



# South Texas Natives

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## South Texas Natives Project Update

By Forrest S. Smith

*South Texas Natives* (STN) is on its way to meeting the goals first established almost a decade ago. The greatest contribution STN can have toward restoration in South Texas is to meet our principle goal of developing native seed sources that will one day be a major part of restoration efforts and the emerging issues concerning invasive grasses.

We shouldn't forget that the principle reason exotic grasses were brought to South Texas was because of a lack of native plant materials in the soil or for use following brush control; a phenomenon linked to a century of overgrazing between 1810 and 1910. Our work is showing that this is still true in many parts of South Texas today. In seven trial plantings made last fall, volunteer native plants from the soil seed bank provided just 15% cover 8 months after planting. Seeded natives provided 42% cover-almost 3 times more than what would've established naturally on these sites!

Perhaps the best news to share this winter is that several of the dominant native grass species for about 15 million acres of South Texas are very near release. STN will distribute pink and whiplash pappusgrass to growers this spring, and the USDA-NRCS Plant Material Center (PMC) will lead the release of multiflowered false rhodesgrass in the next year. These plants will add some important tools to



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**Today, seed mixes of several species of native grasses can be purchased for South Texas. Shown here is a one-year old planting at the Temple Ranch in Duval County.**

our arsenal in trying to diversify invasive grass monocultures, and greatly improve seed mixes for producers desiring both wildlife and livestock benefit. We continue to evaluate other plant species for future releases, including two early successional grasses; red lovegrass and sand dropseed, as well as a number of perennial legumes.

I'll close by applauding the commercial seed industry for their efforts. Producing a crop of some of these plants for the first time is a learning experience, often times undertaken at great cost to the grower. Dean Williams of Douglass W. King Seed Company shares a much appreciated viewpoint related to the challenges of producing seed commercially. Commercialization of our native seed releases has been the

major challenge for STN; as potential consumers each of you can play an important role in helping overcome these difficulties by creating a demand for these native seeds. I believe the need and desire for native seed is greater today than when STN began; it's time we convey that through action to the seed industry.

Finally, a huge "thank you" is due all our donors, and collaborators such as the USDA-NRCS Plant Materials Center and Rio Farms. Thanks also to all of you who appreciate the importance of one of our greatest natural resources - our native plants.



Forrest Smith is the STN Coordinator. He has worked with the project since 2001, and became Project Coordinator in January 2009.

## The Seed Industry and STN Releases

By Dean Williams

For several years, the question has been asked, “What will it take to generate interest in the seed industry to produce seed of the *South Texas Natives* (STN) selections?” The answer was simple - there needs to be a good exchange of information and a clear understanding of the market and objectives for each species. This is not to say there has been a lack of support or information. To the contrary, Forrest Smith, Keith Pawelek, and John Reiley have been instrumental in moving the project forward and are to be commended for their efforts.

However, STN and the seed industry use different sets of criteria to make a decision to move forward with a release. The goal of STN is to move elite selections into the market as rapidly as possible. The seed industry, on the other hand, requires time to evaluate each species on three main criteria; market demand, viable seed yields, and pricing. With this in mind, the seed

industry approached the production of the first releases cautiously, or maybe a better choice of words halfheartedly (if investing in the neighborhood of \$100,000 is halfhearted). This can be attributed to their perception that the market was undeveloped and/or the items were difficult to produce. Accurate or not, it is the result of using traditional grass seed markets, production techniques and pricing as the basis for evaluation. At first glance this would be a reasonable approach, but in reality there are more differences than similarities between traditional (or established) grass seed markets and a niche native grass seed market in South Texas.

Most traditional native species being produced and sold today are a result years of production experience and demand over large areas of the United States. One contributing factor to the use and demand is a result of government conservation programs and remediation efforts comprising of tens of thousands of acres. For example, it is difficult to accurately estimate the use of sideoats grama in the U.S., but a conservative estimate would be over 100,000 pounds annually. A market

of this size will generate the attention of many seed producers, and supply coupled with competition will drive pricing.

It goes without saying, items with reasonable seed yields, high seed viability, and good demand will find their way to the market at reasonable prices and with limited resistance. In general the seed industry is looking for such items that can be produced economically for a primary as well as any secondary markets that might materialize. An example is Kika677 Germplasm Streambed Bristlegrass, one of four components in the Catarina Blend Bristlegrass. This selection has proven more economical to produce than Plains Bristlegrass and in some cases is being sold as “Variety Not Stated” as a more productive substitute. While selling any species (or component) released by STN in this manner was not the intent of the program, it demonstrates the impact of a secondary or larger market. It should be noted, Streambank 677 has proven to be the most economical component to produce in the Catarina blend, but the other three are a different story.

On the flip side, smaller niche markets may interest producers in the short run, but many will fall by the wayside if a perceived market fails to materialize. Developing good markets may take years and will be one of the most critical tasks for overall success of the program. A small group of seed producers in the private sector can make modest gains in market development, but long term success will require a commitment from the public sector. Without question a commitment from the Natural Resource Conservation Service and the Texas Department of Transportation would have the largest impact on the demand for these items. Recommendations and required planting specifications from these two organizations could increase demand



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**Dille Germplasm slender grama is being produced by Douglass W. King Seed Company near San Antonio, Texas.**



for these species overnight, otherwise it will be a long hard road.

The million dollar question; what comes first, production or the demand? Hard to answer, but this is exactly where we are today. Production challenges are being addressed and several of the first releases; La Salle Arizona Cottontop, Catarina Blend Bristlegrass, Dilley slender grama, Welder shortspike windmillgrass and Mariah hooded windmillgrass are being produced and will have modest seed quantities available in 2010. From this point it will require a cooperative effort by all parties to develop the markets thus encouraging the seed industry to increase production. In other words, *South Texas Natives* needs reliable production partners and producers need reliable markets. This can only be accomplished with reliable input from the donors, supporters and potential customers to keep the program on the right course. 🌿

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Dean Williams is president of Douglass W. King Seed Company in San Antonio, Texas.

