TEXAS A&M UNIVERSITY KINGSVILLE

Statewide Implementation of Regionally Adapted Native Seeds: Final Report

Report 5-6665-01-1

Cooperative Research Program

TEXAS NATIVE SEEDS PROGRAM,
CAESAR KLEBERG WILDLIFE RESEARCH INSTITUTE
TEXAS A&M UNIVERSITY–KINGSVILLE

in cooperation with the
Federal Highway Administration and the
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16. Abstract

Mandated by multiple federal executive orders and the Clean Water Act, native seeds must be used, when available, to prevent erosion following construction activities on highway rights-of-ways. Historically, native seeds have resulted in marginal performance across much of the state, and there have been insufficient commercially available native seed sources to fill TxDOT's needs. Researchers from the Texas Native Seeds program obtained native plant collections including a number of different species of interest from throughout the state. Many of these collections were planted in common garden studies to determine which populations were adapted to commercial production. Selected populations were then farmed to produce sufficient seed quantities to supply to commercial seedsmen for the establishment of production fields. As these new releases were completed, recommendations were made to TxDOT for modification of Item 164, "Seeding for Erosion Control." Over 1,100 native seed collections were made, resulting in 7 new seed releases. Additionally, seed production of 41 previously released selections was maintained, enabling additional distribution to commercial growers. As a result of these findings and the success of the seed source development efforts, TxDOT was able to revise Item 164 for all of the agency districts for rural areas. These specifications can now direct that only native plants be used for seeding after construction or maintenance activities on the right-of-way, and TxDOT can now meet federal mandates for erosion control under the Clean Water Act as well as existing and proposed federal directives to utilize native plants in remediation and restoration activities.

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Statewide Implementation of Regionally Adapted Native Seeds:

Final Report

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Disclaimer

The contents of this report reflect the views of the authors, who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official view or policies of the Federal Highway Administration (FHWA) or the Texas Department of Transportation (TxDOT). This report does not constitute a standard, specification, or regulation. The United States Government and the State of Texas do not endorse products or manufactures. Trade or manufactures' names appear herein solely because they are considered essential to the object of this report. The researcher in charge of this project was Forrest S. Smith (9/2019-4/2021) and Keith Pawelek (5/2021-8/2021).

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Performed in cooperation with:

Texas Department of Transportation (TxDOT)

Texas A&M University-Kingsville

USDA Natural Resources Conservation Service Plant Materials Program

Texas AgriLife Research and Extension Center, Stephenville

Borderlands Research Institute, Sul Ross State University

Douglass W. King Seed Company

Bamert Seed Company

and

numerous private landowners of Texas

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CHAPTER 1

Introduction

Numerous Federal Executive orders and the Clean Water Act have mandated the use of native plants on Federal and State highway rights of ways to control erosion, provide diverse native plant habitat, and reduce impacts to adjacent private lands. Historically, the limiting factor in implementation of solely native plant seed mixes on rights of ways has been a lack in both quality and quantity of native seeds available on the commercial market. Over the last 20 years, the Texas Department of Transportation (TxDOT) and the Caesar Kleberg Wildlife Research Institute (CKWRI) at Texas A&M University-Kingsville have partnered to address and alleviate this bottleneck in commercial native seed supply.

Between 2001 and 2011, TxDOT Project #0-4750 (South Texas Native Plant Restoration Project) was successful in the development and release of 18 regionally adapted South Texas native seed varieties to commercial seed growers (Smith et al. 2012). In response to this success in South Texas, in 2010 TxDOT and CKWRI again partnered to expand the seed source development efforts into Central and West Texas with TxDOT Project #0-6665 (TxDOT Native Plant Integration Program for South, Central, and West Texas) (Smith et al. 2018). The expansion into Central and West Texas gave rise to what is now known as the *Texas Native Seeds Program (TNS)*, a statewide initiative focused on enabling large scale native plant restoration through the development and release of regionally adapted native seed sources for commercial production.

By the conclusion of Project #0-6665 on August 31, 2018, the Texas Native Seeds Program had developed or facilitated the commercialization of 41 regionally adapted native seed sources for use by TxDOT, other state and federal agencies, the growing energy sector, and private landowners across the regions (Smith et al. 2018). Through development, testing, and successful commercialization of these seed sources, in 2014 the TxDOT standard specification Item 164, Seeding for Erosion Control Specification, was changed to include diverse, locally adapted native plant only seed mixes for two-thirds of the state. These TxDOT seeding specifications are widely referenced by many public and private entities across the state which has resulted in the impacts from these specification changes stretching far beyond just our roadsides. Following Projects #0-4570 and #0-6665, it was clear that the same efforts were needed in the remaining one-third of the state-- East Texas and the Coastal Prairies.

In East Texas, Houston, and Beaumont Districts, current specifications include non-native grasses in seed mixes (TxDOT 2014), not from of a lack of desire, but because these non-natives are the only current options. TxDOT Project #5-6665-01 (Statewide Implementation of Regionally Adapted Native Seeds) paved the way for establishing native seed projects in the East Texas and the Coastal Prairies regions. In 2018, work began to develop the regionally adapted native seed sources needed to meet current and projected restoration demands. These expanded efforts into East Texas and the Coastal Prairies will insure TxDOT can satisfy requirements of current federal mandates associated with the Clean Water Act, potential impacts under the Endangered Species Act, and existing federal executive orders directing the use of native plants on public infrastructure across the entire state of Texas. In addition to the work in the East Texas and Coastal Prairies regions, the Central and West Texas projects were able expand on work from the prior Project #0-6665 with an emphasis on commercialization of native seed releases and the development of practical restoration methods to meet restoration demands across the projects' regions.

Impacts from this project will reduce, if not eliminate, the planting of non-native grasses along roadsides in Texas. In addition, long term recurrent maintenance costs, increased revegetation success, improved ability to provide habitat for monarchs and pollinators, and increased biodiversity along roadsides are all expected benefits associated with the use of locally adapted seed sources of native grasses, forbs, and legumes. Native seed collections, native plant evaluations, seed increase field establishment, native seed adaptation trials, and roadside planting demonstrations were all implemented with the goal of furthering commercialization and use of the regionally adapted native seed sources being made available through the TxDOT and TNS partnership.

CHAPTER 2

Task. 1 Conduct Project Managemant and Research Coordination

Project Management and Research Coordination

Project management and research coordination is one of the most involved tasks in this project and is difficult to highlight except through the accomplishments described in this report. There were challenges that arose during the preformace period, but with adapation and TxDOT's understanding, all deliverables were met on time.

Once the implementation project contract was fully executed, work on planning and management to achieve all of the project deliverables began. In September 2018, a presenation was delivered on the project at the TxDOT Maintence Conference in Fort Worth, Texas. Permits for seed collection on Texas Parks and Wildlife properties were updated and renewed in September 2018. In November 2018, permits for seed collections on U.S. Fish and Wildlife Services Wildlife Management Area's were obtained. Due to scheduling conflicts, the Project Kick-off Meeting was held in January 2019. All parties present discussed the proposed work plan as well as identified areas were direct assistance from TxDOT's Maintenance Division would be needed.

All aspects of the project went well in FY 2019. We coordinated with TxDOT's Maintence Division to identify potential areas to be planted for demonstration as well as seed mix performance evaluation. By December 2019, 6 sites were selected and plans to plant those sites in the spring planting window of 2020 were made. In the spring of 2020, the unexpected occurance of COVID-19, and the associated lockdowns and restricted movement that followed, forced postponement of those plantings. Project management worked with TxDOT to reschedule the plantings for the fall of 2020 at which time our research teams were able to travel and implement the plantings.

Besides adjustments to restricted travel regulations due to COVID-19, all other activities of the project remained on track. Monthly Progress Reports (MPR) were completed throughout the project and submitted on time. Scheduling changes and adjustements were outlined in each MRP. Technical Memos 1 and 2 were also completed and submitted by their respective due dates. Work on the Final Research Report began in June 2021 in an effort to be fully completed by the submission due date. In July, the Project Summary Report as well as suggested updates to Item 164 were also completed and submitted.

CHAPTER 3

Task 2. Collect, Process, and Store Seeds

Collections

Obtaining native seed collections is the foundation of the native seed source development process (Figure 3-1). Seed collections were made throughout the four regional areas of east, coastal, central, and west Texas for fiscal years 2019 and 2020 of project #5-6665-01. Regional technical committees comprised of natural resource professionals, researchers, and seed industry leaders have helped guide native seed collections based on potential demand, value to the habitat, and production ability (Table 3-1). Priority was given to species with growth and development characteristics that enable successful use of these plants in restoration plantings and commercial scale production.

