Using Prairie Plants in Golf Course Planting Beds

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At many Chicago-area golf courses, increasing emphasis is being placed on the aesthetics of course and clubhouse grounds. Many different ornamental plants, including trees, shrubs, and flowering herbaceous plants, are employed to dress-up the grounds. Superintendents have found flowering perennials to be especially useful because of their wide ranges of color, size, and shape, and also because they can be long-lived and tolerant of local conditions. A great many of the commonly used flowering perennials originate in other parts of the world, and while some of these introduced plants perform adequately, others require excessive management to maintain their health and appearance.

An alternative to the use of introduced perennials is to employ native prairie plants. This is not to recommend the recreation of a native prairie, but to encourage the use of prairie plants in traditional, horticultural island beds and borders. Native prairie plants are often overlooked and under-used, whether mixed with introduced types or used alone. Prairie natives come in a wide variety of shapes, sizes, flowering periods, and colors, and by selecting them appropriately, an interesting, attractive, and low-maintenance planting can be achieved.

Benefits of Using Prairie Plants

There are a number of obvious benefits that native plants can provide. For instance, native plants often have fewer insect or disease problems because the plants and pests have evolved together. This coevolution frequently provides plants with resistance or tolerance to attack. Another benefit is that most native plants easily tolerate the broad range of environments often seen in the Midwest. Introduced plants, unaccustomed to local weather vagaries, may not withstand the year in and year out broad temperature fluctuations that are often encountered. Also, Midwestern soils can range from heavy, fine-textured clays to coarse, well-drained sands. Regardless of the specific local environment, there are normally natives that are tolerant. Wildlife attraction is another benefit of these plants; many native plants encourage visits by songbirds and butterflies. Finally, using a combination of forbs (flowering, herbaceous, broad-leaved plants) and grasses can often provide both a unique aesthetic experience, as well as an opportunity to provide education about the botanical heritage of an area.

Getting Started-Become Familiar with the Plants

When planning any landscape area, proper plant selection is important to the success of the planting. Because they may be unfamiliar, the first step in planning a prairie border or island bed is to become familiar with a number of native plants. Begin by selecting plants that are easy to grow and tolerate horticultural settings. Avoid plants that only do well in native prairie situations; these plants may not tolerate being moved into a bed. Tables 1 and 2 list prairie plants that have worked well together and are not difficult to obtain or manage. Many natives are also useful, but it may be wise to begin with a limited palette of

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(Prairie Plants continued)

Table 1. Prairie Plants for Landscaping

Scientific Name	Common Name	Flower Color	Spacing	Competitive w/ Invasive	Habitat	Propagation	Comments
Amorpha canescens	Lead Plant	purple	2 to 3'	no	dry	seed, softwood cuttings	Nitrogen-fixing woody shrub. Slow growing. Showy in flower. Gray, pubescent foliage.
Andropogon gerardii	Big Bluestem, Turkeyfoot	reddish	2 to 3'	yes	mesic-dry	seed, division	Forms sod. Attractive in autumn when in flower. Can be planted as temporary screen. Warm-season grass.
Aster novae-angliae	New England Aster	purple	1 to 2'	yes	wet-mesic	seed	Very showy. Many selections made of this species.
Bouteloua curtipendula	Side-oats grama	purplish	15 to 24"	moderately aggressive	dry-mesic	seed, division	Warm-season grass. Mass for best effect.
Ceanothus americanus	New Jersey Tea	white	2 to 3'	no	dry-mesic	seed	Nitrogen-fixing shrub. Handsome white flowers.
Coreopsis palmata	Stiff Tickseed	yellow	18 to 30"	yes	mesic	seed, division	Self seeder. Performs well on poor soils.
Dodecatheon media	Shooting Star	white to pale pink	10 to 15"	no	wet-dry	division, seed	May be damaged by spring fires. May perform best with some shade.
Echinacea purpurea	Purple Coneflower	purple	1 to 2'	yes	dry-mesic	seed	Can be aggressive.
Geum triflorum	Prairie Smoke	pink-red	8 to 15"	no	dry-mesic	seed, division	Sensitive to spring fires and competition from grasses. Mass as a facer plant. Can form dense mats.
Helianthoides helianthoides	False Sunflower, Ox-eye	yellow	1 to 2'	yes	mesic	seed, division	Can form colonies.
Koeleria cristata	Junegrass	silvery to golden	12 to 18"	no	dry	seed, division	Cool-season grass, not competitive.
Liatris pycnostachya	Prairie Blazing Star	purple	6 to 12"	no	wet-dry	seed	Very showy.
Panicum virgatum	Switchgrass, Panicgrass	pale yellow	18 to 36"	yes	wet-dry	seed, division	Aggressive. Several attractive cultivars available.
Phlox pilosa	Prairie Phlox, Downy Phlox	purple-rose	8 to 12"	no	wet-dry	stem cuttings, seed	May self seed.
Ratibida pinnata	Yellow Prairie Coneflower, Greyheaded Coneflower	yellow	15 to 24'	yes	mesic	seed	Aggressive, needs competition. Tall and showy.
Rudbeckia hirta	Black-eyed Susan	yellow	1 to 2'	yes	wet-mesic	seed	Biennial or short-lived perennial. May self seed.
Ruellia humilis	Prairie Petunia, Wild Petunia	lavender to purple	12 to 18"	no	dry-mesic	seed	Low-growing facer plant. Attractive pale summer flowers.
Schizachyrium scoparium	Little Bluestem	bluish-red	12 to 20"	no	dry-mesic	seed, division	Warm-season grass. Attractive fall through winter.
Silphium terebinthinaceum	Prairie Dock	yellow	3'+	no	dry-mesic	seed	Tall and coarse.
Solidago rigida	Stiff Goldenrod	yellow	2 to 3'	yes	dry-mesic	seed, division	Attractive. Can be aggressive and may require competition. Seeds heavily.
Sorghastrum nutans	Indiangrass	bronze	2 to 3'	yes	mesic-dry	seed, division	Aggressive, needs competition.
Sporobolus heterolepis	Prairie Dropseed	pale pink	18 to 24"	no	dry-mesic	seed, division	Attractive and delicate. Fine-textured. Fragrant.

