



# Ornamental Grasses, Part II

By Tom Schwab, Superintendent  
O.J. Noer Turfgrass Research and Education Facility

In the summer of 1995, we installed an ornamental grass study at the Noer Facility. I wrote about some of the interesting features of these grasses in a *GRASS ROOTS* article last year. The main purpose of this investigation is to gather information on the cold hardiness and reliability of this group of plants for our upper midwest climate. Other information may also be derived from the study over the years. We hope to learn more about which plants can be invasive, which will tolerate weather conditions experienced here, and what pest problems the plants may have. We will also report on seasonal interests of their foliage, flowers, and shape and find out information about where to best use the different plants.

There is an informative extension publication that already reports on the cold hardiness of ornamental grasses. You can call your extension publication office and ask for the North Central Regional Publication # 573 if you'd like a copy. That study, done at the University of Minnesota, investigated 165 different grasses, of which 85 survived after six years of observations. I think it is important to gather additional information at another cool season research location, such as the Noer Facility, to help validate each other's information. Ornamental grasses seem to be gaining in popularity because of their interesting features and uses, so the more information we can gather the better.

This first winter of observation at the Noer Facility was a good test because of the extreme harshness of it. The Noer Facility, like the majority of Wisconsin, is located in Zone 4 of the USDA Plant Hardiness Zone Map. Pam Naber-Knox of the Wisconsin State Climatology Office stated that in Madison we experienced a winter more like Zone 3 this past winter.

The temperatures were near all time record lows, they were cold for long durations of time, and temperature swings were often extreme over short periods. Those conditions do freezing damage and can kill many usually cold tolerant plants. Thus we found many more of the grasses had died than we had expected. The results are reported below.

Our study consisted of 41 ornamental grasses with at least three plants of each type. Most of the

plants were container grown and donated by a local landscape company, CR Stephenson Co. Other plants were transplanted from a year old ornamental grass nursery that existed at the Noer Facility. The grasses were planted into unamended silt loam soil plots. We took care in placing the plants in their natural environments; shade loving plants in the shade, dry loving plants in dry areas, etc. The planting beds were then mulched with 3 inches of



Yellow foxtail grass was hardy over this past harsh winter. It has a nice lime-green color that allows it to either blend or contrast well with other selections in the garden.



Foerster's feather reed grass blooms early and for a long period in cool climates. Its narrow vertical growth habit is present year-round even when dormant.



Palm sedge sounds tropical but proved very hardy in both Minnesota and Noer Facility studies. It's an excellent ground-cover in moist slightly shady areas where it can be used as a lawn substitute.

shredded oak bark. An application of 6-2-0 fertilizer was added to each plant in the fall.

The rating of plant hardiness was done by visually observing plant health and survival rate. The observations were done in early June to make sure all plants had a chance to put on new growth. Although the information from the Noer Facility is only from one winter of cold tolerance observation, it should be a good test because of the extreme winter of 1995-96. We used the same method of rating the plants as the University of Minnesota.

Group 1 (The most winter hardy and recommended for USDA Zone 4)

Group 2 (Some of the plants die or show extensive winter injury)

Group 3 (Most or all plants died, thus are not recommended as perennials for Zone 4)

The Minnesota ratings are included as a comparison with the Noer Facility results. Since Minnesota's study was over a six year period, their results are more conclusive. The Noer Facility study is still a good test because of the extreme and harsh winter the plants had to endure their first year. Anything, plant or human, that survived last winter should be around for awhile!

It was interesting to compare the six year University of Minnesota

results with those from the Noer Facility study. Seventeen of our forty-one varieties at the Noer Facility received the same rating as those from the Minnesota study. Fifteen of our varieties received a less favorable rating than the same plant in the Minnesota study. Pam Naber-Knox's comment about our winter in Madison being like a Zone 3 was correct. In addition to the cold, the huge temperature swings that we experienced this winter were extremely hard on plants. For example, on January 18, 1996 the daytime temperature was a record 55 degrees F and it dropped to 0 degrees F that night. We experienced some of those same temperature swings in February.

Only two of the forty-one varieties at the Noer Facility received a more favorable rating than the Minnesota study. Time will tell whether those plants hold onto their better rating. Then there were seven varieties that we used at Noer that Minnesota did not include. Minnesota included many that the Noer didn't include though. We are continuing to add to our collection and hope to some day have as complete a collection as they do. We've added another ten varieties this summer already which will be included in next year's rating.

(Continued on page 21)

