

Cold Weather Tolerance of Ornamental Grasses

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Ornamental grasses are a group of plants from the grass (Graminae) family and from closely related families including sedges (Cyperaceae), rushes (Juncaceae) and others. The general nature of the term 'ornamental grass' allows some non-grass plants to be included in the group because they have grass-like appearance. The term 'ornamental' characterizes these plants as being showy in the landscape. Their decorative features allow them to be used in flowerbeds, mass plantings, and as unique specimen plants.

An investigation of cold weather hardiness of ornamental grasses was initiated in 1995 at the Noer Facility. This study keeps records and reports on how well ornamental grasses in our study survive our climate. The facility and all but the northern fifth of Wisconsin are in the USDA Hardiness Zone 4, so the information we gain from this

study may be useful for the majority of the state. Future articles about this study will report on the different foliage, flowers, texture, color, shape, growth habit, and environmental needs of this group of plants.

The Noer investigation is similar to a recent six-year winter hardiness study of ornamental grasses that was completed at the Minnesota Landscape Arboretum. They found 85 out of the 165 ornamental grasses studied there could be grown successfully in USDA Zone 4. You may get a copy of their publication by calling 608-262-3346 and asking for North Central Regional Publication #573, *Ornamental Grasses for Cold Climates*. The most complete reference for ornamental grasses that I have ever found is *The Encyclopedia of Ornamental Grasses* by John Greenlee, which is available in most bookstores. The study at the Noer Facility is not only for verifying the hardi-

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ness data from Minnesota; it also serves as a demonstration for the public to stop by the Noer Facility and visually observe the characteristics of the plants.

We began planting ornamental grasses at the Noer Facility in July 1995. We are adding to the collection of plants every year, as more plants become available. To date, we have planted 70 different species from 37 different genera into the study. Eleven of those 70 plants, designated with an asterisk in the following table, have not survived and have not been replaced. Therefore 59 different species are presently being observed.

The strategy used in the design of the Noer demonstration was to place the plants in their natural settings: shade loving plants were placed in the shade, dry loving plants in dry, etc. Most of the plants also grow in groups naturally

so we placed most varieties in groups of three. All of the plants were mulched with 3" of shredded oak bark.

This study is in its fourth year and will continue for several more. By continuing the study for many years, we will have more confidence in recommending different species. The long timeframe will allow us to observe survival under different climatic extremes giving the ratings of winter temperature tolerance more validity. The winter of 1995/96 set records for cold and severity, 1996/97 was average weather, and 1997/98 set records for mild temperatures. Of the 70 grasses studied these three years, 23 can be recommended winter hardy for Zone 4. Twenty-seven of the species were added in 1997 and 1998 and cannot be rated yet. They have either not experienced a winter or have only experienced the extreme mild winter of 1997/98



The ornamental grasses come in many



different sizes, shapes and colors.



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The flowers of fountain grass are amount the showiest of all grasses.



This *Miscanthus sinensis* 'Gracillimus' is among many different *Miscanthus* species on display at Noer.

where almost every plant survived. More detailed weather data will be included in the long-term report on this study.

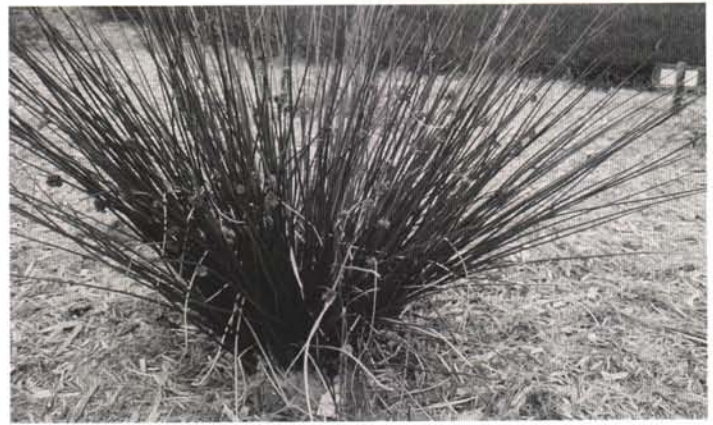
The ratings of plant hardiness are done by visually observing plant health and survival rate. Those observations are done in early June to allow all plants to put on new growth. The rating given to each specie is as follows:

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)

Group 4 (The plants have not been observed long enough to achieve a rating)



Soft rush grows best in moist soil and can even grow in shallow ponds.

Botanical Name Group 1

Alopecurus pratensis 'Aureus'

Andropogon gerardii

Arrhenatherum elatius bulbosum 'Variegatum' bulbous oat grass

Calamagrostis acutiflora 'Stricta'

Calamagrostis arundinacea 'Karl Foerster'

Carex 'The Beatles'

Carex muskingumensis

Deschampsia caespitosa 'Bronzeschleier'

Deschampsia caespitosa 'Goldgehaenge'

Elymus racemosus 'Glaucus'

Helictotrichon sempervirens

Hystrix patula

Koeleria glauca

Panicum virgatum 'Heavy Metal'

Panicum virgatum 'Rotstrahlbusch'

Phalaris arundinacea 'Feesey Form'

Phalaris arundinacea picta

Common Name

yellow foxtail grass

big bluestem, turkey foot

bulbous oat grass

feather reed grass

Foerster's feather reed grass

'The Beatles' sedge, mop-headed sedge

palm sedge
bronze veil tufted hair-grass

gold pendant tufted hair-grass

volga wild rye, Siberian wild rye, giant dune grass

blue oat grass

bottlebrush grass

large blue hairgrass

'Heavy Metal' switch grass

red rays switch grass
'Feesey's Form' ribbon grass

ribbon grass, gardener's-garters

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- References are Available
- Fall 1996 & Spring 1997 Dates are Available