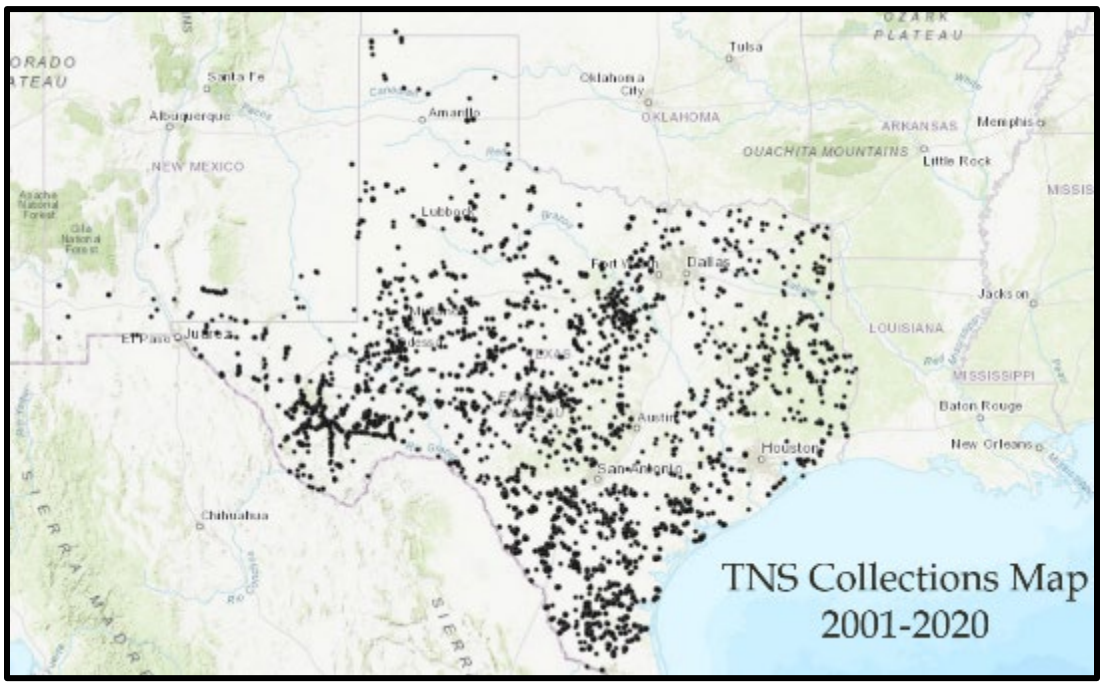

Figure 3-1 TNS Collection Map

Native seed collections were made on an array of sites across the state. Examples of collection locations include private lands, highway and county roadsides, National and State Forests, conservation areas, and state and federally managed parks and refuges. Native seed collection protocols were followed and careful considerations were made to ensure there was no damage to existing vegetation and that sites were left intact to allow for natural regeneration of the population.

Table 3-1. Project collection list

Common name	Scientific name	Plant functional group	South Texas	Central Texas	East Texas	West Texas	Coastal Prairies
Arizona cottontop	*Digitaria californica*	Warm season, perennial, mid successional grass	X	X	-	X	
Awnless bushsunflower	*Simsia calva*	Warm season, perennial, early-mid successional forb	X	X		X	
Beaked panicgrass	*Panicum anceps*	Warm season, perennial, early successional grass			X		X
Blackeyed susan	*Rudbeckia hirta*	Warm season, annual, early successional forb	X		X		X
Blackfoot daisy	*Melampodium leucanthum*	Warm season perennial forb		X		X	
Blanketflower	*Gaillardia spp.*	Warm season annual/perennial forb	X	X	X	X	X
Buffalograss	*Buchloe dactyloides*	Warm season, perennial, mid-late successional grass	X	X	X	X	X
Bundleflower	*Desmanthusspp.*	Warm season, perennial, mid-late successional legume	X	X	X	X	X
Burrograss	*Scleropogon brevifolius*	Warm season, perennial, early-mid successional grass		X		X	
Bush clover	*Lespedeza procumbens*	Warm season, perennial, late successional legume		X			
Clammyweed	*Polanisia spp.*	Warm season, annual, early successional forb	X	X			X
Common curly mesquite	*Hilaria belangeri*	Warm season, perennial, mid-late successional grass	X	X		X	
Cowpen daisy	*Verbesina encelioides*	Warm season, annual, early successional forb	X	X		X	
Deer pea vetch	*Vicia ludoviciana*	Cool season, annual, early successional legume	X	X	X	X	X
Desmodiums	*Desmodium spp.*	Warm season, perennial, legume		X	X		X
Dropseeds	*Sporobolus spp.*	Warm season, perennial, mid-late successional grass	X	X	X	X	X
Engelmann's daisy	*Engelmannia peristenia*	Warm season, perennial forb		X		X	
Evening primerose	*Calylophus hartwegii spp.*	Warm season perennial forb		X		X	
Feather pappusgrass	*Enneapogon desvauxii*	Warm season, perennial, early successional grass				X	
Fall witchgrass	*Digitaria cognata*	Warm season, early-mid successional grass	X	X	X	X	X
Four nerve daisy	*Tetraneuris scaposa*	Warm season perennial forb		X		X	
Frostweed	*Verbesina*	Warm season, perennial, early successional forb	X	X			X
Gayfeather	*Liatris spp.*	Warm season, perennial, mid-late successional forb	X	X	X	X	X
Grama's	*Bouteloua spp.*	Warm season, perennial, early successional grass	X	X	X	X	X
Green sprangletop	*Leptochloa dubia*	Warm season, perennial, early successional grass	X	X	X	X	X
Gregg's mistflower	*Conoclinium greggii*	Warm season, perennial, mid-late successional forb				X	
Hairy tridens	*Erioneruon pillosum*	Warm season, perennial, early successional grass	X	X		X	

Common name	Scientific name	Plant functional group	South Texas	Central Texas	East Texas	West Texas	Coastal Prairies
Herbaceus mimosa	*Mimosa strigillosa*	Warm season, perennial, early-mid successional legume		X	X		X
Knotgrass	*Paspalum disthichum*	Warm season, perennial, early successional grass		X	X		X
Knotroot bristlegrass	*Setaria geniculata*	Warm season, perennial, early successional grass	X	X		X	X
Little barley	*Hordeum pusillum*	Cool season, annual, early successional grass	X	X	X	X	X
Little bluestem	*Schizachyrium scoparium*	Warm season, perennial, late successional grass	X		X	X	X
Longleaf uniola	*Chasmanthium sessikiflorum*	Warm season, perennial, early-mid successional grass			X		X
Lovegrasses	*Eragrostis spp.*	Warm season, perennial, early successional grass	X	X	X	X	X
Malabar sprangletop	*Leptochloa fusca*	Warm season, annual, early successional grass	X	X	X	X	X
Meadow dropseed	*Sporobolous compositus*	Warm season, perennial, mid-late successional grass	X	X	X		X
Mexican sagewort	*Artemisia ludoviciana*	Warm season, perennial, early-mid successional forb	X			X	X
Milkpea	*Galacticaspp.*	Warm season, perennial, late successional legumes	X	X	X		X
Milkweeds	*Asclepiasspp.*	Warm season, perennial, mid-late successional forbs	X	X	X	X	X
Muhly's	*Muhlenbergia spp.*	Warm season, perennial, mid-late successional grasses		X		X	
Narrowleaf silkgrass	*Pityopsis graminifolia*	Warm season, perennial, early-mid successional forb			X		X
Neptunia	*Neptunia spp.*	Warm season, perennial, mid successional legumes	X	X	X		X
Orange Zexmenia	*Wedelia texana*	Warm season, perennial, early-mid successional forb	X	X			X
Panicum	*Panicum spp.*	Warm season, perennial, early successional grass	X	X	X	X	X
Pappusgrass	*Pappophorum spp*	Warm season, perennial, mid successional grass	X	X	X	X	X
Partridge pea	Chamaecrista fasciculata	Warm season, annual, early successional legume	X	X	X		X
Penstemon's	Penstemon spp.	Warm season perennial forb-subshrub		X		X	
Pinehill bluestem	*Schizachyrium scoparium var*	Warm season, perennial, late successional grass			X		
Plains lazy daisy	*Aphanostephus ramosissimus*	Warm season annual forb		X		X	
Plains lovegrass	*Eragrostis intermedia*	Warm season, perennial, early-mid successional grass	X	X	X	X	X
Prairie acacia	*Acaciella angustissima*	Warm season, perennial, early-mid successional legume	X	X	X		X
Prairie coneflower	*Ratibida columnifera*	Warm season, perennial, early successional forb	X		X	X	X
Prairie zinnia	*Zinnia grandiflora*	Warm season perennial forb / subshrub		X		X	
Ragweed	*Ambrosia spp.*	Warm season, annual, early successional forb	X		X		X
Reverchons bristlegrass	*Setaria reverchonii*	Warm season, perennial, late successional grass	X	X		X	

