



South Texas Natives eNews

News from the South Texas Natives Program at the Caesar Kleberg Wildlife Research Institute

Native Legume Releases will Add Diversity and Improve Your Soil

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After 14 native grass releases and 3 forb releases, the USDA NRCS Plant Materials Center in Kingsville, Texas AgriLife Research-Beeville, and *South Texas Natives* will soon release two native legumes. Prairie acacia and deer pea vetch, both natives to South Texas, have been under evaluation for several years. Each of these legumes will fill a different niche in the grassland complex. Prairie acacia is a long-lived summer-growing perennial that reproduces by seed and by spreading underground rhizomes. Deer pea vetch is a winter annual that only reproduces by seed. So, depending on the situation, you may want to plant both legumes in your mix with native grasses, or you may want to add just one of the legumes. Generally, legumes are preferred plants for deer and other wildlife, but our observations indicate that deer pea vetch is not overly palatable, so it can persist and produce seed even in the presence of fairly heavy deer pressure. The seed of both of these legumes is sufficiently large to be good food sources for birds.



Deer pea vetch has excelled in a number of field plantings in South Texas. It is an excellent winter cover-crop option on recently disturbed soils. Deer pea vetch has performed well when planted in disturbed exotic grass stands (e.g. buffelgrass), where the goal was to increase forb abundance and provide winter forage to wildlife and livestock. The plant produces copious amounts of seed in early spring, providing food to bobwhite quail and other wildlife. In mixed stands of native plants, deer pea vetch emerges in the fall or early winter and climbs existing grasses, then dies back in early

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Forrest S. Smith



spring, allowing grass regrowth.

Prairie acacia is another top performer in many rangeland seeding situations. This

species commonly requires 1-2 years for establishment, in part because of the hard seed coat of the seed. Once germinated, seedlings demonstrate excellent drought tolerance and the ability to compete with most all other plants. In one planting where a stubborn infestation of Kleberg bluestem out-competed most other seeded natives, prairie acacia has grown to maturity and continues to compete very well, now 3 years after seeding.

Being legumes, the other advantage for these two releases is that they form a symbiotic association with rhizobia that infects the roots. These rhizobia have the ability to capture nitrogen from the air (air has about 80% N) and converts it to NH_3 that plants can use.

Most higher order organisms including plants cannot extract this atmospheric nitrogen from the air, but the associated rhizobia (a bacteria) takes a small amount of energy from the host plant (the legume) and uses it to convert atmospheric N to the useable form. As with



most legumes, this results in plant tissue that has a high protein content, which can then be used by animals that consume the plant tissues. Plant parts not consumed will eventually release this nitrogen-rich tissue back to the soil complex as organic matter. The N in plant parts consumed by deer, or other critters are only partly retained for growth and development of the animal, with the remainder excreted back to the soil. This ability to fix nitrogen and add to the general fertility of the soil will be especially important on disturbed lands such as oil and gas exploration sites where the topsoil may be mixed with subsoil or devoid on the site, and in farm land being planted to natives under CRP contracts.

Prairie acacia and deer pea vetch seeds are being distributed to commercial seed growers in 2011-2012. Seed could be available for purchase and inclusion in seed mixes by late 2012 or early 2013. For more information about these or other native plants, visit our website at <http://ckwri.tamuk.edu/research-programs/south-texas-natives/>

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