



# Natural Resources Conservation Service

## 2019 Progress Report of Activities

Following are highlights of some of the activities of the PMC for 2019. Please contact the PMC for more detailed information.

### **Starr Germplasm Longspike Silver Bluestem Conservation Seed Release**



Starr Germplasm Longspike Silver Bluestem

In 2019 the E. “Kika” de la Garza Plant Materials Center (PMC) and South Texas Natives Project (STN) cooperatively released Starr Germplasm longspike silver bluestem [*Bothriochloa longipaniculata* (Gould) Allred & Gould]. This release is a selected plant material class of certified seed.

Longspike silver bluestem is a native, perennial bunch grass common along roadsides and field borders of the lower and mid Gulf Coast region of Texas. Starr Germplasm is made up of five different accessions of longspike silver bluestem originating from the

Rio Grande Plains. It is a shade tolerant grass frequent on fine-textured upland clay soils. It produces fluffy white seedheads throughout the summer and fall in South Texas. This seed release is recommended for wildlife habitat improvement and inclusion in range seeding mixes. The area of known adaptation of Starr Germplasm includes the Rio Grande Plain, Gulf Coast Prairies and Marshes, and Coastal Sand Plains Ecoregions of Texas.

The PMC and STN are currently working with seed producers to make seed of this release commercially available. More information about this and other NRCS plant releases is available on the PMC website:

[NRCS Conservation Plant Releases](#)

### **Notable Achievement Award**

John Englert, NRCS National Program Leader for Plant Materials, presented a Notable Achievement Award to the “Kika”

#### Plant Materials Center Staff

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John Reilley and John Englert discussing sand dune work on South Padre Island

de la Garza PMC at a National PMC Workshop in August 2019. The PMC was recognized for its long history of developing and evaluating plants and techniques for dune restoration and coastal shoreline plantings along the southeastern Texas coast.

There are approximately 1,500 acres of land lost over 1,000 miles of the Texas Gulf Coast every year. Both Gulf Coast shoreline and coastal bays are affected by coastal erosion. Rising sea levels, over-grazing practices, and increasing development have rendered these shorelines susceptible to erosion. The PMC started its coastal

involvement in the early 1990's when the PMC would grow and distribute smooth cordgrass to the coastal Districts for shoreline protection. In 1996, when Land Commissioner Gary Mauro was voted out-of-office, the General Land Office (GLO) stopped providing funds to the Districts for coastal plantings. Our coastal program continued but at a lot lower intensity.

In 1997, we attempted our first coastal bioengineering project or as they call it now "Living Shoreline" at Portland, Texas. It consisted of using cellular concrete blocks for toe-protection and planting marshhay cordgrass and gulf cordgrass into a turf-reinforcement mat. In 2002 we tried our bioengineering approach on the eroding shoreline directly in-front of an historic oyster shell building. We protected the building by using fiber-encapsulated soil planted with marshhay cordgrass and gulf cordgrass. In 2003, we teamed-up with Dr. Kim Jones of the Environmental Engineering Department at Texas A&M Kingsville and protected the shore at Kaufer-Hubert Park with a rock protected toe and fiber encapsulated soil planted with seashore dropseed, gulf cordgrass, and marshhay cordgrass. The project is captured in two published articles, *Ecological Engineering* (2004) 22: 249–261, "Design and implementation of an ecological engineering approach to coastal restoration at Loyola Beach, Kleberg County" and *Ecological Engineering* (2009) 36 (4):435-440, "Multi-level assessment of ecological

coastal restoration in South Texas." We began our work at South Padre Island in 2006. We tested dune construction methods of fiber-encapsulated soil and concertainers planted with bitter panicum and seaoats. We continue with this work providing Cameron County Parks Department at Isla Blanca Park on South Padre Island dune restoration guidance and assisting Texas A&M Kingsville engineering students with the establishment of two local nurseries growing bitter panicum and seaoats and in growing seacoast bluestem, seashore dropseed and marshhay cordgrass at the PMC.



