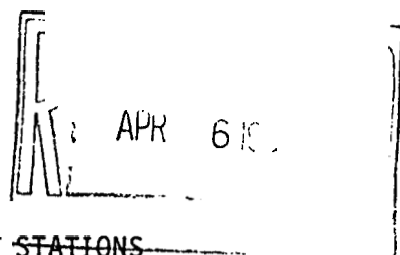


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THE NEW MEXICO STATE UNIVERSITY AND
COLORADO STATE UNIVERSITY AGRICULTURAL EXPERIMENT STATIONS
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Announce the naming and release of 'Niner' sideoats grama *Bouteloua curtipendula* (Michx.) Torr. var. *caespitosa*, Gould and Kapadia¹ for commercial production and marketing of seed.

INTRODUCTION

Scientific Name: *Bouteloua curtipendula* (Michx.) Torr. var. *caespitosa*, Gould and Kapadia.

Common Name: sideoats grama

Varietal Name: 'Niner'

Other Identification Used: NM-28, T4495

Origin: 'Niner' was originally collected by Jim Anderson and Glenn Niner 6.4 km (4 miles) west of Socorro, New Mexico in 1957. Elevation of the site is 1432 m (4700 ft.) and it receives 22.9 cm (9 in.) of precipitation. It was found growing in association with blue grama (*Bouteloua gracilis*); black grama (*Bouteloua eriopoda*), bush muhly (*Muhlenbergia porteri*), plains bristlegrass (*Setaria leucopilia*), green sprangletop (*Leptochloa dubia*), sand dropseed (*Sporobolus cryptandrus*), galleta (*Hilaria jamesii*), Halls panicum (*Panicum hallii*), Apacheplume (*Fallugia paradoxa*), and littleleaf sumac (*Rhus microphylla*). 'Niner' was tested as NM-28 and T4495.

Description and Occurrence: Sideoats grama is a tall (0.5-1m) perennial bunchgrass. The culms of flowering stems have up to 50 short pendant branches with 2-7 spikelets each. These inflorescence branches are alternately opposite from each other. With maturity, they fold together appearing to be derived from 1 side, hence the common name. The leaves are mostly basal, bluish in spring, fading to yellowish in winter. The botanical variety *caespitosa* varies from the typical in the absence of creeping rhizomes.

Bouteloua curtipendula var. *caespitosa* is found from Nebraska to Texas and west to California. In the southwest it is one of the most important species because of its high palatability and vigorous growth. Density of this species has been reduced in many areas by over utilization because of its palatability.

¹Nomenclature follows Gould, (1975).

Testing: 'Niner' was tested with over 28 other accessions of sideoats in irrigated initial evaluation plantings made at the USDA-SCS Plant Materials Center, Los Lunas, New Mexico, in 1958 and 1960. Stand, seedling vigor, seed production and herbage production was rated for each accession.

In the 1958 planting, 'Niner' was equal or superior to all accessions for these attributes. 'Niner' was superior to Butte, El Reno, and Vaughn in seedling vigor, seed and herbage production. 'Niner' was essentially equal to Coronado.

Two years after cessation of irrigation, 'Niner' proved to be superior to all accessions except Vaughn, with which it was equal, and 3 accessions that were poor seed producers.

In the 1960 planting 'Niner' was superior to Vaughn in seedling vigor. The seed ripened earlier and held on better than Vaughn. It was equal to, or superior to, all other accessions tested except NM-368 in herbage production. It was superior to all accessions except NM-368 in herbage production. It was superior to all accessions except NM-490 in seed production. NM-368, which was superior to all accessions in herbage production, was a poor seed producer. The reverse was true of NM-490.

This relationship is corroborated by Quinones of New Mexico State University. Subsequent investigations by Quinones found the high yield from NM-490 to be of poor fill, and the pure-live-seed yield of 'Niner' the highest.

In a 1973 sideoats strain trial planting at the USDA-SCS Tucson Plant Materials Center, 'Niner' produced the tallest plants of 11 other accessions, Briggs and Holyworth, (1974). 'Niner' Colorado, El Reno, Vaughn, Premier, and Woodward strains all had good to excellent ratings for vigor, stand and forage production.

