

U of M Update

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Ornamental Grasses for Golf Courses

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This month's feature article was contributed by Mary Hockenberry Meyer. Mary has just completed her Ph.D. at the University of Minnesota and has accepted a position as Assistant Professor and Extension Horticulturist at the University Landscape Arboretum. Mary's specialties are ornamental grasses, native grasses, and alternative grasses for lawn and commercial turf.

All of the grass on your golf course is ornamental isn't it? Of course, but the grasses referred to in this article don't require mowing, vary in height from 6" to 10" at maturity and are grown for their overall form, attractive flowers, or foliage.

There are hundreds of grasses to choose from; some can offer an exotic look to a water hazard, others can turn the edge of a rough into a natural prairie, and still others combine well with perennials in flower beds.

The most common concern for our area is, will these grasses survive the winter? Eighty-five grasses and hedges survived for six winters, from 1987-1993 at the Minnesota Landscape Arboretum in a collection of 165 species and cultivars. Some of these are native to the Midwest or Minnesota, others are exotics from Asia, Europe or Australia, etc. The grasses highlighted in this article are hardy perennials for Minnesota that have these attractive features:

- Very few insect or disease problems
- Low nutrient requirement
- Low maintenance (except spring cutback)
- Provide more than one season of interest; flowering in spring, summer or fall, with beauty and color lasting into winter
- Fast growing; almost all species reach their mature size by the second year for large plants this means a 5-8' plant
- Provide texture variation, from fine fescues to coarse giant miscanthus
- Offer foliage colors of blue, yellow, bronze, red as well as variegated white and yellow
- Movement with the wind provides sound and motion as well as interest and beauty

Although there are many possible uses for these ornamentals on your golf course, three areas will be covered in this article 1) grasses for use near water 2) native grasses which can be grown as a naturalized area or prairie and 3) grasses for use with other bedding plants.

GRASSES FOR USE NEAR WATER

On a golf course, ornamental grasses near a water hazard, pond or stream can add an exotic or naturalized look, depending on which species you select. **Miscanthus** gives the exotic look of Asia, with its large, silvery white plumes in September, while **Spartina** is a less conspicuous grass with long sword-like leaves that is native to the wet soils of the tallgrass prairie.

Listed in Table 1 are grasses that can be planted along the edge of water. **Spartina** will tolerate some standing water; all tolerate wet and poorly drained soil. An attractive grouping near water would be giant miscanthus in the background with red flame miscanthus in the center and Feeseys form ribbongrass in the foreground.



Table 1. Grasses for use near water.

Botanical Name	Common Name	Height	Origin
<u>Miscanthus floridulus</u>	giant miscanthus	8-10'	Asia
<u>Miscanthus 'Purpurascens'</u>	red flame miscanthus	4-5'	East Asia
<u>Miscanthus sacchariflorus</u>	Chinese silvergrass	6-8'	Asia
	northern pampas grass		
<u>Panicum virgatum</u>	switchgrass	3-8'	North America
<u>Phalaris arundinacea 'Picta'</u>	ribbongrass	2-4'	Europe
<u>Phalaris arundinacea luteo-picta</u>	yellow ribbongrass	2-4'	Europe
"	'Feeseys Form' Feeseys form	2-4'	
	ribbongrass		
<u>Spartina pectinata</u>	cordgrass	6-7'	North America
"	'Aureo-Marginata'	6-7'	North America

NATIVE ORNAMENTAL GRASSES

Several attractive grasses are native to the tallgrass prairie that once covered western Minnesota. Shorter grasses usually prefer dry sandy soils, while the taller species favor wet sites, Table 2. After establishment they need only an annual mowing (or burning, with a permit from your local municipality) for maintenance. these may be appropriate for out of bounds areas beyond the rough, at the edge of a woods or natural area. All prefer full sun and can be planted with other native wildflowers to create a replica of the original prairie. Little bluestem can be grown with two shorter natives such as mosquito grass and side oats grama on dry, sunny sites and will only require an annual mowing after establishment. Little bluestem has attractive white flowers in September, followed by orange fall color, both of which last until early spring.



