

Effects of Region of Seed Production on Seed Quality of south Texas Collected Native Grasses

Forrest S. Smith, Paula D. Maywald, William R. Ocumpaugh, Jim Muir, and Twain J. Butler

The reproductive physiology of many native plant species in combination with the harsh climate of south Texas commonly results in seed with low active germination and high levels of dormancy, or seed with little or no viability. These adaptations make commercial seed production for restoration use very difficult. Seed production conditions 100-300 miles north of south Texas are known by many seed producers as having favorable climatic conditions for good seed set in grasses. However, south Texas plant material may have poor adaptability to soils in this region, be sensitive to shorter growing seasons, and suffer from exposure to colder winter temperatures.

Transplant plantings of several native grass species collected in south Texas were made at locations in north Texas (2007) and southern Oklahoma (2006). Seed collected from these plantings was tested for % active seed germination and compared to long term production averages in south Texas.

- Sideoats grama seed grown in north Texas and southern Oklahoma had 20% higher active seed germination than the average % seed germination of seed produced in south Texas.
- Arizona cottontop, slender grama, and Texas grama had 10-20% lower active seed germination when grown in north Texas and southern Oklahoma.
- Seacoast bluestem, big bluestem, hairy grama, and yellow Indiangrass had seed germination equal to that observed in seed grown in south Texas.
- Survival of all species was lower in plantings made in north Texas or southern Oklahoma than plantings made in south Texas.

Cooperative funding was provided by the numerous donors to South Texas Natives and the Joe Skeen Institute for Rangeland Research