botanical name	common name	MN hardiness group	Noer rating
<i>Alopecurus pratensis</i> 'Aureus'	yellow foxtail grass	1	1
<i>Andropogon gerardii</i>	big bluestem, turkey foot		1
<i>Arrhenantherum elatius bulbosum</i> 'Variegatum'	bulbous oat grass	1	1
<i>Bouteloua curtipendula</i>	side oats gramma	1	2
<i>Briza media</i>	perennial quacking grass, rattlesnake grass	3	3
<i>Calamagrostis acutiflora</i> 'Stricta'	feather reed grass	1	1
<i>Calamagrostis arundinacea</i> 'Karl Foerster'	Foerster's feather reed grass	1	1
<i>Chasmanthium latifolium</i>	northern sea oats, wild oats	3	3
<i>Carex muskingumensis</i>	palm sedge	1	1
<i>Dactylus glomerata</i> 'Variegata'	variegated orchard grass	3	3
<i>Deschampsia caespitosa</i> 'Bronzeschleier'	bronze veil tufted hairgrass	1	1
<i>Deschampsia caespitosa</i> 'Goldgehänge'	gold pendant tufted hairgrass	1	1
<i>Festuca cinerea</i> 'Elija blue'	blue fescue, blue sheeps fescue	1	3
<i>Festuca amethystina</i>	sheeps fescue	2	3
<i>Helictotrichon sempervirens</i>	blue oat grass	1	1
<i>Imperata cylindrica rubra</i>	Japanese blood grass, cranberry grass	3	3
<i>Koeleria</i>	hairgrass, June grass		1
<i>Koeleria glauca</i>	large blue hairgrass	2	1
<i>Luzula nivea</i>	snowy woodrush	3	3
<i>Luzula sylvatica</i>	greater woodrush, sylvan woodrush	1	3
<i>Melica</i>	melic		1
<i>Miscanthus sinensis</i> 'Gracillimus Nana'	dwarf Japanese silver grass	2	3
<i>Miscanthus sinensis</i> 'Purpurascens'	flame grass, purple silver grass	1	3
<i>Miscanthus sinensis</i> 'Variegatus'	variegatus Japanese silver grass	2	3
<i>Miscanthus sinensis</i> 'Zebrinus'	zebra grass	2	3
<i>Miscanthus sinensis strictus</i>	porcupine grass, banded miscanthus	2	3
<i>Panicum</i>	switch grass		3
<i>Panicum virgatum</i> 'Haense Herms'	red switch grass	1	3
<i>Panicum virgatum</i> 'Heavy Metal'	'Heavy Metal' switch grass		1
<i>Panicum virgatum</i> 'Rehbraun'	dear red-brown switch grass	1	2
<i>Panicum virgatum</i> 'Rotstrahlbusch'	red rays switch grass	1	1
<i>Pennisetum alopecuroides</i> 'Hameln'	Hameln fountain grass	2	3
<i>Pennisetum alopecuroides</i> 'Little Bunny'	'Little Bunny' fountain grass		3
<i>Pennisetum alopecuroides</i>	fountain grass	2	1
<i>Phalaris arundinacea</i> 'Feeseys Form'	'Feeseys' Form' ribbon grass	1	1
<i>Schizachyrium scoparium</i>	little bluestem, prairie beard grass	1	2
<i>Sesleria</i>	moor grass	1	1
<i>Sorghastrum nutans</i>	Indian grass, gold beard grass	1	2
<i>Spartina pectinata</i> 'Aureomarginata'	'Golden-edged' prairie cord grass	1	1
<i>Sporobolus heterolepis</i>	prairie dropseed, northern dropseed	1	1
<i>Stipa viridula</i>	green needle grass		1

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(Continued from page 19)

They include these:

- Molinia caerulea* 'Variegata' variegated moor grass
- Acorus gramineus* 'Variegatus' white-striped Japanese sweet flag
- Hakonechloa macra* 'Aureola' golden variegated hakone grass
- Deschampsia caespitosa* 'Fairy's Joke' fairy's joke tufted hairgrass
- Phalaris arundinacea picta* ribbon grass, gardener's-garters
- Carex* 'The Beatles' 'The Beatles' sedge, mop-headed sedge
- Miscanthus sinensis* 'Morning Light' 'Morning Light' Japanese silver grass
- Sorghastrum nutans* 'Sioux Blue' 'Sioux Blue' Indian grass
- Pennisetum alopecuroides* 'Moudry' black-flowering pennisetum
- Elymus racemosus* 'Glaucus' volga wild rye, Siberian wild rye

A golf course superintendent from Wisconsin's Northwoods volunteered to set up an ornamental grass study at his course next year. That would be a Zone 3 test for these plants



Golden-edged prairie cord grass is one of only a few truly showy North American native ornamental grasses. It has aggressive rhizomes that allow it to be used in creek bank erosion control where it also serves as wildlife cover.



Prairie dropseed is another hardy North American native plant. It has many year-round interests including a distinctly sweet smelling flower that blooms August through September.

every year. If these plants can survive a Northwoods study or a season like Madison had last winter they can surely be recommended for anywhere else in the upper midwest.

Ornamental grasses have been

used for centuries in landscapes of Europe and Asia because of all their interesting features. The lack of hardiness information for our climate combined with a lack of appreciation for the beauty and usefulness of ornamental grasses has somewhat limited their use here. Hopefully these studies will give people more confidence and knowledge to use a greater variety of these plants in their landscapes of the upper midwest. Stay tuned for future reports. 🍀

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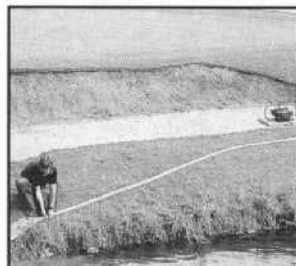
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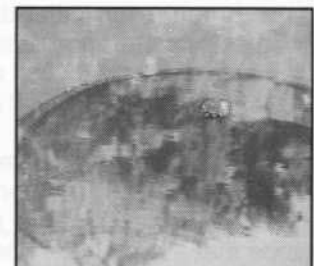
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