

# La Semilla

A Newsletter from the Tucson Plant Materials Center

Fall 2005

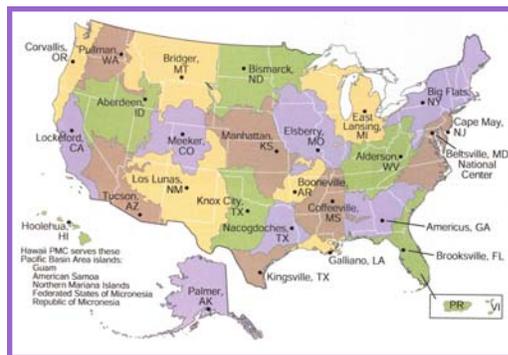
## NEWSLETTER FOR THE PMC

### Plant Materials Mission

To develop, test and transfer effective state-of-the-art plant science technology to meet customer and resource needs. These activities are consistent with the objectives of current USDA and NRCS strategic plans, namely to provide timely and effective vegetative solutions for identified resource needs.

Hi Y'all! It is hard to believe it has been a year since our last newsletter. We have kicked things up a notch here at the PMC over the last year. We are excited by the new evaluation plantings on the farm, the cooperative project in southern Nevada and the collections we are assembling from southern Arizona. We were lucky enough to add Mary Hershdorfer to our staff. She has done a great job getting this newsletter out. We're determined to not let another year go by before you hear from us!

Ramona



Tucson Plant Materials Center serves the states of Arizona, California, Nevada, New Mexico and Utah.

## 2005 Release: Cochise Spike Dropseed

### Tucson Plant Materials Releases

'Loetta'  
Arizona cottontop

Saltillo germplasm  
cane bluestem

'Stevan'  
plains bristlegrass

'Santa Rita'  
fourwing saltbush

'Blythe'  
desert saltbush

NEW! Cochise  
germplasm  
spike dropseed

We are pleased to announce the release of the Cochise germplasm of spike dropseed (*Sporobolus contractus*) this August. Spike dropseed is a perennial warm season bunchgrass native to the Southwest U.S. and a good choice for preliminary revegetation in sandy or rocky sites within 2,400-6,400 ft elevation.

The name "Cochise" was chosen based on the locations of collection. (For those readers wondering what happened to Cochise lovegrass, this release was discontinued along with the rest of the non-natives in

2002). Collections were made in in Arizona, southern Utah and Nevada.

The Cochise germplasm was developed using the convergent-divergent plant improvement (CDI) strategy. CDI involves collection from areas of proposed use, followed by intercrossing and dispersal to a series of locations, where productive plants are selected from and used to produce the release.



Spike dropseed lining Cottonwood Canyon near the AZ-NM-Mexico border (above), and distribution.

## Upcoming releases...

**Bush muhly:** When Mary started at the PMC this June and started rummaging around the seed storage, she came upon a drawer of old bush muhly (*Muhlenbergia porteri*) collections, some dating as far back as 1984. Knowing the value of bush

muhly as a range grass and not wanting to put these efforts to waste, we decided to create a planting of this "heritage" assemblage by planting samples of all 51 collections.

Germination varied among accessions, however we

chose to also include those accessions with low germination. If simply age of the accession or being collected too early was the cause of poor germination, we did not want to lose out on the genetic variation that it brought to the assemblage. Indeed, the plants, now undergoing evaluation in the field, are showing surprising variability. Stay tuned!

**Black grama:** Based on the PMC demonstration plots of black grama (*Bouteloua eriopoda*), the differences between 'the cultivars Nogal' and 'Sonora' are apparent (see photo).

The 'Sonora' cultivar has greater mass, more seed heads per stalk and earlier maturity (before the Arizona monsoons, we observed) than



Bush muhly and distribution



its counterpart. Although taken out of production due to problems with thrips infestations, new research at the NM PMC gives us hope for successful production. We hope to have this "re-release" available soon.

**Pima pappusgrass:** This fall we planted an increase of a composite of pima pappusgrass (*Pappophorum vaginatum*), which consists of collections from 16 sites in southern Arizona. This perennial warm season bunchgrass is found from Arizona to Texas and south to Argentina. It is a prolific seed disperser and may be a good competitor with some of the invasive African grasses in the region.



Comparison of 'Nogal' (left) and 'Sonora' cultivars of black grama



<i>Remember collecting bush muhly on this day?</i>		
Collector	Year	Location
Ron Bemis & Craig Prink	1988	Cochise Co.
Dave Fisher	1990	Gila Co.
Bruce Munda Rick Orr Carrie Janssen-Smith Mark Pater	1990	Highway 93, Lincoln Co. NV
Dan Robinett	1990	North of Catalina, Pinal Co.
John Colvin	1985	Yuma Co.
Dave Fisher	1990	Graham Co.
Margaret Livingston	1992	Pima Co.
Art Meen	2004	Gleeson Rd., Cochise Co.
Mark Pater & Bruce Munda	1990	Hovatter Road, La Paz Co.
Dan Robinett * Kristen Egen Ray Sisneros Gilbert Two Two	1990	Chutum Vaya Assoc., Pima Co.
Dan Robinett Kristen Egen John King	1990	Anvil Ranch, Pima Co
* Art Meen	1991	Mojave Co.
* Dave Fisher	2004	Graham Co.
Dave Fisher & Bruce Munda	2004	Below Frye Mesa, Graham Co.
* Dave Fisher	1990	Graham Co.
Dave Fisher	1990	Gila Co.
Dave Fisher	1990	Greenlee
Dan Robinett Don Breckenfeld	1990	Pima Co.
Don Breckenfeld Cathy McGuire	1990	Pima Co.

