

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
KNOX CITY, TEXAS

NOTICE OF RELEASE OF OK SELECT GERMPLASM LITTLE BLUESTEM
SELECTED CLASS OF NATURAL GERMPLASM

The U.S. Department of Agriculture, Natural Resources Conservation Service, Knox City Plant Materials Center announces the release of a selected ecotype of little bluestem, *Schizachyrium scoparium* (Michx.) Nash.

As a selected release this plant will be referred to as OK Select Germplasm little bluestem. It has been assigned the NRCS accession number 9029926. OK Select Germplasm is released as a selected class of certified seed (genetically manipulated track).

This alternative release procedure is justified because there are presently limited commercial varieties of little bluestem adapted for use in southern Oklahoma and central and north central Texas.

Collection Site Information: OK Select Germplasm little bluestem was originally collected in 1967 from native stands in Caddo, Grady, Jefferson, Stephens and Washita counties of southwestern Oklahoma.

Description: OK Select Germplasm little bluestem, *Schizachyrium scoparium*, is a native, perennial, warm-season, long-lived bunchgrass. Little bluestem is widely distributed throughout the US except Washington, Oregon and California. Culms are 1 to 4 feet tall, erect and large tufted, having occasional short rhizomes. Basal stems and sheaths are flattened. Leaf blades are hairless, V shaped in cross section, keeled, light bluegreen when young, turning reddish brown at maturity. Ligule 1/16 inch in length, membranous, with fringed margins. Inflorescence consists of several unbranched racemes, one on the end of each seed stalk. Spikelets are paired along raceme axis; fertile one plump, awned and stalkless; sterile one stalked, awnless or awn tipped. Little bluestem has a deep fibrous root system, and may be semi-sod forming in subhumid zones.

Method of Breeding and/or Selection: OK Select Germplasm was developed from seed collected from a polycross nursery established from the 5 original collections. OK Select Germplasm's parental lines were selected for their seedling and plant vigor, leafiness and quick establishment allowing them to crowd out weeds. Average seed yield/acre for OK Select is around 150 pounds per acre. OK Select Germplasm like other little bluestems takes two years to establish and produce seed. Clipping studies show OK Select Germplasm to have higher seasonal crude protein levels when compared to Cimarron (see attachment 1). Generation studies established to check uniformity through the G2 generation were within acceptable levels with no changes in seed production

Environmental Impact Assessment: OK Select Germplasm little bluestem was developed through the natural crossing of five parent lines. OK Select Germplasm did not meet the assessment of a plant that would become invasive based on literature review and the attached "Invasive Species Worksheet" (see attachment 2).

Conservation Use: OK Select Germplasm may be used in pure stands for pasture and hay plantings or as a component in seed mixtures for range seeding. Its forage value is fair to good while young and tender. After heads mature, forage is fair for cattle and horses. As with all native range grasses it must be managed accordingly to avoid overgrazing. Wildlife can utilize the plants and seed for food. The plants provide good ground nesting cover for quail. OK Select Germplasm may be utilized for filterstrips, field borders, contour buffer strips, in riparian forest buffers for nitrogen and phosphorus uptake, and for erosion control plantings.

Anticipated Area of Adaptation: OK Select Germplasm little bluestem is adapted in MLRAs 78A, B, C, D, 77A, B, C, D, 80A, B, 84B, C, 85, 86A, B, 87A, B, 81A, B, C, and 82 in Texas and Oklahoma. This perennial grass is widely distributed and grows well on deep, shallow, sandy, fine-textured, rocky soil, except for saline and wet bottomlands. OK Select Germplasm little bluestem maybe used in prairies, open woods, dry hills and fields in Texas and Oklahoma.

Availability of Plant Materials: Generation 0 seed (equivalent to Breeder seed) will be maintained by the USDA-NRCS Plant Materials Center at Knox City, Texas. Field production (G1) seed is available through the Texas Foundation Seed Service to interested parties for increase purposes.

References:

Gould, F. W., The Grasses of Texas. TAMU Press, College Station 1975.