Bitter panicum (bottom) and sea oats (top) growing in a nursery for dune restoration

## Welcome Josiah Mulvihill

In September 2019, we welcomed a new biological technician to our PMC. Josiah Mulvihill is a native of the Dallas/ Fort Worth area but comes to us from his job as a Soil Conservationist at the Houston, Missouri NRCS Field Office. He enjoyed his time there, and it solidified his desire to get into the Plant Materials Program. Josiah graduated from Tarleton State with a degree in plant ecology. He plans to get his Master's degree here at Texas A&M University-Kingsville and eventually would like to be a study leader at one of the Plant Materials Centers in our program.

## Seed Collections Needed

The PMC is seeking seed collections in 2019 including: narrowleaf globemallow (*Sphaeraicea angustifolia*), Virginia wildrye (*Elymus virginicus*), partridge pea (*Chaemaecrista fasciculata*), and swamp sunflower (*Helianthus angustifolius*). Species description sheets as well as seed collecting protocols can be found on the [Texas Plant Materials Program website](#) or contact the PMC for more information.



Josiah Mulvihill – New Biological Technician



Partridge Pea

## About the PMC

The E. "Kika" de la Garza Plant Materials Center (PMC) is a 91-acre facility established to provide cost-effective vegetative solutions for soil and water conservation problems. This means identifying plants and developing techniques for successful conservation use. It also means assisting in the commercial development of these plants and promoting their use in natural resource conservation and other environmental programs.

The PMC was established in 1981. It is one of 25 centers located throughout the United States. The PMC is operated by the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), in cooperation with Texas A&M University-Kingsville, the Caesar Kleberg Wildlife Research Institute (CKWRI), South Texas Association of Soil & Water Conservation

Districts, and the Gulf Coast Association of Soil & Water Conservation Districts. The E. "Kika" de la Garza PMC serves approximately 27 million acres of the southern portion of Texas.

## Program Emphasis

The mission of the E. "Kika" de la Garza PMC is to develop and transfer plant science technology to solve natural resource problems in the South Texas area. Plant testing and plant selection as well as the development of new plant science technologies are the primary products of our program. The PMC conducts plantings and studies at the Center and off-Center with cooperating partners. The PMC works with NRCS Field Offices, Conservation Districts, federal and state agencies, and private landowners.

Our current program emphasis at the PMC is in the following areas:

- Rangeland Habitat Restoration and Enhancement
- Pollinator Habitat
- Coastal Shoreline Stabilization
- Cover Crops and Soil Health

### **Presentations for FY 2019**

Reilley, J., Experimental Treatments to Reduce Seed Dormancy in Plains Bristlegrass (*Setaria leucopila*). Presented at the Seed Longevity Workshop, Ft. Collins, CO.  
Maher, S., Pollinators and Habitat Needs. Presented to the Native Plant Society in Bourne, TX.  
Reilley, J., The Slender Rushpea Coalition. Presented at the Botanical Research Institute of Texas.  
Maher, S., Pollinators. Presented to the Brownsville, TX Garden Club.  
Reilley, J., Selecting Native Grasses for Improved Survival and Productivity Under a Changing Global Climate. American Society of Agronomy Conference, Baltimore, MD.  
S. Dunn, J. Reilley, and S. Maher, Master Naturalist Soil and Plant Training, Kingsville, TX.  
Reilley, J., Cover Crops for South Texas. Training for the Field Offices. Kingsville, TX.  
Reilley, J., Ecological Science and Plant Materials. ESC Training for Field Offices. Laredo, TX.

### **Publications for FY 2019**

Reilley, J., S. Maher, F. Smith and T. Falk. Starr Germplasm Longspike Silver Bluestem Release Notice.  
Maher S., and J. Reilley. Longspike beardgrass Plant Guide.  
Reilley, J., S. Maher, & T. Falk. Starr Germplasm longspike silver bluestem release brochure.  
J.P. Muir, W.D. Pitman, F.S. Smith, J. Reilley and R. A. Shadow. Challenges to developing native legume seed supplies: the Texas experience as a case study. Native Plants Journal, Madison, WI.  
Reilley, J., Tech Note: Range Restoration with Low Seral Plants.  
Reilley, J. & S. Maher, Tech Note: Effects of seed burial on buffelgrass germination in South Texas.  
Jones, Kim and TAMUK. Designing and implementing more resilient coastlines for the State of Texas and the Globe. Texas A&M University-Kingsville, Kingsville, TX.  
Reilley, J. and S. Maher, Year 2017 Progress Report of Activities.  
Reilley, J. and S. Maher, Year 2018 Progress Report of Activities.