Common name	Scientific name	Plant functional group	South Texas	Central Texas	East Texas	West Texas	Coastal Prairies
Scarlet pea	*Indigofera miniata*	Warm season, perennial, mid successional legume	X	X			X
Scarlet sage	*Salvia coccinea*	Warm season perennial, early-mid successional forb	X				X
Sensitive briar	*Mimosa nuttallii*	Warm season, perennial, early successional legume	X		X		X
Silver bluestem	*Bothriochloa laguroides*	Warm season, perennial, mid successional grass	X	X	X	X	X
Sixweeks fescue	*Vulpia octoflora*	Cool season, annual, early successional grass		X	X	X	
Skeletonleaf goldeneye	*Viguiera stenloba*	Warm season, perennial, mid successional shrub				X	
Smartweed	*Polygonum pensylvanicum*	Warm season, annual, early successional forb	X	X			X
Snoutbean	*Rhynchosaspp.*	Warm season, perennial, late successional legumes	X	X	X	X	X
Soft green eyes	*Berlandiera pumila*	Warm season, perennial, early-mid successional forb			X		X
Sunflower	*Helianthus spp*.	Warm season, perennial, forb	X		X	X	X
Tahoka daisy	Machaeranthea tanacetifolia	Warm season, annual, forb		X		X	
Texas bluegrass	*Poa arachnifera*	Cool season, perennial, mid-late successional grass		X		X	
Texas croton	*Croton texensis*	Warm season, annual, early successional forb	X	X	X	X	X
Texas cupgrass	*Eriochloa sericea*	Warm season, perennial, late successional grass	X	X		X	X
Ironweed	*Veronia spp.*	Warm season, perennial, early successional forb			X		X
Texas panicum	*Urochloa texana*	Warm season, annual, early successional grass	X	X	X		X
Texas wintergrass	*Nassela leucotricha*	Cool season, perennial, early-mid successional grass	X	X	X		X
Thin paspalum	*Paspalum setaceum*	Warm season, perennial, early successional grass			X		X
Three flower melic	*Melica nitens*	Cool season, perennial, mid-late successional grass		X			X
Threeawn	*Aristida spp.*	Cool season, perennial, early successional grass	X	X	X	X	X
Tobosa	*Hilaria mutica*	Warm season, perennial, late successional grass	X			X	
Trailing wild bean	*Stophostyles helvula*	Warm season, perennial, late successional legumes	X	X	X		
Trichloris	*Trichloris spp.*	Warm season, perennial, mid successional grass	X	X	X	X	X
Tridens	*Tridens spp.*	Warm season, perennial, early-mid successional grass	X	X	X	X	X
Tumblegrass	*Schedonnardus paniculatus*	Warm season, perennial, early successional grass	X			X	
Velvetrosette grass	*Dichanthelium scoparium*	Warm season, perennial, early-mid successional grass			X	X	X
Vine mesquite	*Panicum obtusum*	Warm season, perennial, mid-late successional grass	X	X		X	
Virginia wildrye	*Elymus virginicus*	Cool season, perennial, early-mid successional grass	X	X	X	X	X

Common name	Scientific name	Plant functional group	South Texas	Central Texas	East Texas	West Texas	Coastal Prairies
White tridens	*Tridens albescens*	Warm season, perennial, early successional grass	X	X		X	X
Windmill grasses	*Chloris spp.*	Warm season, perennial, early successional grass	X	X	X	X	X

Collection sites were targeted based on rainfall analysis and historical distribution maps. The goal has been to obtain 2 collections of each species from each county where that species occurs. Seeds were hand collected when ripe (Figure 3-2). GPS coordinates, elevation, soil series and texture, specific locality, and county of collection were all recorded and logged through the USDA NRCS accession number identification process.

Figure 3-2 Native seeds are hand collected when ripe.

In FY 2019, a total of 716 native seed collections (516 grasses and 200 forbs) were obtained from across the state (Table 3-2). A focus on pollinator plants and wildflowers resulted in a number of collections being made throughout the spring months.

Table 3-2. Number of native seed collections by region during Fiscal Year 2019

Location	Number of Grass Seed Collections	Number of Forb Seed Collections	Total Seed Collections
West Texas	154	53	207
East Texas	245	39	284
Coastal Prairies	106	78	184
Central Texas	11	30	41
Fiscal Year 2019 totals	**516**	**200**	**716**

In FY 2020, a total of 476 native seed collections (256 grasses and 220 forbs) were obtained from across the state (Table 3-3). Although the COVID-19 pandemic and associated travel restrictions significantly affected the number of collections that were made, collection staff were still able to add to the collection database.

Table 3-3. Number of native seed collections by region during Fiscal Year 2020

Location	Number of Grass Seed Collections	Number of Forb Seed Collections	Total Seed Collections
West Texas	81	89	170
East Texas	89	42	131
Coastal Prairies	60	50	156
Central Texas	26	39	99
Fiscal Year 2020 totals	**256**	**220**	**476**

CHAPTER 4

Task 3, 6, and 9. Conduct Greenhouse and Plot Planting and Initial Evaluations

Greenhouse Production

The evaluation portion of the seed source development process begins once a suitable number of collections representative of the geographic distribution of a species of interest are obtained. Common garden studies replicated across project regions, and the state, are established in order to evaluate the seed quality and production potential of each species. In order to maximize efficient use of collected seed, all plant propagation begins in a greenhouse setting (Figure 4-1).

Figure 4-1 Seeds being planting in the greenhouse at the South Texas Natives Farm in Kingsville, TX (left). Greenhouse production at the NRCS East Texas Plant Materials Center in Nacogdoches, Texas (right).

Greenhouse grown plant plugs (Figure 4-2) of each accession are transplanted for field evaluation studies (Figure 4-3). Once installed, the evaluations are monitored for a minimum of 2-3 years. Data collected from these evaluations are used to guide the selection of strong, adapted native populations that are best suited for commercial production and restoration use.

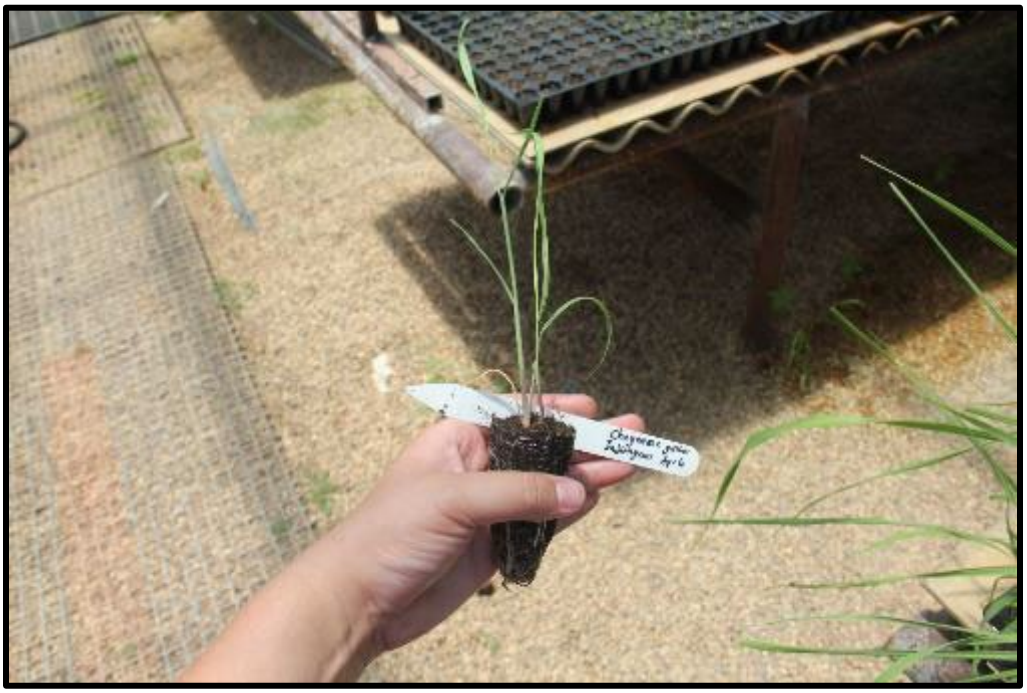

Figure 4-2. Greenhouse grown plant plug of Indiangrass prior to installation at an evaluation site.

Figure 4-3. Initial evaluations of Indiangrass (front) and silver bluestem (back) located at the Daisy Farms Dairy in Paris, Texas.

Over the 3 year project period, plantings were undertaken in greenhouses at the South Texas Natives Farm (Kingsville, TX), Sul Ross State University (Alpine, TX), Texas A&M Agrilife Research-Stephenville (Stephenville, TX), and the USDA NRCS East Texas Plant Materials Center (Nacogdoches, TX). Greenhouse production numbers for FY 2019, 2020, and 2021 are illustrated in Table 4-1.

Table 4-1. Greenhouse production by location for FY 2019, FY 2020, and FY 2021

Location	Total # of Transplants Grown FY 2019 (Task 3)	Total # of Transplants Grown FY 2020 (Task 6)	Total # of Transplants Grown FY 2021 (Task 9)
South Texas Natives Farm	51,000	42,000	25,400
Sul Ross State University	18,000	12,972	29,918
Texas A&M Agrilife Research- Stephenville	33,800	13,800	11,000
USDA NRCS East Texas Plant Materials Center	15,800	29,808	5,760
Fiscal Year Totals	**118,600**	**98,580**	**72,078**

In total, 289,258 plants were grown during this project. A species breakdown of greenhouse production by Task/Fiscal year of the project is given below:

Task 3/FY 2019

South Texas Natives Farm Greenhouse

- Prostrate bundleflower
- Tropical sage
- Zizotes milkweed
- Purple threeawn
- Hairy grama
- Sideoats grama
- Little bluestem
- Little barley
- Awnless bush sunflower
- White tridens
- Shortspike windmillgrass
- Hooded windmillgrass
- Plains lovegrass
- Red lovegrass
- Hall's panicum
- Indiangrass

Sul Ross State University Greenhouse

- Cowpen daisy
- Hooded windmillgrass
- Hall's panicum
- Hairy grama
- Tobosa grass
- Tahoka daisy
- Narrowleaf Globemallow

Texas Agrilife Research- Stephenville Greenhouse

- Indiangrass
- Gayfeather
- Hairy grama
- Tall grama

USDA NRCS East Texas Plant Materials Center Greenhouse

- Silver bluestem

Task 6/FY 2020

South Texas Natives Farm Greenhouse

- Slender grama
- Slim tridens
- Rough tridens
- Purple threeawn
- Texas grama
- Tropical sage
- Seacoast bluestem
- Sand dropseed
- Little barley
- Tall dropseed
- Rio Grande clammyweed
- Tephrosia
- Prostrate bundleflower
- Cowpen daisy
- Skeleton leaf goldeneye
- Southern witchgrass
- Little bluestem
- Gallardia