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Sesleria
Sorghastrum nutans

Sorghastrum nutans 'Sioux Blue'
Spartina pectinata 'Aureomarginata'

Sporobolus heterolepis

Stipa viridula

Botanical Name Group 2

Bouteloua curtipendula
Chasmanthium latifolium

Miscanthus sinensis 'Gracillimus'
Panicum virgatum Rehbraun"

Pennisetum alopecuroides
Pennisetum alepecuroides 'Hameln'
Schizachyrium scoparium

Botanical Name Group 3

Briza media

Dactylus glomerata 'Variegata'

Festuca amethystina
Festuca cinerea 'Elija blue'

moor grass
Indian grass, gold beard
grass
'Sioux Blue' Indian grass
'Golden-edged' prairie
cord grass
prairie dropseed, north-
ern dropseed
green needle grass

Common Name

side oats gramma
northern sea oats, wild
oats
maiden grass
dear red-brown switch
grass
fountain grass
'Hameln' fountain grass
little bluestem, prairie
beard grass

Common Name

perennial quacking grass,
rattlesnake grass*
variegated orchard
grass*
sheeps fescue*
blue fescue, blue sheeps
fescue

Imperata cylindrica rubra

Luzula nivea
Luzula sylvatica

Miscanthus sinensis var. *strictus*

Miscanthus sinensis 'Gracillimus Nana'

Miscanthus sinensis 'Variegatus'

Miscanthus sinensis 'Zebrinus'
Panicum virgatum 'Haense Herms'
Pennisetum alepecuroides 'Little Bunny'

Botanical Name Group 4

Acorus gramineus 'Variegatus'

Calamagrostis arundinacea 'Overdam'
Deschampsia caespitosa 'Fairy's Joke'

Deschampsia caespitosa 'Goldstaub'

Deschampsia caespitosa 'Schottland'
Eragrostis trichoides
Erianthus ravennae

Festuca cinerea 'Sea Urchin'

Japanese blood grass,
cranberry grass
snowy woodrush*
greater woodrush, sylvan
woodrush*
porcupine grass, banded
miscanthus
dwarf Japanese silver
grass*
variegatus Japanese sil-
ver grass*
zebra grass*
red switch grass
'Little Bunny' fountain
grass*

Common Name

white-striped Japanese
sweet flag*
Feather reed grass
fairy's joke tufted hair-
grass
'Goldstaub' tufted hair-
grass
Scotland tufted hairgrass
sand love grass
ravenna grass, hardy
pampas grass, plume
grass
'Sea Urchin' blue fescue

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Juncus effusus

Juncus inflexus (glaucus)

Luzula luzuloides

Miscanthus sinensis 'Autumn Light'

Miscanthus sinensis 'Graziella'

Miscanthus sinensis 'Morning Light'

Miscanthus sinensis 'Purpurascens'

Miscanthus sinensis 'Yaku Jima'

Molinia caerulea 'Skracer'

Molinia caerulea 'Variegata'

Molinia caerulea arundinacea

Panicum virgatum 'Cloud Nine'

Pennisetum alopecuroides 'Moudry'

Scirpus lacustris 'Albescens'

Typha minima

variegated manna grass
 golden variegated hakone
 grass

'Albovariegatus' velvet
 grass

corkscrew rush, spiral
 rush

soft rush

rush

woodrush

'Autumn Light' Japanese
 silver grass

'Graziella' Japanese silver
 grass

'Morning Light' Japanese
 silver grass

flame grass, purple silver
 grass

'Yaku Jima' Japanese sil-
 ver grass

'Skracer' tall moor grass
 variegated moor grass

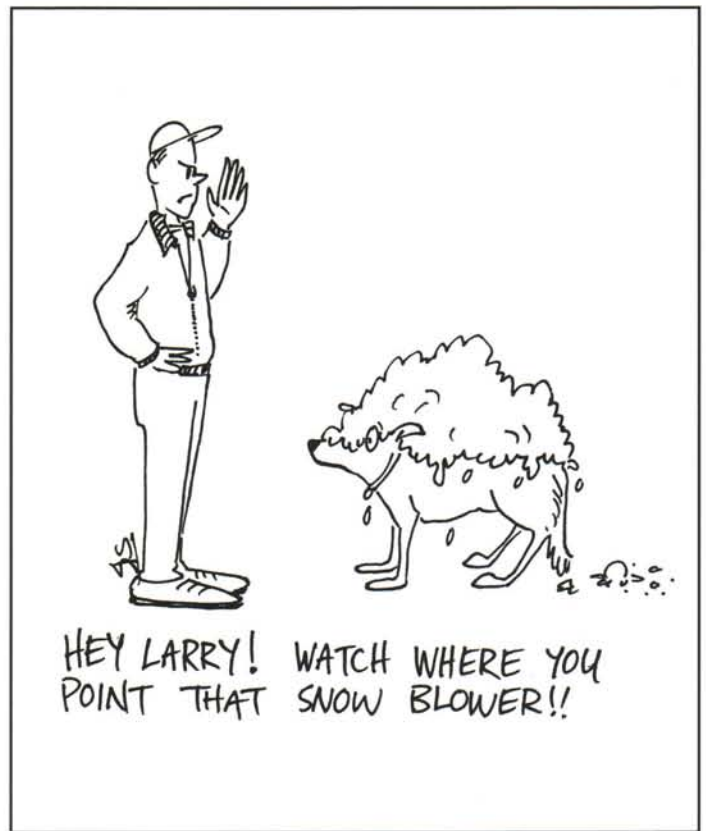
tall moor grass, tall
 purple moor grass

'Cloud Nine' switch grass
 black-flowering

pennisetum*

'Albescens' bullrush

dwarf Japanese cattail 🌿



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