

THE UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
TUCSON PLANT MATERIALS CENTER
TUCSON, ARIZONA

AND

THE UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
LAS VEGAS FIELD OFFICE
LAS VEGAS, NEVADA

AND

HIGH DESERT RESOURCE CONSERVATION & DEVELOPMENT COUNCIL, INC.
LAS VEGAS, NEVADA

NOTICE OF RELEASE OF A SELECTION OF SCRATCHGRASS
SOURCE IDENTIFIED CLASS OF GERMPASM

The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS), the U.S. Department of the Interior, Bureau of Land Management (BLM) and High Desert Resource Conservation and Development Council announce the release of a source identified class of scratchgrass [*Muhlenbergia asperifolia* (Nees & Meyen ex Trin.)] developed for use in southern Nevada.

As a source identified release, this germplasm will be referred to as Moapa Germplasm scratchgrass to document general collection location. It has been assigned the NRCS accession number 9092745. Moapa Germplasm is released as a source identified class of certified seed.

This alternative release procedure is justified by the lack of existing commercial sources of scratchgrass developed specifically for the Mojave Desert of southern Nevada. Propagation material of this species is needed for ecosystem restoration and enhancement in southern Nevada. The potential for immediate use is high. Current germplasm of scratchgrass was developed from other areas of species adaptation. The germplasm Westwater, released by the USDA-NRCS, Los Lunas, New Mexico Plant Materials Center was collected from near Fruitland, New Mexico.

Species: [*Muhlenbergia asperifolia* (Nees & Meyen ex Trin.)]
Common Name: scratchgrass
Plant Symbol: MUAS
Accession Numbers: 9092745

Collection Site Information

Moapa Germplasm is a composite of 3 accessions collected from native scratchgrass stands in southern Nevada (Table 1). Plant materials were collected from distinct locations in southern Nevada to develop a population of scratchgrass with a broad genetic base and adapted to the range of conditions in the Mojave Desert of southern Nevada.



Table 1. Accession number and origin of collections for Moapa Germplasm scratchgrass

Accession Number	BLM Number	Collection Site	Site Name
9092509	NV-052-0136R	N 36° 6' 29" W 114° 58' 9"	Pot-O-Gold Spring
9092510	NV-052-0140R	N 36° 42' 34" W 114° 42' 56"	Moapa NWR Warm Springs
9092511	NV-052-0139R		Moapa NWR

Description

Scratchgrass is a native warm-season, perennial, rhizomatous, stoloniferous grass. It reaches heights of 20 to 30 inches (50-76 cm). The leaves are narrow, elongated and flat, up to 1/8 inch wide (25.4 mm) wide. The leaves are generally rough to the touch, but the sheaths are smooth. There are several spikelets borne on open panicles at the tips of delicate branches. Seed are 0.03 to 0.04 inch (0.8-1 mm), fusiform and brownish. The diploid numbers of scratchgrass are reported to be $2n = 20, 22, 28$ (Hickman, 1993).

Scratchgrass may grow in saline or nonsaline soils, often occurring in pure, dense stands. Mature stands are very dense and impenetrable. It is common in moist alkaline flats, due to its adaptation to soils containing high sodium chloride concentrations and soils containing mixtures of other salts such as bicarbonate and sulfate compounds. On saline soils it is commonly found as a primary or secondary invader. After establishment, it is tolerant of both drought and inundation by water.

Moapa germplasm scratchgrass grows very fast under crop conditions. It will easily fill the space between 40 inch rows in one growing season. Spreading is by rhizomes and stolons. Unlike some arid grasses flowering does not appear to be triggered by irrigation, but rather appears to be dependent on daylength. Moapa germplasm is not tolerant of the 2,4-D amine herbicide.

Method of Selection

Moapa Germplasm was developed from collections made at three distinct sites within Clark County in southern Nevada. Accessions were planted in a 0.2 ac field at the Tucson Plant Materials Center (TPMC) in September 2005. Plugs of each accession were planted randomly throughout the field. Seed was harvested in the fall of 2007 with

the Woodward Flail vac seed stripper. For species like scratchgrass with indeterminate flowering, this process allows for multiple harvests throughout the growing season. Multiple harvests insure that germplasm is represented in the new population regardless of time of maturity. The seed from this harvest was used to produce the Moapa germplasm of scratchgrass.

Ecological Considerations

Moapa Germplasm scratchgrass is a composite of naturally occurring germplasm and has undergone minimal purposeful selection. Moapa Germplasm does not differ significantly in rate of spread, seed production, or vigor from naturally occurring scratchgrass. Moapa Germplasm scratchgrass was determined “OK to release” when evaluated through the “Worksheet for Conducting and Environmental Evaluation of NRCS Plant Releases”.

Anticipated Conservation Use

The potential uses of Moapa Germplasm scratchgrass include restoration and rehabilitation of riparian systems, wildlife habitat improvement, restoration of disturbed areas, and for increasing plant diversity along the Virgin River and other lands in southern Nevada. Moapa Germplasm scratchgrass reproduces through rhizomes, stolons and seed. These reproductive qualities allow it to be competitive with species that may be invasive in arid riparian zones. This release has the potential to be especially useful in rehabilitation of areas following salt cedar removal.

Anticipated Area of Adaptation

Moapa Germplasm scratchgrass was developed for use in the Mojave Desert of southern Nevada. Scratchgrass is found naturally growing in sandy to clay soils. It may grow in saline or nonsaline soils.

Availability of Plant Materials

Seed production will be maintained by the USDA-NRCS Tucson Plant Materials Center. Limited quantities of seed are available to seed producers for increase and to other interested parties, as available. Seed production fields have been established by two growers in southern Nevada.

References

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4. Jones, T.A. and D.A. Johnson. 1998. Integrating genetic concepts into planned rangeland seedings. Journal of Range Management 51: 594-606.

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Signatures for release of:
Moapa Germplasm Scratchgrass (*Muhlenbergia asperifolia*)

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