Table 2. Prairie Plant Flowering Period and Heights

Plant	April	May	June	July	Aug.	Sept.	Oct.	Height
Prairie Smoke	xxxxx	xxxxx						6 to 16"
Shooting Star	xxxxx	xxxxx	xxxxx					1 to 2'
Prairie Phlox, Downy Phlox	xxxxx	xxxxx	xxxxx	xxxxx				1 to 2'
Junegrass		xxxxx	xxxxx					1 to 2'
Lead Plant		xxxxx	xxxxx	xxxxx	xxxxx			1 to 3'
New Jersey Tea			xxxxx	xxxxx				1 to 3'
Prairie Petunia			xxxxx	xxxxx	xxxxx			1 to 2'
Stiff Tickseed			xxxxx	xxxxx	xxxxx			1 to 3'
Purple Coneflower			xxxxx	xxxxx	xxxxx	xxxxx		2 to 4'
False Sunflower, Ox-eye			xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	2 to 6'
Yellow Prairie Coneflower,				xxxxx	xxxxx			2 to 5'
Black-eyed Susan				xxxxx	xxxxx			1 to 3'
Prairie Blazing Star				xxxxx	xxxxx			2 to 4'
Side-oats grama				xxxxx	xxxxx	xxxxx		1 to 3'
Switchgrass				xxxxx	xxxxx	xxxxx		3 to 5'
Prairie Dock				xxxxx	xxxxx	xxxxx		3 to 8'
Big Bluestem					xxxxx	xxxxx		3 to 8'
Little Bluestem					xxxxx	xxxxx		1 to 3'
Indiangrass					xxxxx	xxxxx		2 to 6'
Prairie Dropseed					xxxxx	xxxxx		1 to 3'
New England Aster					xxxxx	xxxxx	xxxxx	1 to 6'
Stiff Goldenrod					xxxxx	xxxxx	xxxxx	2 to 4'

plants. A bibliography at the conclusion of this article provides several plant references that can be both interesting and helpful.

When learning about these plants, it is important to consider flower color, flowering period, spacing, height, and agressive tendencies. Refer to Tables 1 and 2 to obtain basic plant information. Consult more complete references for plant drawings, photographs, and other information.

Habitat preference is also important. Most prairie plants perform best in full sun. Soil moisture preference vary from hydric (wet) to xeric (dry). Mesic soils are intermediate and plants listed as preferring moderate moisture may work best in most normal planting beds.

Some prairie plants can be aggressive and may invade adjacent areas through seed spread or by rhizomes or stolons. Use these plants carefully, and maintain them to limit their invasive characteristics. Reduce aggressive tendencies by planting vegetative invaders in restricted areas or by dead-heading seed spreaders before seed dispersal.