Sul Ross State University Greenhouse

- Tahoka daisy
- Cowpen daisy
- Huisache daisy
- Whiplash pappusgrass
- Silver bluestem
- Sand dropseed
- Hall's panicum
- Sideoats grama
- Black grama
-

Texas Agrilife Research- Stephenville Greenhouse

- Sideoats grama
- Seep muhly
- Hairy grama
- Tall grama

USDA NRCS East Texas Plant Materials Center Greenhouse

- Purpletop tridens
- Rattlesnake master

- Silver bluestem
- 30 Commercial Varieties
  - Aldous little bluestem
  - Coastal Plains Germplasm little bluestem
  - OK Select little bluestem
  - Cimarron little bluestem
  - Carrizo Blend little bluestem
  - KAW big bluestem
  - Earl big bluestem
  - Kenedy Germplasm big bluestem
  - Rountree big bluestem
  - Alamo switchgrass
  - Blackwell switchgrass
  - Cave-in-rock switchgrass
  - Haskell sideoats gram
  - South Texas sideoats grama
  - El Reno sideoats grama
  - Cheyenne Indiangrass
  - Lometa Indiangrass
  - Wilson Germplasm Indiangrass
  - Osage Indiangrass
  - Medina Eastern gamagrass
  - Nacogdoches Eastern gamagrass
  - Highlander Eastern gamagrass
  - PMK24 (Pete) Eastern gamagrass
  - Nueces Germplasm sand dropseed
  - Santiago Germplasm silver bluestem
  - Atascosa Germplasm Texas grama
  - Van Horn green sprangletop
  - Harrison Germplasm Florida paspalum
  - Guadalupe Germplasm white tridens
  - Lavaca Canada wildrye

Task 9/FY 2021

South Texas Natives Farm Greenhouse

- Plains lovegrass
- Whiplash pappusgrass
- Sideoats grama
- Indian blanket
- Little bluestem
- Rough tridens
- Tall dropseed
- Skeleton leaf goldeneye
- Texas grama
- Hairy grama
- Seacoast bluestem

Sul Ross State University Greenhouse

- Arizona cottontop
- Silver bluestem
- Canada wildrye
- Hairy grama
- Tobosa grass
- Cowpen daisy
- Indiangrass
- Blue grama
- Hall's panicum
- Hooded windmillgrass
- Tahoka daisy
- Huisache daisy

USDA NRCS East Texas Plant Materials Center Greenhouse

- Spotted beebalm

Texas Agrilife Research- Stephenville Greenhouse

- Sideoats grama
- Little bluestem
- Hairy grama
- Tall grama

Plot Planting and Initial Evaluations:

The *Texas Native Seeds Program* operates 13 evaluation sites across the state (Figure 4-4). These evaluation studies are used in the selection of native plant populations that exhibit characteristics that are desirable for an ecotypic germplasm seed release to meet vegetation management criteria and needs for TxDOT. Evaluation sites used during this project duration include:

Coastal Prairies

- Wildlife Habitat Federation site (Cat Springs)
- Nature Conservancy Texas City Prairie Preserve site (Texas City)

Central Texas

- James E. Bud Smith PMC (Knox City)
- Texas AgriLife Research Stephenville site (Stephenville)
- Sandbrock Ranch (Aubrey)

South Texas

- South Texas Natives Farm

East Texas

- Daisy Farms Dairy site (Paris)
- Riverby Ranch (Fannin County)
- T.L.L. Temple Foundation's Boggy Slough Conservation Area (Trinity County)
- East Texas PMC (Nacogdoches)

West Texas

- Texas Tech University (Lubbock)
- Sierra la Rana (Alpine)
- Railway Ranch (Odessa

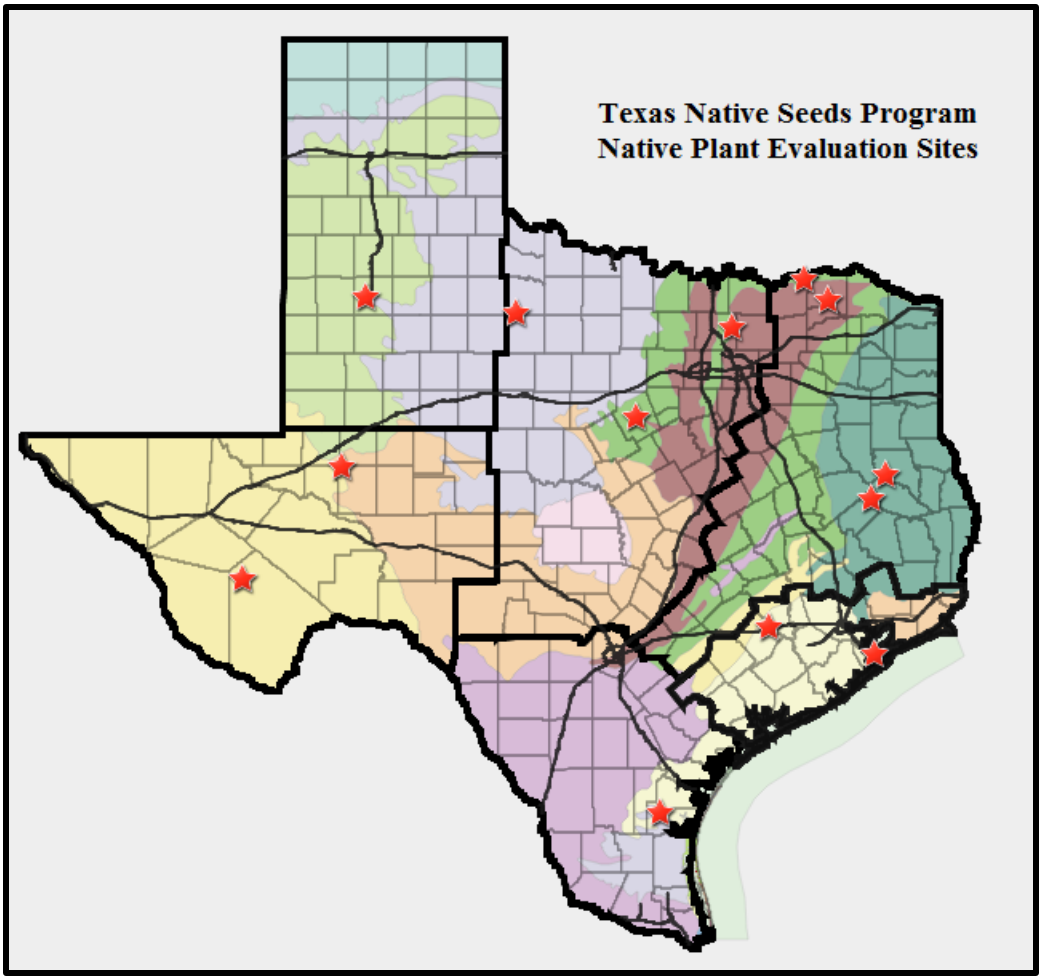

Figure 4-4. Map of the Texas Native Seeds Program regional native plant evaluation sites.

Each evaluation site consists of transplant-established common garden studies of each species being evaluated (Figure 4-5). First year evaluations are irrigated when needed to ensure establishment and data are collected on a monthly basis. Second and third year evaluations are not provided any supplemental water, and data are collected bimonthly. Evaluation plots are managed and maintained using herbicides, cultivation, and hand work (Figure 3-6). A breakdown of evaluation studies by task and fiscal year are shown in Tables 4-2, 4-3, and 4-4.

Figure 4-5. Native plant evaluations of purpletop tridens accessions in Cat Spring, Texas.

Figure 4-6. Native plant evaluations of Canada wildrye being cleaned and maintained at the Sierra la Rana site in Alpine, Texas.

Table 4-2. Native plant evaluations performed for Task 3/FY2019

Species Under Evaluation	West Texas	Central Texas	East Texas	Coastal Prairies
Ongoing Evaluations into FY 2019				
Hooded windmillgrass	38 Accessions	-	-	-
Hairy grama	-	36 Accessions	-	-
Tall grama	-	33 Accessions	-	-
Sideoats grama	-	25 Accessions	-	-
Seep muhly	-	21 Accessions	-	-
Little/seacoast bluestem	-	-	-	36 Accessions
Knotroot bristlegrass	-	-	-	41 Accessions
First Year Evaluations				
Hairy grama	39 Accessions	-	-	-
Tobosa grass	11 Accessions	-	-	-
Globemallow	11 Accessions	-	-	-
Indiangrass	-	66 Accessions	48 Accessions	54 Accessions
Gayfeather	-	21 Accessions	-	-
Silver bluestem	-	-	83 Accessions	86 Accessions

Table 4-3. Native plant evaluations performed for Task 6/FY2020

Species Under Evaluation	West Texas	Central Texas	East Texas	Coastal Prairies
Ongoing Evaluations into FY 2020				
Hairy grama	39 Accessions	-	-	-
Tobosa grass	11 Accessions	-	-	-
Globemallow	11 Accessions	-	-	-
Indiangrass	-	66 Accessions	48 Accessions	54 Accessions
Gayfeather	-	21 Accessions	-	-
Silver bluestem	-	-	83 Accessions	86 Accessions
First Year Evaluations				
Arizona cottontop	Postponed	Postponed	-	-
Purpletop tridens	-	-	78 Accessions	50 Accessions
Rattlesnake master	-	-	24 Accessions	35 Accessions
Silver bluestem	-	-	20 Accessions	-