Table 2. Native ornamental grasses for use in naturalized or prairie areas.

Botanical Name	Common Name	Height	Soil Preference
<i>Andropogon gerardii</i>	big bluestem	3-8'	mesic-wet
<i>Bouteloua curtipendula</i>	side oats grama	12-30"	dry
<i>Bouteloua gracilis</i>	mosquito grass	8-20"	dry
<i>Koeleria cristata</i>	June grass	1-2'	dry
<i>Panicum virgatum</i>	switchgrass	3-8'	mesic-wet
<i>Schizachyrium scoparium</i> (<i>Andropogon scoparius</i>)	little bluestem	2-4'	mesic-dry
<i>Spartina pectinata</i>	cordgrass	6-7'	wet
<i>Sporobolus heterolepis</i>	prairie dropseed	3-3½'	mesic
<i>Sorghastrum nutans</i>	Indian grass	4-6'	mesic

GRASSES FOR PERENNIAL PLANTINGS OR AS SPECIMENS

The most common use of ornamental grasses is in conjunction with other flowering annuals and perennials. Just as you would use peonies or iris, ornamental grasses when planted in beds or borders add beautiful flowering plumes, colorful foliage or attractive fall color. Several good selections for our area are listed in Table 3, with their noted features. Remember that much of the overall beauty of grasses is seen in the fall and winter; planting them where they are visible from the clubhouse dining room can add interest to the golf course year round.

There are many combinations of grasses that look good; feather reedgrass behind blueoat grass is attractive. Blueoat grass is often highlighted with pink and white begonias or petunias. *Miscanthus* can be grown in the background of a planting with silver spikegrass and chrysanthemums in the mid and foreground, respectively. All of these look especially good in the fall.



Table 3. Grasses for perennial borders, flower beds or as specimen plants.

Botanical Name Common Name	Height	Features
<i>Calamagrostis x acutiflora</i> 'Karl Foerster'	4 ½'	Stiff, upright form; pink flowers in July, turning beige by August. Wheat-like appearance.
<i>Calamagrostis x acutiflora</i> 'Stricta') feather reedgrass		
<i>Calamagrostis brachytricha</i> fall blooming feather reedgrass	4'	Pink-purple flowers in Sept
<i>Carex flava</i> yellow sedge	24"	Beautiful yellow and green striped foliage; requires shade.
<i>Deschampsia caespitosa</i> hairgrass	3 ½-4'	Large beige flowers make a soft mound of "hair" above almost evergreen foliage. Prefers moist and shady sites; can be difficult to establish in sun.
<i>Helictotrichon sempervirens</i> blue oatgrass	2-3'	Forms a blue mound of foliage larger than dwarf blue fescue; more tolerant of heavy soil, but still prefers sun and good drainage.
<i>Miscanthus floridulus</i> miscanthus	8-10'	Huge bamboo-stems with long coarse giant leaves; rarely flowers, slightly spreading clump.
<i>Miscanthus</i> 'Purpurascens' red flame miscanthus	4-5'	An excellent grass for MN; forms clumps; orange fall color.

CULTURE AND MAINTENANCE

In Minnesota, ornamental grasses are best planted in spring. Fall planting may be successful with container plants; however, winter protection may be necessary. Local nurseries and garden centers sell the most popular grasses; many mail order nurseries handle a large number.

Spacing is determined by the desired landscape effect and the plant's setting. A 'rule of thumb' to space plants equal to their mature height, (thus plants 4' tall are spaced 4' apart) can be followed, but is usually adjusted according to the end result desired. Grasses used as a hedge or screen are usually planted closer together, while a group of three or four specimens should be spaced farther apart.

Propagation is usually by division, especially for cultivars. Large, mature grasses may benefit from spring division, especially if the center of the plant is dead. This can be a major job requiring a sharp axe and a strong back.

