

# Collection, Evaluation and Selection of Little Bluestem from the Midwest, (*Schizachyrium scoparium*, (Michx.) Nash.



Ron Cordsiemon, Elsberry PMC Soil Conservationist

## INTRODUCTION

Little bluestem (*Schizachyrium scoparium*) is one of the primary warm season grasses found throughout the tallgrass prairie. Native to North America, little bluestem is one of the most aesthetically pleasing grasses among the prairie species. A major component, little bluestem made up as much as 50 percent of the Elsberry PMC service area (Iowa, Illinois, and Missouri). Currently, there are no varieties of little bluestem on the market that have an origin within the Elsberry Plant Material Center three-state service area. The available varieties do not always perform as well as expected.



Flowering Little Bluestem Seedheads



Ozark Germplasm Reaching 5 Feet In Height

## MATERIALS AND METHODS

Vegetative material from native ecotype populations were collected throughout the states of Iowa, Illinois and Missouri. A minimum of three collections for each Major Land Resource Area/state was requested. Field selection of collected plant material (11 collections) was based on forage quantity and plant vigor. Collections were evaluated against each other for superior forage characteristics at the Elsberry PMC. Selections were made from these evaluations.



An individual plant of Ozark Germplasm little bluestem (*Schizachyrium scoparium*) is shown growing in a seed production field at the Elsberry PMC. Selections were made based on their superior forage quality, dry matter yield, regrowth, late maturity, and plant vigor.

## RESULTS

Plants from southern Illinois and southern Missouri have been evaluated and selected for superior quality. Below are the plants that were selected for the southern region release, now known as Ozark Germplasm little bluestem.

Plant performance ratings and forage quality estimates of accessions comprising Ozark Germplasm little bluestem 1999-2000, USDA-NRCS Elsberry, MO.

Plant Number <sup>1</sup>	1999						2000		
	Aug Forage Rating <sup>2</sup>	Aug Vigor Rating <sup>3</sup>	First Seedhead <sup>4</sup>	Quality Rating % N <sup>5</sup>	% CP <sup>6</sup>	% ADF <sup>7</sup>	Oct Regrowth Rating <sup>8</sup>	Jun Forage Rating <sup>9</sup>	Jun Vigor Rating <sup>10</sup>
MO-23	3	5	6-Sep	2.1	13	33	4	1	2
IL-21	3	3	12-Sep	2	13	34	3	4	3
IL-21	4	5	8-Sep	2	13	33	2	3	3
MO-23	2	4	27-Aug	2	13	34	1	1	3
MO-3	4	3	26-Aug	2	13	35	3	3	2
MO-79	3	3	14-Sep	1.9	12	37	2	1	3
MO-3	7	4	13-Sep	1.9	12	34	3	3	2
MO-7	1	2	10-Sep	1.9	12	36	3	2	2
MO-60	3	3	8-Aug	1.9	12	38	3	2	2
IL-21	4	7	7-Sep	1.8	11	36	3	4	3
MO-7	1	2	25-Aug	1.8	11	36	4	1	1
MO-73	2	3	25-Jul	1.8	11	36	2	1	2
MO-59	5	4	27-Jul	1.7	10	35	2	2	2
MO-50	2	4	10-Sep	1.6	10	37	1	1	2
MO-80	1	3	28-Jul	1.6	10	35	2	1	2
MO-50	3	5	15-Sep	1.5	9	37	2	1	3
MO-74	1	4	12-Aug	1.5	9	36	2	1	3

1)Plant Number describes the collection the plant originated from; 2)Forage Rating and 3)Vigor Rating are a subjective rating given to each individual plant based on their appearance in Aug 1999; 4)First Seedhead is the date the recorded when the initial seedheads were noticed; 5)Quality Rating - 5% Nitrogen, 6% Crude Protein, and 7% ADF (Acid Detergent Fiber) were measured from grab samples taken from each individual plant; 8)Regrowth Rating is a subjective rating taken in October 2000 based on the amount of regrowth present after an early forage harvest; 9)Forage Rating and 10)Vigor Rating are a subjective rating given to each individual plant based on their appearance in June 2000. Ratings are based on a scale of 1-9. 1 = Excellent and 9 = Poor

## SUMMARY

The commercial release of the northern and southern (Ozark Germplasm) little bluestem selections will give landowners and operators within the midwest region another, potentially better, option for a native grass. Conservation programs, wildlife cover and forage plantings for livestock, as well as roadside plantings and prairie restoration and enhancement projects are some of the uses these two releases will address.

## References

Flora of Missouri; p.244 (Seventh Printing, 1996), Steyermark, J.A.; Iowa State University Press, Ames, IA 1968.

Manual of Grasses of the United States; pp. 753-755, Hitchcock, A.S., USDA, Washington, DC, 1951.

Forages; p. 514, Hughes, H.D.; Heath, M.E.; Metcalfe, D.S., The Iowa State College Press, Ames, Iowa, 1951.

## OBJECTIVE

The objective of this project is to assemble, evaluate, develop and release an adapted variety and/or varieties of tested class little bluestem for conservation use in the midwest region of the United States. The Elsberry PMC has proposed a selection from both the northern and southern regions of the PMC service area.