'Niner' was tested in 27 field evaluation plantings [conducted by researchers], 24 field plantings (conducted by SCS field offices and cooperators) in New Mexico and 11 field plantings in Colorado.

'Niner' was superior to Vaughn in 13, and equal in 11, of 39 plantings in which they were both tested. 'Niner' was superior to NM-368 in four of 10 plantings in which they were both tested and equal in six. 'Niner' was better in one planting that it was compared with Premier at Truth or Consequences. In the same planting it was better than El Reno.

Seed Characteristics and Production: Unlike Vaughn seed matures evenly, is ready for harvest in September-October (Los Lunas, NM) and can be harvested with or without swathing with a field combine.

Long-term seed production at the Los Lunas PMC of 'Niner' has been 148 kg/ha or 52% greater than Vaughn, 97 kg/ha (see following table). Low seed production of Vaughn has been an impediment in encouraging seed producers to

grow a sideoats adaptable to the southwest. In many cases El Reno is chosen over Vaughn by a seed producer because El Reno is a high seed producer.

Bouteloua curtipendula Seed Production at Los Lunas Plant Materials Center (kgPLS/ha).

<u>Year</u>	<u>Niner</u>	<u>Vaughn</u>	<u>NM-368</u>
1963	461	233	269
1964	291	152	87
1965	115	49	48
1966	180	156	--
1967	180	59	--
1968	219	188	--
1969	25	34	--
1970	56	54	--
1971	155	23	--
1972	31	73	--
1973	109	128	--
1974	327	--	--
1975	44	52	--
1976	72	62	--
1977	104	76	--
1978	75	58	--
1979	82	65	--
\bar{X}	148	97	134

Use: 'Niner is recommended for use in seed mixes with other species where sideoats grama is adapted whether for range reseeding, roadside plantings or mined-land reclamation.

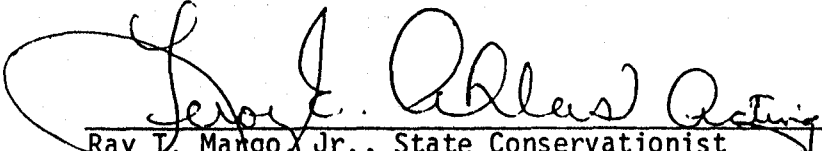
Areas of Adaptation: In Arizona, New Mexico, Colorado, Texas, Utah, and Oklahoma, where sideoats grama is adapted up to elevations of 2500 m, 'Niner' is more cold tolerant than El Reno and Colorado. It also performs better than these two accessions in the lower precipitation areas and should be adapted wherever Vaughn is being used.

It is recommended for a wide range of soils and climatic conditions but performs better on medium to heavy textured soils.

Increase and Distribution: Breeder seed will be produced by the USDA-SCS Plant Materials Center, Los Lunas, New Mexico. Limited quantities of foundation seed is available to growers through Crop Improvement Associations. Standards for all classes of seed will be included in the New Mexico Seed Certification Handbook.

Supporting data have been presented to the Varietal Release Committees in New Mexico and Colorado; and 'Niner' sideoats has been accepted for release to commercial growers and users.

Approval signatures :



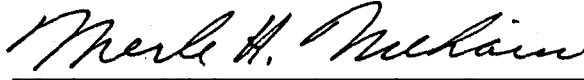
Ray T. Mango, Jr., State Conservationist
United States Department of Agriculture
Soil Conservation Service

3-12-84
Date



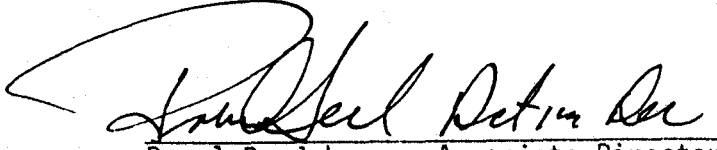
Thomas N. Shiflet, Director
Ecological Sciences and Technology Division
United States Department of Agriculture
Soil Conservation Service

3/16/84
Date



Merle H. Niehaus, Associate Dean and Director
Agricultural Experiment Station
New Mexico State University
Las Cruces, New Mexico

3/22/84
Date



Donald D. Johnson, Associate Director
Colorado Agricultural Experiment Station
Fort Collins, Colorado

4/2/84
Date