Ornamental grasses should be cut back to the ground to remove the previous year's growth each year in early spring, about the first week in April in Minnesota. If this is done in the fall, winter injury may result, and the winter beauty of the plant is lost. If ornamental grasses are not cut back,

<i>Miscanthus sacchariflorus</i> Chinese silvergrass northern pampas grass	6-8'	Invasive rhizomes, hardy in northern Minnesota; naturalized in ditches and places.
<i>Miscanthus sinensis</i> 'Siberfeder' silver feather miscanthus	6-8'	Clump-forming, large silvery-white flowers in Sept.
<i>Miscanthus oligostachyus</i> Japanese silvergrass	4½'	Short, bamboo-like leaves; flowers in July; forms a dense clump.
<i>Molinia caerulea</i> ssp. <i>arundinacea</i> 'Windspiel' windplay tall moorgrass	6-8'	Tall, open-spreading form; pencil thin stems atop basal foliage gives this grass a unique look; Beautiful yellow fall color.
<i>Sporiopogon sibiricus</i> silver spikegrass	4-4½'	Thick clump of bamboo-like foliage; bronze fall color.
<i>Sporobolus heterolepis</i> prairie dropseed	3-3½'	Mound of fine foliage with airy, cloud-like flowers; reddish fall color. texture with airy cloud-like flowers.

Table 4. GRASSES WITH INVASIVE RHIZOMES

Botanical Name	Common Name
<i>Leymus racemosus</i> (synonym <i>Elymus giganteus</i>)	giant blue rye
<i>Leymus arenarius</i> (synonym <i>Elymus arenarius</i>)	blue lymegrass
<i>Miscanthus sacchariflorus</i>	Chinese silvergrass
<i>Phalaris arundinacea</i> 'Picta'	ribbongrass
<i>Phalaris arundinacea luteo-picta</i>	yellow ribbongrass
" " 'Feeseys Form'	Feeseys form
<i>Spartina pectinata</i>	ribbongrass
" " 'Aureo-Marginata'	prairie cordgrass
	variegated cordgrass

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Minnesota Superintendent Receives GCSAA Certification

James Johnson, superintendent of Rich-Spring Golf Club, has been designated a Certified Golf Course Superintendent (CGCS) by the Golf Course Superintendents Association of America (GCSAA).

Johnson has been superintendent of the Cold Spring, Minn., course since 1989.

To become certified, a candidate must have five years experience as a golf course superintendent, be employed in that capacity and meet specific educational requirements of college credit or continuing education units. The candidate must then pass a rigorous six-hour examination covering knowledge of GCSAA and its certification program; the rules of golf; turfgrass management; pest management, safety and compliance, and financial and organizational management. Also, an on-site inspection of Johnson's golf course operation was conducted by two currently certified superintendents: Kerry Glader, CGCS, of North Star Turf, St. Paul, and Doug Veillette, CGCS, of Little Falls Country Club, Little Falls.

GCSAA, a 13,600-member international professional and educational association, instituted the certification program in 1971 to recognize outstanding and progressive superintendents. More than 1,300 active GCSAA members currently hold "CGCS" status.

Grasses —

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spring growth is delayed and the plants are unattractive late into the growing season. Manual trimming with a string or electric hedge trimmer works well for a few plants. Large areas can be burned, if burning is permitted and closely supervised.

Established ornamental grasses rarely need fertilization or irrigation, except in cases of extreme drought or very sandy soil. Most grasses prefer full sun.

Because two of the most widely grown ornamental grasses (ribbongrass and Chinese silvergrass) have invasive rhizomes, a **false assumption** is that all grasses have rhizomes. The few grasses that have creeping rhizomes are listed in Table 4, all others form dense clumps and do not become troublesome. Invasive rhizomes can be a desirable asset for areas where ground covers are desired or to control erosion on slopes and along lakeshores.

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