## Native Habitat Restoration as a Tool to Improve Bobwhite Quail Nesting Habitat

By Tony Falk

Northern Bobwhite quail (*Colinus virginianus*) are an economically important species throughout their range in the southern half of the United States, particularly in South Texas, where landowners and lessees spend up to of \$21 per acre, excluding lease costs, on bobwhite quail management. A significant amount of this money is spent on habitat management, especially in the Lower Rio Grande Valley (LRGV) where much of the bobwhite quail habitat has been converted to crop production or invaded by exotic grasses. As the financial benefits of

wildlife management increase and the financial benefits from agricultural enterprises decrease, many landowners are looking to convert their former crop lands to productive quail habitat. Historically there have been two main approaches to this conversion: 1) retiring the land from agricultural production and allowing natural revegetation or 2) to plant native species. Each method has its own benefits and pitfalls. To look at the ability of each of these techniques to produce habitat for bobwhite quail, we are conducting a habitat restoration experiment in the LRGV.

The experiment is being conducted near Donna, TX on the Texas Parks and

production and then left fallow. The final treatment consisted of the same intensive land preparation followed by planting a diverse mix of 31 species of native seed. We are documenting the number of bunch grass clumps suitable for bobwhite quail nesting.

By planting native seed we were able produce an average of 1,542 bunch grass clumps suitable for quail nesting per acre. We were also able to produce perennial canopy cover near 50%. These results fall within the ranges for good quality nesting habitat for bobwhite quail. The prepared and control treatments had zero suitable bunch grass clumps and had a mean perennial canopy coverage exceeding



© Forrest Smith

**Tony Falk examining native bunchgrasses on retired croplands following restoration efforts to introduce nesting structure for bobwhite quail.**

Wildlife Department's (TPWD) Las Palomas Wildlife Management Area. One treatment received no manipulation, and is considered the control. This was done to see what the resultant vegetation and quail habitat might be without any manipulation during the study. The second treatment consists of intensive land preparation to resemble land that had been in agricultural

60%. The majority of this cover is made up of sod forming exotic grasses that do not have the structure needed for bobwhite quail nesting. This canopy cover is also considered too dense for bobwhite quail use. Planting native seed on retired croplands in this area has also doubled overall plant diversity compared to the control treatments.

Providing nesting habitat is only one part of the quail production equation. In order to provide year-round habitat there are several other important considerations. One aspect lacking in retired croplands is escape and loafing cover in the form of brush, necessitating restoration of these plants as well. There are also brooding and feeding areas to consider, both of which can be created through disk-ing or prescribed burning to keep areas in an early successional state.

With active restoration efforts, we believe it is possible to convert areas previously used for crop production into quality quail habitat. Restoration of these lands has benefits beyond quail production, including providing beneficial habitat to variety of other wildlife, and creating a more diverse, aesthetically pleasing landscape.



Funding for this project is provided by the Texas Parks and Wildlife Department and South Texas Natives. Tony Falk is a Graduate Research Assistant at CKWRI.

Visit our web page at:  
<http://ckwri.tamuk.edu/research-programs/south-texas-natives/>

### Recommended seed mix for reclamation sites in South Texas

Almost daily, we have numerous requests for a recommended seed mix to reclaim disturbed areas in South Texas. Based on the results of our Demonstration Plantings, we recommend the following seed mix of commercially available grasses. A similar seed mix provided an average of 42% cover on 7 trial sites in South Texas <8 months after planting. For more information about specific seed mix recommendations for your ranch or soil type, email: [stn@tamuk.edu](mailto:stn@tamuk.edu)

Variety	% composition of seed mix	Planting rate as part of mix
Dilley Germplasm slender grama	30	2.40 lbs. PLS/acre
Welder Germplasm shortspike windmillgrass	10	0.10 lbs. PLS/acre
Mariah Germplasm hooded windmillgrass	10	0.10 lbs. PLS/acre
La Salle Germplasm Arizona cottontop	25	0.50 lbs. PLS/acre
Catarina Bristlegrass Blend	25	0.50 lbs. PLS/acre

### Commercially available native seed for South Texas

Variety*	Dealer(s)	Date of availability
Dilley Germplasm slender grama	Douglass W. King Seed Company	Summer 2010
Catarina Bristlegrass Blend	Douglass W. King Seed Company Turner Seed Company Pogue Agri Partners	NOW
La Salle Germplasm Arizona cottontop	Pogue Agri Partners Douglass W. King Seed Company	NOW
Welder Germplasm shortspike windmillgrass	Turner Seed Company	NOW
Mariah Germplasm hooded windmillgrass	Douglass W. King Seed Company	NOW
Lavaca Germplasm Canada wildrye	Turner Seed Company	NOW
Falfurrias Germplasm big sacaton	Douglass W. King Seed Company	NOW
Kinney Germplasm false rhodesgrass	Douglass W. King Seed Company	Fall 2010
Atascosa Germplasm Texas grama	Douglass W. King Seed Company	Summer 2010
Chaparral Germplasm hairy grama	Douglass W. King Seed Company	Summer 2010
Maverick Germplasm pink pappusgrass	Pogue Agri Partners Douglass W. King Seed Company	Fall 2010
Webb Germplasm whiplash pappusgrass	Pogue Agri Partners Douglass W. King Seed Company	Fall 2010

*\*Many of the varieties listed are available in limited quantities at this time. Please call the companies listed to inquire about seed availability before planning your project.*



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