

# Pima Germplasm

## Pima pappusgrass

*Pappophorum vaginatum* Buckl.



Figure 1: Pima Germplasm Pima pappusgrass seed production field at the Tucson Plant Materials Center

Pima Germplasm Pima pappusgrass (*Pappophorum vaginatum*) is a selected class germplasm of whiplash pappusgrass (*Pappophorum vaginatum* Buckl.) released by the USDA-NRCS Tucson Plant Materials Center (PMC) in 2006.

### Description

Pima pappusgrass is a native perennial warm-season bunchgrass. It has erect stems that grow from 2 to 3 feet tall. The gray-green to light green leaf blades are 0.08 to 0.20 inches wide with edges that may roll inward. The panicle is spike-like, 4 to 8 inches long, tawny or whitish and tapering at the top. The spikelets are short-pedicled with 1 or 2 fertile florets and 2 or 3 sterile reduced florets. Awns on the lemmas give the panicle a tufted, hairy appearance.

Pima pappusgrass is found along roadsides, in valleys and on plains, at low elevations. It occurs in the southwestern United States, Mexico, Argentina, and Uruguay. Whiplash pappusgrass is commonly known as Pima pappusgrass in southern Arizona.

### Source

Pima Germplasm was developed from 16 accessions collected from naturally occurring Pima pappusgrass populations in southern Arizona. The 16 accessions were planted into a randomized complete block design at the Tucson PMC in 1999. The seed harvested from this planting was the source of Pima Germplasm. No selection was made on the 16 accessions in order to maximize the genetic adaptability of the release.

### Conservation Uses

The potential uses of Pima Germplasm Pima pappusgrass include erosion control; establishment of wildlife food and/or cover; the restoration of disturbed areas; the rehabilitation of rangeland; and increasing plant diversity in arid rangeland communities.

### Area of Adaptation and Use

Pima Germplasm Pima pappusgrass was developed for use in southern Arizona at elevations from 2,500 to 4,000 feet. The collection locations in Major Land Resource Areas 40 and 41 define the areas of anticipated use.

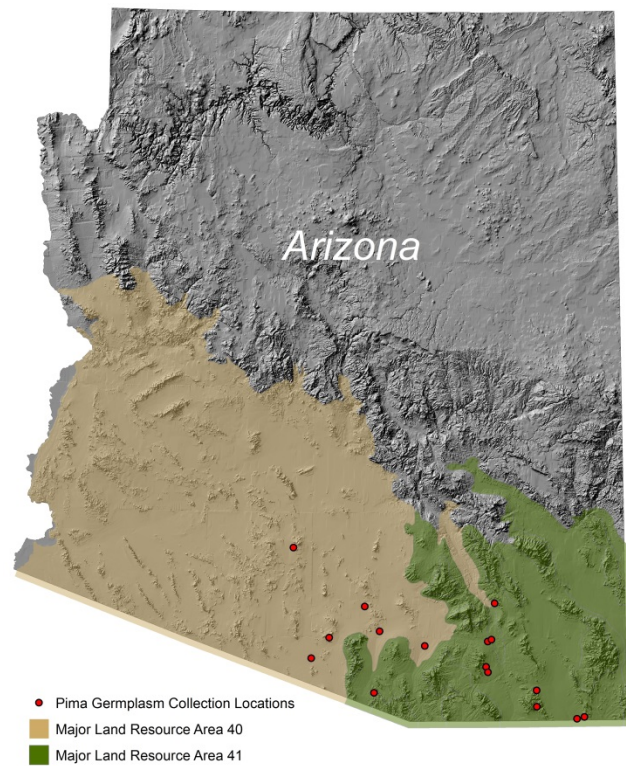


Figure 2: The collection locations and area of use of Pima Germplasm Pima pappusgrass.

### Establishment and Management for Conservation Plantings

The recommended seeding rate for Pima pappusgrass is 3.4 pure live seed (PLS) pounds per acre if planted with a drill and approximately 6.8 PLS pounds per acre if seed is broadcast. There are approximately 322,000 seeds of Pima pappusgrass in a pound.

In southern Arizona, the recommended planting period for rangeland applications using Pima Germplasm is from late June through late August coinciding with seasonal summer moisture. Seed should be planted into a firm, weed-free seedbed at a depth of 1/4 - 1/2 inch. Broadcast

seeding should be followed with a cultipacker or harrow to provide seed with a shallow covering of soil.

Newly seeded areas should be deferred from all grazing from the date of planting until the end of the second growing season or later, if necessary, to allow for stand establishment. Once established, Pima pappusgrass will recover from grazing with deferment and rotation.

### **Ecological Considerations**

Pima Germplasm Pima pappusgrass is a composite of naturally occurring germplasm and has undergone no purposeful selection. Pima Germplasm does not differ significantly in rate of spread, seed production, or vigor from naturally occurring Pima pappusgrass.

### **Seed and Plant Production**

Pima Germplasm Pima pappusgrass should be planted in the early spring into a firm, weed free seedbed at a ¼ - ½ inch depth with 24-40 inches within row spacing. Row spacing can vary from 36-40 inches. The planting should be irrigated to maintain a moist soil surface and to avoid soil crusting. Pre-emergent herbicide may be used to control weeds after the plants have reached the 3-5 leaf stage.

Established fields require 40-60 pounds per acre available nitrogen per year and should be irrigated approximately every four weeks during the growing season. Apply phosphorus and potassium according to soil test results.

Seed is produced from summer to fall. Seed harvest is accomplished with a seed stripper. Yields for irrigated production fields average 75-100 pounds per acre at the Tucson Plant Materials Center.

To clean harvested material, seed may be put through a brush huller/scarifier with a #12 screen to remove the awns from the seed heads. Seed may then be separated from the chaff using a clipper air screen cleaner with a 6x19 top screen and a 60x60 bottom screen.

### **Availability**

*For conservation use:* Pima pappusgrass is available from the commercial seed market.

*For seed or plant increase:* Seed production of Pima Germplasm Pima pappusgrass 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.

*For more information, contact:*

Tucson Plant Materials Center

3241 N Romero Rd, Tucson, AZ 85705

Phone: 520-292-2999 Fax: 855-848-4349

<http://Plant-Materials.nrcs.usda.gov/azpmc>

### **Citation**

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For additional information about this and other plants, please contact your local USDA Service Center, NRCS field office, or Conservation District <<http://www.nrcs.usda.gov/>>, and visit the PLANTS Web site <<http://plants.usda.gov/>> or the Plant Materials Program Web site <<http://www.plant-materials.nrcs.usda.gov/>>

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