\* Collections with superior germination and representation in the assemblage.

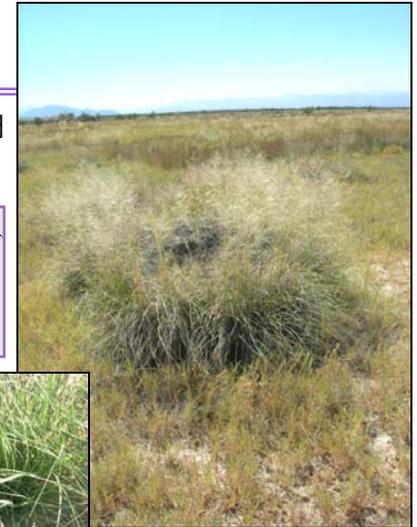
## Development of ecotypes in Southern Nevada

This project began with a desire to conduct restoration seedings in riparian areas of southern Nevada's Mojave Desert, but no seed available to do it. The Southern Nevada Restoration Team, represented by all the federal land management agencies encompassing 90% of the landscape, requested regionally-adapted material of alkali sacaton (*Sporobolus airoides*) and

alkali muhly (*Muhlenbergia asperifolia*).

The four alkali sacaton ecotypes were planted at the PMC this spring as replicated latin squares in order to maximize hybridization in the final product as well as allow for evaluation of the variation between ecotypes (and hence, justification for this process), including plant size (see

photo), flowering times, seed maturity and vegetative mass.



Alkali sacaton at Ash Meadows NWR and seedlings at the PMC.

## Harvesting seed at the Audubon Research Ranch



We even got Linda on the flail vac!

Linda Kennedy and Bill Branam at the Audubon Research Ranch in Sonoita, AZ, are committed to combating lehmann and boars lovegrasses (*Eragrostis lehmanniana* and *E. curvula*) that has taken hold following the catastrophic fire in 2002. In the future, the Ranch may hold the last vestiges of native grasslands in southern Arizona.

We wanted to try something new: harvest a mixed-species crop, skip the processing step, and spread the seed the way it's done in nature. After these good monsoons, this was the perfect year for it. The mix includes the grama spp.- blue, black, hairy, sideoats, spruce-top; plains lovegrass, cane beardgrass, various forbs (and many, many more).

The 150+ lbs of seed will be available for reseeding multiple test plots at the Ranch, as well as a mixed species border here at the PMC.

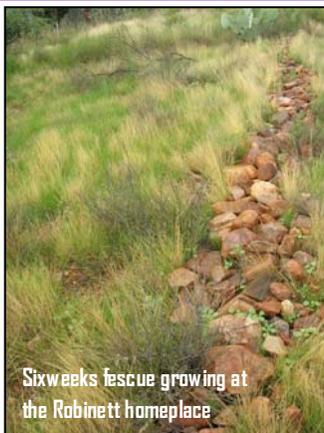
**Make sure your area is represented in these releases!**

- Plains lovegrass
- Sideoats grama
- Black grama
- Tobosa
- Big galleta
- Bush muhly
- Vine mesquite
- Desert zinnia
- Desert marigold

*Please contact us with questions about making seed collections.*

Let us know about additional important revegetation species in your area.

## Good Land Steward Award goes to... Dan Robinett



Sixweeks fescue growing at the Robinett homeplace

Our comrade Dan has made various revegetation attempts at the Robinett homeplace for years, but nothing seemed to establish on the compacted barren patches in his front yard in the Catalina foothills in Tucson, AZ. Until now. Dan was thinking outside the box when he collected and planted sixweeks fescue (*Vulpia octo-*

*flora*), a native annual grass, which has established nicely (left).

Dan has us wondering about the use of annuals in the process of arid rangeland restorations. We're now assembling a few annual collections along with our list of perennials (right).

**We Are On The Web!!**  
[Http://Plant-Materials.nrcs.usda.gov](http://Plant-Materials.nrcs.usda.gov)

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Tucson Plant Materials Center**

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## What's Happening

- Mary Hershendorfer has joined the PMC, bringing with her a background in range and interests in invasive plant management and restoration.
- The PMC will sadly miss Carol Bailey in January. Carol began her NRCS career at the PMC, where it is now coming to a close.
- The PMC is currently remodeling the conference room at PMC. We expect to see you in it soon!
- The PMC joined forces with the state office on National Public Lands Day at North Mountain Park in Phoenix to hand out samples of a wildflower (very popular) and a native grass (slightly less popular).
- Look for new technical notes on [www.nrcs.az.usda](http://www.nrcs.az.usda):
  - ⇒ Irrigated pasture trials
  - ⇒ Herbaceous wind barriers
  - ⇒ Non-dormant pole plantings
- Fall is the best time for collecting the seed of our warm-season plants. Look for us out on the road!



**Ramona and Mary rejoicing in the seed harvest at the Audubon Ranch.**

### Plant Materials Purpose

- Assemble, test, and release plant materials for conservation,
- Determine techniques for successful use and management of conservation species,
- Facilitate the commercial increase of conservation species,
- Provide for the timely development and transfer of effective applied plant science technology to solve conservation problems,
- Promote the use of plant science technology to meet the goals and objectives of the USDA and NRCS Strategic Plans.