

Little Bluestem Research

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Schizachyrium scoparium, or little bluestem, is native to most of the United States, with the exception of the far western states and Florida. Typically an upland grass, little bluestem is known for its drought tolerance and ability to grow on sandy and poor soils. It is a dominant grass in the tall and short grass prairie and is found throughout Minnesota.

The USDA has released several varieties of *Schizachyrium scoparium*, or little bluestem beginning in the 1960's. 'Aldous', 'Blaze', 'Camper', 'Cimarron' and 'Pastura' were the result of breeding programs to improve grasses available for forage and range use in the central US. More recently, in 1997, the USDA Plant Materials Center in Bismarck, ND released 'Badlands', an ecotype selected from collections from North and South Dakota. 'Badlands' is adapted for range seeding, prairie restoration and prairie landscaping. None of these selections are from Minnesota native

little bluestem.

At the University of Minnesota, we have conducted research on little bluestem in the following projects.

- + Seeding Date & Establishment
- + Field Seedling ID
- + Minnesota Population & New Selections
- + Propagation Time & Aeration Porosity
- + Competition Study with *Miscanthus*

All of these projects, except the competition study, have been published in the references listed at the end of this article.

Seeding Date & Establishment

In this research, the best planting dates for little bluestem were May 1 through July 20. Dormant seedings were not successful for the two years, 1996 and 1997, of the project. As expected, rainfall influenced the success of most seedings.

Field Seedling ID

Identification of grasses without floral parts can be a challenge. In prairie restoration the ability to identify grass species in the seedling stage is necessary to determine if the planting has been successful. Little bluestem was one of 15 native and introduced grasses that were analyzed and described in a vegetative key to identify seedlings. Little bluestem seedlings have a flat sheath, are folded in the bud, have no auricles, the culm base is often tinged pink or maroon, and the first tillers fan out in a plane.

Minnesota Population & New Selections

A spaced planting of 35 Minnesota little bluestem populations was established in 1996 and 1997. Collections were made
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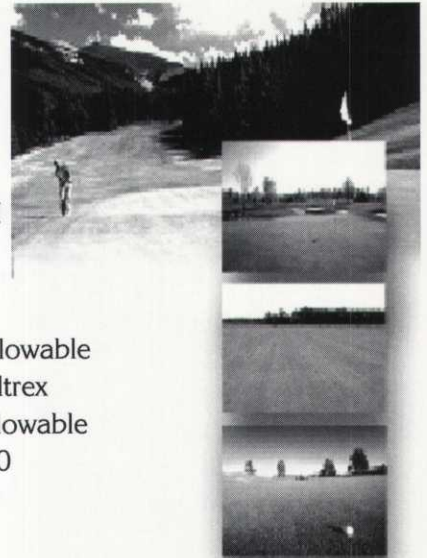


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from parks, nature preserves, railroad right of ways and other natural areas. Seed was germinated and plants were established in three replications of eight plants each on the St. Paul campus. Plants continue to be evaluated for variation in flower time, height, color, and lodging. In 2004 a selection from Benton County that has been evaluated at several Research and Outreach Centers was advanced to a new release and a plant patent has been applied for *Schizachyrium scoparium* "Blue Heaven"™. This selection is taller, with dark blue summer foliage color and bright blue to pink fall color. Commercial growers interested in propagating this new release should contact the U of M for a non-exclusive license. Work will continue to identify other new ornamental forms of little bluestem.

Propagation Time & Aeration Porosity

Little bluestem plugs and field divisions grew equally when propagated in the fall or spring in another study. Both over-wintered well and grew adequately in all aeration porosities from 5-41%. Little bluestem appears to be well adapted to diverse growing conditions and methods of propagation.

Competition Study with *Miscanthus*

This study has not been finalized for publication, but in an additive competition study little bluestem was not affected by adding

Miscanthus, a non-native ornamental grass that has been shown to be invasive in Middle Atlantic states. Little bluestem was not reduced in root or shoot growth when grown with one or two *Miscanthus* plants in this 22-week greenhouse competition study. Thus little bluestem is a competitive, adaptable native grass.

FOR FURTHER INFORMATION

For further information on these topics see the following references:

Meyer, M. H. and B. Cunliffe. 2004. Effects of media porosity and container size on over-wintering and growth of ornamental grasses. *HortScience* 39(2):248-250.

Meyer, M. H. and V. A. Gaynor. 2002. Effect of Seeding Date on Establishment of Native Grasses. *Native Plants Journal* Vol. 3(2):132-138. University of Idaho Press.

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Meyer, M.H. and V. Gaynor. 2000. A Field Guide and Key to Fifteen Grass Seedlings. *Journal of Natural Resources and Life Science Education*. 29:141-147. <<http://www.JNRLSE.org>>.

Gaynor, V. and M. H. Meyer. 1999. Effects of Seeding Date of Establishment of Prairie Grasses in Minnesota. Final Report. Minnesota Department of Transportation. St Paul, Minn.



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