Table 4-4. Native plant evaluations performed for Task 9/FY2021

Species Under Evaluation	West Texas	Central Texas	East Texas	Coastal Prairies
Ongoing Evaluations into FY 2021				
Purpletop tridens	-	-	78 Accessions	50 Accessions
Rattlesnake master	-	-	24 Accessions	35 Accessions

Indiangrass	-	66 Accessions	48 Accessions	54 Accessions
Silver bluestem	-	-	20 Accessions	-
First Year Evaluations				
Canada wildrye	52 Accessions	52 Accessions	-	-
Spotted beebalm	-	-	26 Accessions	26 Accessions
Arizona cottontop	55 Accessions	55 Accessions	-	-
Indiangrass	28 Accessions	-	-	-

CHAPTER 5

Task 4, 7, and 10. Increase Seed and Conduct Advanced Evaluations

Seed Increase

Following the evaluation portion of the seed development process, top performing accessions of each species are selected for seed increase. Seed increase plots are transplanted from greenhouse propagated plant plugs to ensure genetic purity to the original collections selected. Plots are irrigated and intensely managed in an effort to maximize seed production (Figure 5-1). All seed increase plots are monitored for pest damage and any other issues that might hinder commercial production. In addition, each selected accession is farmed in isolation from other selected accessions of the species to ensure genetic integrity. Seeds harvested (Figure 5-2) from each accession are then blended together and given to commercial producers to use in the establishment of commercial production fields of each release. Seed increase information for each project region is reported by task and fiscal year in Tables 5-1, 5-2, and 5-3.

Figure 5-1. Seed increase plot of the Coastal Prairies selection of Knotroot bristlegrass being grown at the South Texas Natives Farm in Kingsville, Texas.

Figure 5-2. Seed increase fields of sideoats grama in Stephenville, Texas, being harvested by a flail-vac seed harvester.

Table 5-1. West Texas seed increase production summary

Species/Release	Task 4/FY 2019	Task 7/FY 2020	Task 10/FY 2021
Cowpen daisy	2 Accessions	2 Accessions	2 Accessions
Skeletonleaf goldeneye	3 Accessions	3 Accessions	3 Accessions
Tahoka daisy	2 Accessions	2 Accessions	2 Accessions
Gregg's mistflower	1 Accession	1 Accession	1 Accession
Hall's panicum	2 Accessions	2 Accessions	2 Accessions
Blue grama	3 Accessions	3 Accessions	3 Accessions
Sideoats grama	2 Accessions	2 Accessions	2 Accessions
Whiplash pappusgrass	4 Accessions	4 Accessions	4 Accessions
Silver bluestem	3 Accessions	3 Accessions	3 Accessions
Hooded windmillgrass	3 Accessions	3 Accessions	3 Accessions
Tobosa grass	-	-	3 Accessions
Sand dropseed	3 Accessions	3 Accessions	3 Accessions
Black grama	2 Accessions	2 Accessions	2 Accessions

Table 5-2. Central Texas seed increase production summary

Species/Release	Task 4/FY 2019	Task 7/FY 2020	Task 10/FY 2021
Hooded windmillgrass	4 Accessions	-	-
Slim/rough tridens	4 Accessions	-	-
Sand dropseed	4 Accessions	-	-
Little bluestem	3 Accessions	3 Accessions	3 Accessions
Silver bluestem	4 Accessions	4 Accessions	4 Accessions

Species/Release	Task 4/FY 2019	Task 7/FY 2020	Task 10/FY 2021
Meadow dropseed	3 Accessions	3 Accessions	3 Accessions
Hairy grama	3 Accessions	3 Accessions	3 Accessions
Tall grama	2 Accessions	2 Accessions	2 Accessions
Sideoats grama	-	3 Accessions	3 Accessions
Seep muhly	-	6 Accessions	3 Accessions
Illinois bundleflower	-	-	1 Accession

Table 5-3. South Texas seed increase production summary

Species/Release	Task 4/FY 2019	Task 7/FY 2020	Task 10/FY 2021
Tropical sage	1 Accession	1 Accession	1 Accession
Cowpen daisy	2 Accessions	1 Accession	-
Zizotes milkweed	3 Accessions	3 Accessions	3 Accessions
Purple threeawn	4 Accessions	2 Accessions	2 Accessions
Frostweed	1 Accession	1 Accession	1 Accession
Big cenchrus	2 Accessions	2 Accessions	2 Accessions
Longspike silver bluestem	4 Accessions	2 Accessions	4 Accessions
Plains lovegrass	1 Accession	1 Accession	1 Accession
Southern witchgrass	1 Accession	1 Accession	1 Accession
Southwest bristlegrass	1 Accession	1 Accession	1 Accession
Seacoast little bluestem	2 Accessions	2 Accessions	2 Accessions
Indian blanket	2 Accessions	1 Accession	1 Accession
Blackeyed Susan	2 Accessions	1 Accession	-
Hall's panicum	2 Accessions	2 Accessions	-
Little barley	-	3 Accessions	3 Accessions
Pink pappusgrass	-	2 Accession	2 Accession
Hairy grama	-	1 Accessions	2 Accessions
Two flower trichloris	1 Accession	1 Accession	1 Accession
Spike lovegrass	1 Accession	1 Accession	1 Accession
Multiflowered false rhodesgrass	-	1 Accession	1 Accession
Knotroot bristlegrass*	-	2 Accessions	2 Accessions
Little bluestem	-	1 Accession	1 Accession
Skeletonleaf goldeneye*	-	1 Accession	1 Accession
Prostrate bundleflower	-	1 Accession	-
Rio Grande clammyweed	-	1 Accession	-
Tephrosia	-	3 Accessions	-
Tall dropseed*	-	1 Accession	1 Accession
Sand dropseed	-	2 Accession	2 Accession
Texas grama	-	1 Accession	1 Accessions
Rough tridens	-	1 Accession	1 Accession
Slim tridens	-	1 Accession	1 Accession
Slender grams	-	2 Accessions	2 Accessions
Switchgrass	1 Accession	1 Accession	1 Accession
Big bluestem	2 Accessions	2 Accessions	2 Accessions

Species/Release	Task 4/FY 2019	Task 7/FY 2020	Task 10/FY 2021
Indiangrass	1 Accession	1 Accession	1 Accession
Canada wildrye	1 Accession	1 Accession	1 Accession
Deer pea vetch	-	-	1 Accession
Redseed plantain	-	-	1 Accession
Whiplash pappusgrass	-	-	2 Accessions
Shortspike windmillgrass	1 Accession	1 Accession	1 Accession
Hooded windmillgrass	1 Accession	1 Accession	1 Accession
Plains bristlegrass	1 Accession	4 Accessions	4 Accessions
Sideoats grama	-	1 Accession	2 Accessions

*denotes seed increase grown for other project region

Conduct Advanced Evaluations

If it is determined that additional evaluation is needed for a species, selected accessions are moved into Advanced Evaluations for further monitoring and evaluation to justify germplasm release.

After the first two years of the statewide Indiangrass evaluations, initial data analysis highlighted the need to extend the evaluations into the advanced evaluation stage in order to continue monitoring the performance of local ecotypic collections compared to the commercially available prior releases that were included in the study (Figure 5-3). Indiangrass evaluations are continuing in the East, Coastal, Central, and West Texas regions.

Figure 5-3. Indiangrass accession variability visible in the evaluation plot located in Stephenville, Texas. The multi-region evaluation of Indiangrass included prior releases currently available on the commercial market alongside regionally collected local ecotypes.

CHAPTER 6

Task 5, 8, and 11. Release Seeds for Commercialization

Release

Once enough seed is accumulated through seed increase, the formal release process begins. Formal release of selected plant material is completed through the NRCS Plant Materials Program, the Texas A&M University System, and regional partner organizations and universities. Research data, product licensing, and release documents required by various agencies and organizations were compiled, submitted for review, and approved. These include:

- Formal release document that justifies the need for the release, conditions outlining how the release is to be produced, potential uses for the release, and an environmental assessment.
- Scientifically-reviewed article announcing the release and its potential uses published in the *Native Plants Journal.*
- Release brochure aimed at promoting use of the release to the general public and seed consumers.

Releases made by Task/Fiscal Year of the project are given below:

Task 5 FY 2019

- Completed
    - Santiago Germplasm silver bluestem (Shackelford et al. 2020) - originating from and intended for use in West Texas and the Permian Basin. Silver bluestem is a warm season perennial bunchgrass 60-130 cm tall, very common throughout the state. It is ranked as fair for wildlife and good to fair for livestock. Silver bluestem is one of the most widely distributed grasses in Texas and is reported from nearly every county. Common in prairies and rocky slopes, silver bluestem easily re-establishes after drought or over grazing. It is also competitive with exotic species such as buffelgrass, and provides nesting cover for birds, foraging habitat for raptors, and fawning cover for deer. The release is a blend of three populations originating from the Trans Pecos and the Western Edwards Plateau. Primary commercial uses will be in right of way reseeding, rangeland restoration, and energy-related reclamation in West Texas.

