larger areas. photo credit Mary Meyer

This is often combined with sideoats grama, (Bouteloua curtipendula) which grows to 2’, as shown to the right: sideoats in background; blue grama in foreground. photo credit Mary Meyer



7) Watering is bad

- a) Irrigation is needed for native plant seedlings and plant plugs during establishment stage (first month after planting) and during unusually dry spells for the first growing season only.
- b) Watering native plants after they are established will cause the same problems as fertilizing – they will get inordinately tall, flop over or break off at the root, or die.

8) Mowing is essential during establishment of a native plant stand – but at a MINIMUM height of 6 – 8 inches

- a) Minnesota native plants have extremely deep and fibrous root systems, which are established in the first few years of growth; during this establishment phase above-ground growth is quite reduced but needs ample sunlight. To keep the high sunlight - requiring young plants from being shaded by more vigorous weeds or the cover crop, mowing is necessary during the establishment phase. Native plants are adapted to grazing and trampling, so the effects of mowing are tolerated and are preferable to the effects of excess shade and nutrient competition from other plants.
- b) After mowing, clippings should be removed to further increase sun exposure.
- c) After the stand is established the site needs to be mowed or burned once per year.
- d) It is essential NOT to mow as short as a traditional turfgrass lawn – leave a minimum of 6 inches, and preferably 8 inches, of plant material intact. This will provide the benefit of reduced competition from weeds while not stressing the native seedlings with a severe cut.
- e) Use of a string trimmer is acceptable in smaller areas and for spot weed problems
- f) DO NOT MOW buffalo grass turf unless it gets more than 5 inches tall. This species usually stays less than 4”, if it does exceed 5”, mow to 4 inches NOT the standard turfgrass height of 2.5 inches.
- g) Routine lawn mowing adjacent to native areas should not encroach into native plant stands. If this tends to happen, large rocks, fence stakes, wooden poles, or signage placed along the edge of the stand will help define the natural area and deter mowers.
- h) Frequency of mowing:
During first year after seeding a native plant stand should be mowed to 6 -8 inches about once per month, more often if there is high weed pressure and less often if there are few weeds. During the second and third year after establishment mowing, or spot mowing/weed whipping, should occur periodically as required by weed pressure. Mowing should be done at a height of 6 - 8 inches. Once established (three years and beyond), a native plant stand may need to be mowed once per year, particularly if it is not burned. This should be done to a height of approximately. 4 - 6 inches, preferably in early spring before April 15 start of nesting season. This allows the dead vegetation to provide winter habitat but is removed before significant spring growth occurs or bird nesting begins. In years when the stand is not burned it is preferable to remove the clippings after the spring mowing where feasible.