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### Current Availability of South Texas Ecotype Releases

Common Name	Scientific Name	Available From	Available
Lavaca Germplasm Canada Wildrye	<i>Elymus canadensis</i>	Turner, Douglass King, Bamert and Pogue	Now
Falfurrias Germplasm Big Sacaton	<i>Sporobolus wrightii</i>	Douglass King, Bamert and Pogue	Now
Kinney Germplasm False Rhodes Grass	<i>Trichloris crinita</i>	Douglass King, Bamert and Pogue	Now
Catarina Blend Bristlegrass	<i>Setaria leucopila</i> & <i>Setaria vulpiseta</i>	Douglass King, Bamert, Pogue, and Turner	Now
Mariah Germplasm Hooded Windmillgrass	<i>Chloris cucullata</i>	Douglass King Seed Pogue Agri Partners Bamert Seed	Now
Welder Germplasm Shortspike Windmillgrass	<i>Chloris subdolichostachya</i>	Douglass King, Pogue, and Bamert	Now
Dilley Germplasm Slender Grama	<i>Bouteloua repens</i>	Douglass King, Pogue, and Bamert	Now
Chaparral Germplasm Hairy Grama	<i>Bouteloua hirsuta</i>	Douglass King, Pogue, and Bamert	Now
Atascosa Germplasm Texas Grama	<i>Bouteloua rigidiseta</i>	Douglass King, Pogue, and Bamert	Now
La Salle Germplasm Arizona Cottontop	<i>Digitaria californica</i>	Douglass King, Bamert, Pogue, and Turner	Now
Zapata Germplasm Rio Grande Clammyweed	<i>Polanisia dodecandra</i> ssp. <i>riograndensis</i>	Douglass King, Pogue, and Bamert	Now, limited
Maverick Germplasm Pink Pappusgrass	<i>Pappophorum bicolor</i>	Douglass King, Pogue, and Bamert	Now
Webb Germplasm Whiplash Pappusgrass	<i>Pappophorum vaginatum</i>	Douglass King, Pogue, and Bamert	Now
Hidalgo Germplasm Multiflower False Rhodes Grass	<i>Trichloris pluriflora</i>	Douglass King, Pogue, and Bamert	Now
Oso Germplasm Hall's Panicum	<i>Panicum hallii</i> var. <i>filipes</i>	Douglass King, Pogue, and Bamert	Now
South Texas Germplasm Sideoats Grama	<i>Bouteloua curtipendula</i> var. <i>caespitosa</i>	Douglass King, Pogue, and Bamert	Now
Rio Grande Germplasm Prairie Acacia	<i>Acacia angustissima</i> var. <i>hirta</i>	Douglass King	Now, limited
Venado Germplasm Awnless Bushsunflower	<i>Simsia calva</i>	Douglass King, Pogue, and Bamert	Now
Balli Germplasm Prostrate Bundleflower	<i>Desmanthus virgatus</i> var. <i>depressus</i>	Douglass King, Pogue, and Bamert	Now
Goliad Germplasm Orange Zexmenia	<i>Wedelia texana</i>	Douglass King, Pogue, and Bamert	Now
Duval Germplasm Red Lovegrass	<i>Eragrostis secundiflora</i> ssp. <i>oxylepis</i>	Douglass King, Pogue, and Bamert	Now
Ramadero Germplasm Spike Lovegrass	<i>Eragrostis spicata</i>	Douglass King, Pogue, and Bamert	Now
Nueces Germplasm Sand Dropseed	<i>Sporobolus cryptandrus</i>	Douglass King, Pogue, and Bamert	Now
Carrizo Blend Little Bluestem	<i>Schizachyrium scoparium</i> var. <i>scoparium</i>	Douglass King, Pogue, and Bamert	Now, limited

Seed companies abbreviated above are: Douglass King Seed Company, Pogue Agri Partners, Bamert Seed Company, and Turner Seed Company