- Submitted
    - Guadalupe Germplasm white tridens (Falk et al. 2020)
    - Permian germplasm whiplash pappusgrass (Shackelford et al. 2020)
    - Menard Germplasm purple threeawn

Task 8 FY 2020

- Completed
    - Guadalupe Germplasm white tridens- originating from and adapted for use throughout Texas. White tridens is a warm season, perennial bunchgrass with blue-green foliage and a white to pinkish tinged spikelet. This release is a blend of populations from the Cross Timbers, Blackland Prairie, Edwards Plateau, Trans Pecos, and South Texas Plains. Primary uses will be in reclamation seedings, rights of ways, and as a component of rangeland seed mixes throughout the state.
    - Permian Germplasm whiplash pappusgrass- originating from and intended for use in West Texas and the Permian Basin. Whiplash pappusgrass is a common, warm season perennial bunchgrass growing 30-80 cm tall, providing fair forage value for cattle. Release is a blend of four populations originating from West Texas. Primary commercial uses will be in right of way reseeding, rangeland restoration, and energy-related reclamation in West Texas. Whiplash pappusgrass is tolerant of moderately saline or alkaline conditions and can be used for revegetation of disturbed saline or alkaline sites in fine textured soils.
    - Menard Germplasm purple threeawn- originating from and adapted for use throughout Texas. Purple threeawn is a densely cespitose perennial grass with erect unbranched culms and open to contracted panicles. A widespread and variable species that is rated at poor grazing value for wildlife and fair/poor for livestock. It provides cover and is commonly found on very gravelly or sandy soils, but occurs in most soil types. Release is a blend of populations originating from throughout Texas. Primary use will be in reclamation seedings, rights of ways, and as a component of rangeland seed mixes, especially on harsh sites.

- Submitted

- Cibolo Germplasm little barley
- Brewster Germplasm sideoats grama
- Loma Germplasm purple threeawn

Task 11 FY 2021

- Completed
  - Cibolo Germplasm little barley- originating from and adapted for use throughout Texas. Little barley is a cool season, annual grass growing to 60 cm tall. A widespread weedy plant of overgrazed pastures, roadsides, and waste places. One of the first plants to green up in early spring. Little barley is rated poor grazing value for wildlife and livestock. Common throughout Texas on disturbed sites, especially alkaline areas. Release is a blend of populations originating from throughout Texas. Primary commercial use will be as a cool season native cover crop in reclamation plantings and rights of ways.
  - Brewster Germplasm sideoats grama- originating from and intended for use in West Texas and the Permian Basin. Sideoats grama is a perennial bunchgrass, abundant in most grasslands in the state, and is the state grass of Texas. Good for wildlife and livestock, sideoats grama is considered one of the best forage species in the Trans-Pecos region. Release is a blend of populations collected in West Texas. Primary uses will be for rangeland seedings, and as a component of right of way and reclamation seed mixes in West Texas and the Permian Basin.
  - Loma Germplasm purple threeawn- originating from and adapted for use throughout Texas. Purple threeawn is a densely cespitose perennial grass with erect unbranched culms and open to contracted panicles. A widespread and variable species that is rated at poor grazing value for wildlife and fair/poor for livestock. It provides cover and is commonly found on very gravelly or sandy soils, but occurs in most soil types. Release is a blend of populations originating from throughout Texas. Primary use will be in reclamation seedings, rights of ways, and as a component of rangeland seed mixes, especially on harsh sites.

- Submitted
  - Burnett Germplasm hooded windmillgrass- originating from and intended for use in

Central Texas. Hooded windmillgrass is a warm season perennial bunchgrass with erect culms up to 60 cm. A common plant of roadsides and waste places through most of Texas. Fair value for both wildlife and livestock. The release is a blend of four selected populations collected from Central Texas. Primary uses will be right of way seedings, and as a component in rangeland and reclamation seed mixes, especially on sandy soils.

- Taylor Germplasm sand dropseed- originating from and intended for use in Central Texas. Sand dropseed is a warm season perennial bunchgrass with culms 35 to 110 cm tall. One of the most common roadside perennial grasses in Texas. The species is reported as fair grazing for livestock and poor forage for wildlife, however, it still ranks as an important forage grass because of its abundance. Release is a blend of four selected populations collected from Central Texas. Primary uses will be right of way seedings, and as a component in rangeland and reclamation seed mixes, especially on sandy soils.
- Bexar Germplasm slim tridens- originating from and adapted for use throughout Texas. Slim tridens is a perennial bunchgrass with short knotty, rhizomatous bases, culms up to 80 cm long. Common on dry, open, sandy or clayey sites in grasslands, roadsides, and gravelly slopes. Fair forage value for both wildlife and livestock. Release is a blend of populations from throughout Texas. Primary uses will be in right of way seedings, and as a component and rangeland restoration mixes.
- Brystal Germplasm rough tridens- originating from and adapted for use throughout Texas. Rough tridens is similar to slim tridens, but can be slightly taller and less leafy.

Commercialization

In this stage of the release process we work directly with commercial growers to help ensure releases are commercially produced (Figure 6-1) and available for purchase. Assistance and technical advice is also provided to commercial growers whenever needed regarding seed production of any released species. On site field inspections are carried out to ensure product quality as well as to provide recommendations based on field performance, if needed (Figure 6-2).

Figure 6-1. A Douglass King Seed Company commercial production field of Dilley Germplasm slender grama located in San Antonio, Texas.

Figure 6-2. A Bamert Native Seed commercial production field of Burnett Germplasm hooded windmillgrass located in Muleshoe, Texas.

In 2019, a new bid proposal system was initiated in an effort to ensure commercial production of released species was offered to commercial seed producers by a fair process. In addition to a fair process, licensing of new releases allows for minimum production acres to be required which helps to ensure commercial availability. The non-exclusive license to produce species upcoming for release was put out for bid proposals to any company interested in producing the releases. Proposals were reviewed

by a committee, and the best proposal/s received licenses for production. The licensing results are listed in Table 6-1. This new system has not only resulted in more commercial companies producing each new release, but it has also resulted in seed of the new releases being available for purchase by the official release dates.

Table 6-1. Companies selected for licenses of each new release based on bid proposals

Release Name	Douglass King Seed Company	Bamert Seed Company	Amigo Genetics
Cibolo Germplasm little barley	X	X	X
Santiago Germplasm silver bluestem	X	X	X
Guadalupe Germplasm white tridens	X	X	-
Permian Germplasm whiplash pappusgrass	X	X	-
Menard Germplasm purple threeawn	X	X	-
Brewster Germplasm sideoats grama	X	X	-
Loma Germplasm purple threeawn	X	X	-
Burnett Germplasm hooded windmillgrass	X	X	X
Taylor Germplasm sand dropseed	X	X	X
Bexar Germplasm slim tridens	X	X	-
Brystal Germplasm rough tridens	X	X	-

The longevity of commercial production fields are limited to no more than 7 years in an effort to minimalize the chance of genetic shift from the original release. This limit necessitates not only the production of the upcoming releases, but production of existing releases to supply seed for production once stand life limit is reached. Every fall we reach out to commercial growers in an effort to determine which species they will need seed of for the following spring plantings. Once we have determined seed needs, we gather, test, and package the seed to distribute to commercial growers. Table 6-2 shows the total pounds of seed distributed to commercial growers by Task/FY, as well as the acres of commercial production the distributed seed resulted in.

Table 6-2. Plant material distributed to commercial growers and number of new acres in commercial production by year

Task/Fiscal Year	Amount of Seed / Number of Transplants Distributed to Commercial Growers	Acres of New Commercial Production as a Result of Seed Distributed
Task 5/2019	240 lbs.	75
Task 8/2020	146 lbs.	110
Task 11/2021	102 lbs.	82

Experimental Safty Rest Area Plantings and Updates to Item 164

Six Experimental Plantings were installed to serve as proof of concept plantings and to provide data for analysis to aid in recommending updates for TxDOT's Item 164. These plantings were located in Hardeman, Ward, Midland, Medina, Bell, and Colorado Counties. Planting locations were provided by TxDOT's Maintence Division, and were scheduled to be planted in the spring of 2020, however due to COVID-19 Travel restricitions the plantings were delayed.

In the fall of 2020, five of the six sites were seeded. The remaining site, Ward County, was seeded in the spring of 2021 due to an abundance of Lehmann lovegrass on the planting site. All sites were sprayed with glyphosphate to suppress or remove exisiting vegetation, and then seeded using a no-till seed drill Figure 6-3. Emergence data were taken bi-monthly, if possible, and are summarized in Table 6-3. A breakdown of the 5 different seed mixes chosen for each site can be found in Appendix B.

Figure 6-3. A safety rest area demonstration planting in Midland, Texas.

Table 6-3. Emergence data from the safety rest area demonstration plantings

Safety Rest Area Sites and Seed Mixes	Seeded plant density (plants/ft^2)	Percent cover seeded species
Ward County		
Current TxDOT	0.16	1%
Custom	0.00	3%
Custom plus forbs	0.20	3%
Custom plus little barley	0.08	2%
Custom plus little barley and forbs	0.08	3%
Hardeman County		
Current TxDOT	0.00	3%
Custom	0.00	3%
Custom plus forbs	0.55	10%
Custom plus little barley	0.00	0%
Custom plus little barley and forbs	0.71	10%
Colorado County		
Current TxDOT	0.00	0%
Custom	0.16	0%
Custom plus forbs	0.28	15%
Custom plus little barley	0.35	8%
Custom plus little barley and forbs	3.42	17%
Bell County		
Current TxDOT	0.16	10%
Custom	0.16	9%
Custom plus forbs	0.16	13%
Custom plus little barley	0.39	10%
Custom plus little barley and forbs	0.63	15%
Midland County		
Current TxDOT	0.00	2%
Custom	0.00	4%
Custom plus forbs	0.31	5%
Custom plus little barley	0.04	6%
Custom plus little barley and forbs	1.38	43%

Using these data as well as data from other plantings we have studied across the state, we have provided recommended updates to Item 164 as a separate deliverable under this project. We plan to continue to monitor the sites to better determine species and germplasm performance, as well as document vegetation shift over time. Plans are being discussed about the option to install additional plantings in areas of the state not covered by these plantings. Results from these plantings will help continue to guide updates to Item 164.