Designing the Planting Bed

After selecting a palette of plants to work with, create a plan for their use. Decide if the bed is to be a free-standing island bed seen from all sides or a border that will only be seen from one side. Do not try to recreate native prairies in which grasses normally make up more than 70 or 80 percent of the total plants. Make the majority of plants in the design forbs to provide color and general structure to the bed, and accent the planting with grasses for a unique appearance.

General design recommendations that apply to other plantings also apply to this type of installation. Consider where the plants should be located — in the front, center, or rear of the bed. Plan so there are plants in bloom throughout the growing season and color combinations are pleasing. Do not ignore the late-autumn, winter and early-spring periods; some plants, especially grasses such as little bluestem or Indiangrass, can provide much interest when forbs and other ornamentals are typically not showy. Provide adequate space for plants to fully develop so that less-vigorous individuals are not crowded out.

Planting the Bed

When planting a prairie garden, prepare soils as you would any annual or perennial bed. Incorporate organic matter to improve heavy-clay or light-sandy soils. Use prairie plants adapted to mesic areas in this type of planting bed.

It is recommended that the area be planted using nursery-produced container stock. Do not dig native plants for transplanting. Several local nurseries (see source list at end of this article) produce small, inexpensive plugs or potted plants that transplant well and often flower earlier than producing your own plants from seed. These plants can be installed from spring through early fall, provided water is available. Do not plant in late fall; ground movement due to freezing and thawing can heave small plants out of the ground due to a lack of root development. Commercially available seed mixes are also available, but may be less desirable. Seed mixes often contain introduced types, do not allow for selection flexibility, and often suffer from weed invasion.

Follow the planting design, and be sure appropriate space is availalbe for plant development. After planting, spread a thin layer of an organic mulch to restrict weed invasion, buffer soil temperatures, and reduce water loss. Water as needed until plants are established.

Maintaining the Bed

After the beds are established, maintenance activities are limited. Water only as needed to prevent wilting; during normal growing conditions, most of these plants will tolerate some drought. Fertilizer applications are rarely required if soils are of adequate natural fertility. Weeds should be hand-pulled or hoed until the prairie plants have completely covered the bed's surface. Dead head forbs after flowering to improve bed appearance and decrease seed movement into undesirable areas.

Questions regarding the need for burning prairie plants often arises. In areas where burning is both legally and safely possible, burn plants in early spring. Obviously, take care to ensure no damage occurs to adjacent areas. Where burning is not possible, cut plants to just above ground in early spring and remove the stubble for disposal.

We are fortunate to have a broad palette of ornamental plants for improving Midwestern enhancing the golfing experience. Grounds appearance can be made even more interesting by appropriately incorporating beds composed of native prairie plants into the golf course. Many prairie forbs such as black-eyed Susan, purple coneflower, coreopsis, and goldenrod can be easily combined with little bluestem, Indiangrass, prairie dropseed and other attractive grasses to produce beds that are singularly unique and spectacularly beautiful. (cont'd. page 19)

SOURCES

Boehlke's Woodland Garden
Country Aire Road W140N10829
Germantown, WI 53120

LaFayette Home Nursery
R. R. Box 1A
LaFayette, IL 61449
(309) 995-3311

Little Valley Farm
R. R. 1, Box 287
Richland Center, WI 53581
(608) 538-3180

Midwest Wildflowers
P. O. Box 64
Rockton, IL 61072

The Natural Garden
38 W, 443 Highway 64
St. Charles, IL 60174
(708) 564-0150

Possibility Place Nursery
R R 1, Box 235B
Monee, IL 60449
(708) 534-3988

Prairie Moon Nursery
Rt. 3, Box 163
Winnona, MN 55987
(507) 452-5231

Prairie Nursery
Rt. 1, Box 365
Westfield, WI 53964
(608) 296-3679

Prairie Restorations, Inc.
P. O. Box 327
Princeton, MN 55371
(612) 398-4342

Prairie Ridge Nursery
9738 Overland Road, R. R. 2
Mt. Horeb, WI 53572
(608) 437-5245

Wildlife Nursery
P. O. Box 2724
Oshkosh, WI 54903
(414) 231-3780

Windrift Prairie Shop
Rt. 2
Oregon, IL 61061
(815) 732-6890

Woodland Acres Nursery
Rt. 2
Crivitz, WI 54114

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