USDA-SCS, 1971, 100 Native Forage Grasses in 11 Southern States, Ag Handbook No. 139.

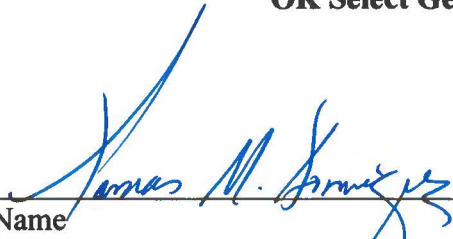
Everett, Wayne, USDA-SCS Plant Guide, 9029226 Little Bluestem, 1993

Prepared by:

USDA-NRCS, Plant Materials Center, 3776 FM 1292, Knox City, TX 79529, 940-658-3922.

Signatures for release of:

OK Select Germplasm little bluestem (*Schizachyrium scoparium*)


Name


Date

Tomas M. Dominguez, Acting State Conservationist
United States Department of Agriculture
Natural Resources Conservation Service
Temple, Texas


Name


Date

for Director, Ecological Sciences Division
United States Department of Agriculture
Natural Resources Conservation Service
Washington, D.C.

**Attachment 1: Summary of Initial and Advanced Evaluation of *Schizachyrium scoparium*,
Little Bluestem**

Initial Evaluation Summary - 1968-1971

4 - Year Average (1968-1971)

	Stand	Vigor	Leaf Production	Seed Production
PMT No.				
592	1	4.5	5	4.33
1634	6.5	5	7	5
1635	7.5	5.5	7	5.67
1636	7.5	6	6.3	5
1637	3	4	4.33	4.33
689	2.5	4.33	7.67	8.33
1638	3.5	4.33	5.67	4.33
592	1	4.5	3.67	3.67
1639	9	0	0	0
1640	6.5	5.5	7	7
Grady Co. 1641	3	3	3.67	3.67
1642	2	4	3.67	5.67
1643	6.5	5	5	4.33
Stephens Co. 1644	6.5	4	5.67	3.67
1645	4	4	4.33	3
1946	7.5	5.67	6.33	4.33
1649	7.5	4.33	5.67	5.67
1650	5.5	5.67	6.67	5
Jefferson Co. 1651	3	3.67	5.67	3.67
1652	3	3.67	5	4.33
1653	8	7	7	5
Caddo Co. 1654	3	4.33	3.67	4.33
1655	7.67	7	5.67	5
Washita Co. 1656	4	3.67	5	5
1657	7.67	5.67	4.33	5
1460a	3.67	5	7	6.33
1460b	1	3.67	4	4.33
Sum	131.51	123.01	141.99	125.99
Mean	4.87	4.56	5.26	4.67

Parental Lines for Polycross

Summary of Clipping Study of little bluestem

	OK Select	Cimarron	OK Select	Cimarron
	%CP	%CP	%IVDMD	%IVDMD
5/19/87	6.83	5.82	60.57	62.74
6/17/87	4.17	4.65	56.07	58.08
7/15/87	4.39	3.75	57.51	58.49
8/18/87	2.20	2.38	53.49	55.04
9/17/87	2.92	2.70	52.88	50.96
10/19/87	2.01	2.33	49.97	48.49
11/18/87	1.35	1.26	49.52	44.95
Sum	23.87	22.89	380.00	378.75
Mean	3.41	3.27	54.29	54.11

Seed Increase Production Figures of OK Select Germplasm little bluestem

Production Year	Area Planted	Production	Converted Lbs./ac.
1989	.50 ac.	126 lbs.	252
1990	.50 ac.	36 lbs.	72
1991	.50 ac.	157 lbs.	314
1992	.50 ac.	84 lbs.	168
1993	.50 ac.	120 lbs.	240
1994-95	.50 ac.	179 lbs.*	90 *
1996	.50 ac.	59 lbs.	118
1997	.50 ac.	61 lbs.	122
1998	.50 ac.	93 lbs.	186
1999	.50 ac.	59 lbs.	118
2000	.50 ac.	39 lbs.	78
2001	.50 ac.	48.5 lbs.	97

* 2 Year Production/Average