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Appendix A

Table A-1. Native seed collections obtained in FY 2019 and FY 2020

Collector ID	Date	Common Name	Scientific name	County
West Texas				
CSS636	10/22/2018	False Rhodes grass	*Trichloris crinita*	Reeves
CSS637	10/29/2018	False Rhodes grass	*Trichloris crinita*	Reagan
CSS638	10/29/2018	Feather pappusgrass	*Enneapogon desvauxii*	Pecos
CSS639	10/29/2018	Red Grama	*Bouteloua trifida*	Pecos
CSS640	10/29/2018	Tumble windmill grass	*Chloris verticillata*	Pecos
CSS641	10/29/2018	Ear muhly	*Muhlenbergia arenacea*	Crane
CSS642	10/29/2018	Alkali sacaton	*Sporobolus airoides*	Crockett
CSS643	10/29/2018	Feather pappusgrass	*Enneapogon desvauxii*	Irion
CSS644	10/29/2018	Plains bristlegrass	*Setaria leucopila*	Irion
CSS645	10/29/2018	Plains bristlegrass	*Setaria leucopila*	Pecos
CSS646	10/29/2018	Red Grama	*Bouteloua trifida*	Irion
CSS647	10/30/2018	Whorled Dropseed	*Sporobolus pyramidatus*	Tom Green
CSS648	10/30/2018	Fall witchgrass	*Digitaria cognata*	Tom Green
CSS649	10/30/2018	Red Grama	*Bouteloua trifida*	Tom Green
CSS650	10/30/2018	Fall witchgrass	*Digitaria cognata*	Runnels
CSS651	10/30/2018	Giant Dropseed	*Sporobolus giganteus*	Runnels
CSS652	10/30/2018	Curly mesquite	*Hilaria belangeri*	Concho
CSS653	10/30/2018	Curly mesquite	*Hilaria belangeri*	Concho
CSS654	10/30/2018	Red Grama	*Bouteloua trifida*	Concho
CSS655	10/30/2018	Tumble windmill grass	*Chloris verticillata*	Concho
CSS656	10/30/2018	Indiangrass	*Sorghastrum nutans*	Concho
CSS657	10/30/2018	Hairy Grama	*Bouteloua hirsuta*	Concho
CSS658	10/30/2018	Hairy Grama	*Bouteloua hirsuta*	Concho
CSS659	10/30/2018	Texas Grama	*Bouteloua rigidiseta*	Tom Green
CSS660	10/30/2018	Tumble windmill grass	*Chloris verticillata*	Tom Green
CSS661	10/30/2018	Indiangrass	*Sorghastrum nutans*	Runnels
CSS662	10/31/2018	Red Grama	*Bouteloua trifida*	Tom Green
CSS663	10/31/2018	Curly mesquite	*Hilaria belangeri*	Tom Green
CSS664	10/31/2018	Plains bristlegrass	*Setaria leucopila*	Tom Green
CSS665	10/31/2018	Curly mesquite	*Hilaria belangeri*	Crockett
CSS666	10/31/2018	Red Grama	*Bouteloua trifida*	Crockett
CSS667	11/6/2018	Feather pappusgrass	*Enneapogon desvauxii*	Brewster
CSS670	6/29/2019	Canada Wildrye	*Elymus canadensis*	Mason
CSS675	6/25/2019	Tumble lovegrass	*Eragrostis sessilispica*	Mason
CSS683	6/28/2019	Canada Wildrye	*Elymus canadensis*	Irion

Collector ID	Date	Common Name	Scientific name	County
CSS684	6/25/2019	Canada Wildrye	*Elymus canadensis*	Mason
CSS686	6/24/2019	Canada Wildrye	*Elymus canadensis*	Kimble
CSS687	6/24/2019	Canada Wildrye	*Elymus canadensis*	Pecos
CSS694	6/26/2019	Canada Wildrye	*Elymus canadensis*	Llano
JSC233	11/7/2018	Red Lovegrass	*Eragrostis secundiflora*	Yoakum
RAS046	10/22/2018	False Rhodesgrass	*Trichloris crinita*	Reeves
RAS047	10/22/2018	False Rhodesgrass	*Trichloris crinita*	Reeves
CHT001	11/7/2018	Arizona Cottontop	*Digitaria californica*	Cochran
CHT002	11/7/2018	Bush Muhly	*Muhlenbergia porteri*	Cochran
CHT003	11/7/2018	Tumble Lovegrass	*Eragrostis sessilipica*	Yoakum
SRL108	8/3/2018	Mesa Dropseed	*Sporobolus flexuosus*	Upton
SRL110	8/8/2018	Hairy Grama	*Bouteloua hirsuta*	Stonewall
SRL111	8/8/2018	Canada Wildrye	*Elymus canadensis*	Stonewall
SRL112	8/8/2018	Purple Threeawn	*Aristida purpurea*	Stonewall
SRL113	8/8/2018	Sand Dropseed?	*Sporobolus cryptandrus? Flexuosus*	Stonewall
SRL114	8/8/2018	Canada Wildrye	*Elymus canadensis*	Scurry
SRL115	8/8/2018	Plains Bristlegrass	*Setaria leucopila*	Scurry
SRL116	8/8/2018	Plains Bristlegrass	*Setaria leucopila*	Borden
SRL117	8/8/2018	Fall Witchgrass	*Digitaria cognata*	Borden
SRL118	8/8/2018	Halls Panicum	*Panicum hallii var. hallii*	Borden
SRL119	8/8/2018	Texas Grama	*Bouteloua rigidiseta*	Borden
SRL120	8/8/2018	Reverchon Bristlegrass	*Setaria reverchonii*	Borden
SRL121	8/8/2018	Sand Muhly	*Muhlenbergia arenicola*	Borden
SRL122	8/13/2018	Mesa Dropseed	*Sporobolus flexuosus*	Crane
SRL123	8/13/2018	Sand Muhly	*Muhlenbergia arenicola*	Midland
SRL127	8/15/2018	Mesa Dropseed	*Sporobolus flexuosus*	Andrews
SRL128	8/15/2018	Mesa Dropseed	*Sporobolus flexuosus*	Winkler
SRL129	8/15/2018	Mesa Dropseed	*Sporobolus flexuosus*	Loving
SRL130	8/15/2018	Wright Threeawn	*Aristida purpurea Nutt. var. wrightii*	Andrews
SRL131	8/15/2018	Purple Threeawn	*Aristida purpurea*	Winkler
SRL133	8/23/2018	Mesa Dropseed	*Sporobolus flexuosus*	Ector
SRL134	8/29/2018	Mesa Dropseed	*Sporobolus flexuosus*	Midland
SRL135	9/6/2018	Mesa Dropseed	*Sporobolus flexuosus*	Andrews
SRL136	9/6/2018	Fall Witchgrass	*Digitaria cognata*	Andrews
SRL137	9/7/2018	Mesa Dropseed	*Sporobolus flexuosus*	Bailey
SRL138	9/7/2018	Arizona Cottontop	*Digitaria californica*	Cochran
SRL141	9/7/2018	Arizona Cottontop	*Digitaria californica*	Lamb
SRL142	9/7/2018	Mesa Dropseed	*Sporobolus flexuosus*	Cochran
SRL143	9/7/2018	Fall Witchgrass	*Digitaria cognata*	Cochran
SRL145	9/23/2018	Sand Muhly	*Muhlenbergia arenicola*	Upton

