

UNITED STATES DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE  
NEW MEXICO PLANT MATERIALS CENTER  
LOS LUNAS, NEW MEXICO

and

NEW MEXICO STATE UNIVERSITY  
AGRICULTURAL SCIENCE CENTER AT LOS LUNAS  
LOS LUNAS, NEW MEXICO

NOTICE OF RELEASE OF A SELECTION OF BOTTLEBRUSH SQUIRRELTAIL  
SELECTED CLASS OF GERMPLASM

The Natural Resources Conservation Service (NRCS), United States Department of Agriculture and New Mexico State University (NMSU) Agricultural Science Center at Los Lunas announce the release of a selected class of bottlebrush squirreltail (*Elymus elymoides*) (Raf.) Swezey for the southwestern United States.

As a selected release, this germplasm will be referred to as the Tusas germplasm bottlebrush squirreltail. It has been assigned the NRCS accession number 9066392. Tusas germplasm is released as a selected class of certified seed (natural track).

The alternative release procedure is justified because existing commercial sources of bottlebrush squirreltail are inadequate. The biological qualities of bottlebrush squirreltail make it an excellent choice for preliminary revegetation of areas dominated by exotic weedy annual grasses and for areas with a high fire frequency. Propagation material of this species is needed for ecosystem restoration and enhancement. The potential for immediate use is high.

**Collection Site Information:** In 1983, USDA-NRCS field office personnel collected 131 accessions of bottlebrush squirreltail from native stands throughout New Mexico. In 1988, eight accessions were selected to form the composite germplasm (Table 1).

**Table 1.** Collection sites of accessions making up the composite Tusas germplasm of bottlebrush squirreltail.

Accession Number	County & State	Elevation (ft)	MLRA	Collector
1. 9035406	Grant NM	6,138	36	H. Bray & G. Adkins
2. 9035410	Catron NM	4,879	36	G.W. Juenger
3. 9035461	Catron NM	5,958	39	G.W. Juenger
4. 9035463	Catron NM	7,139	39	G.W. Juenger
5. 9035488	Rio Arriba NM	6,499	36	F. Archuleta
6. 9035529	Taos NM	7,562	36	D. Walker
7. 9044301	Rio Arriba NM	9,199	48	J. Anderson
8.9048703	Mora NM	7,500	48	J. Anderson

**Description:** Bottlebrush squirreltail is described as a cool season short-lived native perennial bunchgrass. The climax status on bottlebrush squirreltail is enigmatic. It is most often characterized as an early seral species, however it may exist as a dominant grass in climax communities. Tusas germplasm obtains a height of approximately 15-20 inches (38-50 cm). Tusas germplasm greens up in mid to late February when 'Paloma' ricegrass (*Achmatherum hymenoides*) is still dormant. It flowers in April and is ready for harvest by late June.

Bottlebrush squirreltail is one of the most fire-resistant bunchgrasses. Coarse leaves and low density of dead plant material within the bunch make it less susceptible to fire damage. Its fire tolerance allows it to survive sequential burns and its self-pollinating mode of reproduction allows it to produce seed despite sparse initial populations. These qualities along with an effective seed dispersal mechanism make it well suited for seeding following wildfire or prescribed burns.

Bottlebrush squirreltail has the potential for aiding in the reclamation of rangelands dominated by exotic annual weeds. Studies have shown that bottlebrush squirreltail can compete with exotic annual grasses such as medusahead wildrye (*Taeniatherum caput-medusae*) and cheatgrass (*Bramus tectorum*). Germination and root growth at low temperatures are characteristics that allow bottlebrush squirreltail to establish in areas dominated by these types of grasses.

**Methods of Breeding and/or Selection:** Tusas germplasm bottlebrush squirreltail is a composite of 8 selected accessions. Initially, there were 131 accessions coheaded from individual populations by USDA-NRCS field office staff from throughout New Mexico. From the initial accessions, 8 were selected for vigor, late flowering and seed yield. A composite was established consisting of an equal number of seedlings established from each selected accession.

**Environmental Impact Assessment:** Tusas germplasm bottlebrush squirreltail is a selection of naturally occurring germplasm. Tusas germplasm did not meet the assessment of a plant, which could become invasive based on guidelines adopted by the NRCS Plant Materials Program.

**Anticipated Conservation Use:** The potential uses of the Tusas germplasm include erosion control, wildlife food/cover, restoration of disturbed sites and increasing plant diversity of rangelands. Bottlebrush squirreltail is tolerant to fire and is able to quickly regenerate after fires, making it ideal for revegetation of areas disturbed by fire. It may also be beneficial in seeding areas with severe noxious weed problems. Bottlebrush squirreltail is a good candidate for assisting in the restoration of areas dominated by exotic grasses such as medusahead wildrye (*Taeniatherum caput-medusae*) and cheatgrass (*Bramus tectorum*).

**Anticipated Area of Adaptation:** Bottlebrush squirreltail is widely distributed throughout the western United States and western Canada. It occurs from South Dakota to British Columbia and South through Missouri, Texas, California and Mexico.

**Availability of Plant Materials:** Breeder and/or foundation seed will be maintained at the NRCS New Mexico Plant Materials Center. Seed will be distributed to interested growers through the New Mexico Crop Improvement Association.

## References:

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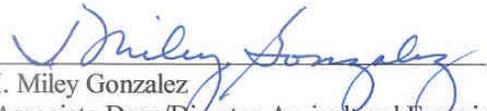
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Signatures for release of:  
Tusas Germplasm Bottlebrush squirreltail (*Elymus elymoides*)

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*for*   
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Rosendo Trevino III  
State Conservationist  
United States Department of Agriculture  
Natural Resources Conservation Service  
Albuquerque, New Mexico

3/03/01  
Date

  
\_\_\_\_\_  
I. Miley Gonzalez  
Associate Dean/Director Agricultural Experiment Station  
New Mexico State University  
Las Cruces, New Mexico

3/20/01  
Date

*for*   
\_\_\_\_\_  
Diane Gelbund  
Director, Ecological Science Division  
United State Department of Agriculture  
Natural Resources Conservation Service  
Washington, D.C.

5/10/01  
Date