Collector ID	Date	Common Name	Scientific name	County
SRL146	9/12/2018	Giant Dropseed	*Sporobolus giganteus*	Midland
SRL147	10/23/2018	Halls Panicum	*Panicum hallii*	Upton
SRL148	10/23/2018	Fall witchgrass	*Digitaria cognata*	Upton
SRL149	10/23/2018	Red Grama	*Bouteloua trifida*	Upton
SRL150	10/23/2018	PurpleThreeawn	*Aristida purpurea*	Upton
SRL151	10/23/2018	Gummy lovegrass	*Eragrotis curtipedicellata*	Upton
SRL152	10/29/2018	Halls Panicum	*Panicum hallii var. hallii*	Glasscock
SRL153	10/28/2018	Sand Muhly	*Muhlenbergia arenicola*	Glasscock
SRL154	10/28/2018	Tumble Windmillgrass	*Chloris verticillata*	Glasscock
SRL155	10/28/2018	Buffalograss (small)	*Bouteloua dactyloides*	Glasscock
SRL156	10/28/2018	Sand Muhly	*Muhlenbergia arenicola*	Reagan
SRL157	10/28/2018	Indiangrass	*Sorghastrum nutans*	Reagan
SRL158	10/28/2018	Fall Witchgrass	*Digitaria cognata*	Sterling
SRL159	10/28/2018	Reverchon's bristlegrass	*Setaria reverchonii*	Sterling
SRL160	11/1/2018	Black Grama (small)	*Bouteloua eriopoda*	Haskell
SRL162	11/1/2018	Buffalograss (small)	*Bouteloua dactyloides*	Haskell
SRL163	11/4/2018	Little Bluestem	*Schizachyrium scoparium*	Gaines
SRL164	11/4/2018	Nineawn Pappusgrass	*Enneapogon desvauxii*	Gaines
SRL165	11/4/2018	Hairy Grama	*Bouteloua hirsuta*	Gaines
SRL166	11/4/2018	Purple Threeawn	*Aristida purpurea*	Gaines
SRL167	11/4/2018	Gummy lovegrass	*Eragrotis curtipedicellata*	Gaines
SRL168	11/4/2018	Fall Witchgrass	*Digitaria cognata*	Gaines
SRL169	11/4/2018	Giant Dropseed	*Sporobolus giganteus*	Gaines
SRL170	11/5/2018	Hairy Grama	*Bouteloua hirsuta*	Lamb
SRL171	11/5/2018	Switchgrass (upland)	*Panicum virgatum*	Lamb
SRL172	11/5/2018	Plains Bristlegrass	*Setaria leucopila*	Lamb
SRL173	11/5/2018	Big Bluestem (?)	*Andropogon gerardii*	Lamb
SRL174	11/5/2018	Giant Dropseed (small)	*Sporobolus giganteus*	Lamb
SRL175	11/5/2018	Little Bluestem	*Schizachyrium scoparium*	Lamb
SRL176	11/5/2018	Sand Bluestem	*Andropogon hallii*	Lamb
SRL177	11/5/2018	Arizona Cottontop	*Digitaria californica*	Bailey
SRL178	11/5/2018	Halls Panicum	*Panicum hallii var. hallii*	Bailey
SRL179	11/5/2018	Blue Grama	*Bouteloua gracilis*	Bailey
SRL180	11/5/2018	Common Panicum	*Panicum capillare*	Bailey
SRL181	11/5/2018	Sand Muhly	*Muhlenbergia arenicola*	Bailey
SRL182	11/5/2018	Black Grama	*Bouteloua eriopoda*	Bailey
SRL183	11/5/2018	Canada Wildrye	*Elymus canadensis*	Bailey
SRL184	11/5/2018	Hairy Grama	*Bouteloua hirsuta*	Bailey
SRL186	11/5/2018	Bush Muhly	*Muhlenbergia porteri*	Bailey
SRL187	11/5/2018	Switchgrass (lowland)	*Panicum virgatum*	Lubbock

Collector ID	Date	Common Name	Scientific name	County
SRL188	11/6/2018	Showy Chloris	*Chloris virgata*	Dickens
SRL189	11/6/2018	Plains Bristlegrass	*Setaria leucopila*	Dickens
SRL190	11/6/2018	Indiangrass	*Sorghastrum nutans*	Dickens
SRL191	11/6/2018	Tumble Windmillgrass	*Chloris verticillata*	Dickens
SRL193	11/6/2018	Little Bluestem	*Schizachyrium scoparium*	Dickens
SRL194	11/6/2018	Switchgrass (upland)	*Panicum virgatum*	Dickens
SRL195	11/6/2018	Sand Bluestem	*Andropogon hallii*	Dickens
SRL196	11/6/2018	Hairy Grama	*Bouteloua hirsuta*	Dickens
SRL198	11/6/2018	Hairy Grama	*Bouteloua hirsuta*	Crosby
SRL200	11/6/2018	Sand Bluestem	*Andropogon hallii*	Crosby
SRL201	11/6/2018	Bushy Bluestem	*Andropogon glomeratus*	Crosby
SRL202	11/6/2018	Switchgrass (upland)	*Panicum virgatum*	Crosby
SRL203	11/6/2018	Purpletop Tridens	*Tridens flavus*	Crosby
SRL204	11/6/2018	Big Bluestem	*Andropogon gerardii*	Crosby
SRL205	11/6/2018	Indiangrass	*Sorghastrum nutans*	Crosby
SRL206	11/6/2018	Little Bluestem	*Schizachyrium scoparium*	Motley
SRL207	11/6/2018	Switchgrass (upland)	*Panicum virgatum*	Motley
SRL209	11/6/2018	Blue Grama	*Bouteloua gracilis*	Motley
SRL211	11/6/2018	Indiangrass	*Sorghastrum nutans*	Motley
SRL213	11/6/2018	Sand Bluestem	*Andropogon hallii*	Dickens
SRL217	11/7/2018	Hairy Grama	*Bouteloua hirsuta*	Dickens
SRL218	11/7/2018	Blue Grama	*Bouteloua gracilis*	Dickens
SRL219	11/7/2018	Black Grama	*Bouteloua eriopoda*	Dickens
SRL222	11/7/2018	Buffalograss	*Bouteloua dactyloides*	Dickens
SRL223	11/11/2018	Purple Threeawn	*Aristida purpurea*	Sterling
SRL224	11/11/2018	Sixweeks grama	*Bouteloua barbata*	Sterling
SRL225	11/11/2018	Buffalograss	*Bouteloua dactyloides*	Sterling
SRL226	11/11/2018	Nineawn Pappusgrass	*Enneapogon desvauxii*	Sterling
SRL227	11/14/2018	Sand Muhly	*Muhlenbergia arenicola*	Martin
SRL228	11/14/2018	Buffalograss	*Bouteloua dactyloides*	Martin
SRL229	11/14/2018	Blue Grama	*Bouteloua gracilis*	Martin
SRL230	11/14/2018	Black Grama	*Bouteloua eriopoda*	Martin
SRL231	11/14/2018	Nineawn Pappusgrass	*Enneapogon desvauxii*	Martin
SRL232	11/14/2018	Gummy lovegrass	*Eragrotis curtipedicellata*	Midland
SRL234	11/15/2018	Nineawn Pappusgrass	*Enneapogon desvauxii*	Midland
SRL235	11/15/2018	Alkali Sacaton	*Sporobolus airoides*	Midland
SRL236	11/15/2018	Sand Muhly	*Muhlenbergia arenicola*	Midland
SRL267	5/24/2019	Texas Grama	*Bouteloua rigidiseta*	Scurry
SRL272	6/1/2019	Reverchon's bristlegrass	*Setaria reverchonii*	Borden

Collector ID	Date	Common Name	Scientific name	County
East Texas				
TCW111	9/6/2018	Longleaf uniola	*Chasmanthium sessiliflorum*	Cherokee
TCW112	9/6/2018	Virginia wildrye	*Elymus virginicus*	Cherokee
TCW119	9/25/2018	Florida paspalum	*Paspalum floidanum*	Harrison
TCW120	9/25/2018	Purpletop tridens	*Tridens flavus*	Harrison
TCW121	9/25/2018	Virginia wildrye	*Elymus virginicus*	Harrison
TCW122	9/25/2018	Eastern gammagrass	*Tripsacum dactyloides*	Harrison
TCW123	9/25/2018	Eastern gammagrass	*Tripsacum dactyloides*	Harrison
TCW124	9/25/2018	Beaked panicum	*Panicum anceps*	Harrison
TCW125	9/25/2018	Purpletop tridens	*Tridens flavus*	Harrison
TCW126	9/25/2018	Virginia wildrye	*Elymus virginicus*	Harrison
TCW127	9/25/2018	Longleaf uniola	*Chasmanthium sessiliflorum*	Harrison
TCW128	9/25/2018	Inland seaoats	*Chasmanthium latifolium*	Harrison
TCW129	9/25/2018	Longspike tridens	*tridens strictus*	Harrison
TCW130	10/4/2018	Longleaf uniola	*Chasmanthium sessiliflorum*	Smith
TCW131	10/4/2018	Beaked panicum	*Panicum anceps*	Anderson
TCW132	10/4/2018	Florida paspalum	*Paspalum floidanum*	Anderson
TCW133	10/4/2018	Silver bluestem	*Bothriochloa laguroides*	Cherokee
TCW134	10/4/2018	Inland seaoats	*Chasmanthium latifolium*	Cherokee
TCW135	10/4/2018	Inland seaoats	*Chasmanthium latifolium*	Anderson
TCW136	10/4/2018	Virginia wildrye	*Elymus virginicus*	Anderson
TCW137	10/5/2018	Florida paspalum	*Paspalum floidanum*	Rains
TCW138	10/5/2018	Silver bluestem	*Bothriochloa laguroides*	Rains
TCW139	10/5/2018	Silver bluestem	*Bothriochloa laguroides*	Rains
TCW140	10/24/2018	Purpletop tridens	*Tridens flavus*	Upshur
TCW141	10/24/2018	Beaked panicum	*Panicum anceps*	Franklin
TCW142	10/24/2018	Purpletop tridens	*Tridens flavus*	Titus
TCW143	10/24/2018	Longleaf uniola	*Chasmanthium sessiliflorum*	Titus
TCW144	10/24/2018	Purpletop tridens	*Tridens flavus*	Franklin
TCW145	10/24/2018	Purpletop tridens	*Tridens flavus*	Gregg
TCW146	10/24/2018	Purpletop tridens	*Tridens flavus*	Upshur
TCW147	10/24/2018	Purpletop tridens	*Tridens flavus*	Gregg
TCW148	10/24/2018	Purpletop tridens	*Tridens flavus*	Camp
TCW149	10/26/2018	Purpletop tridens	*Tridens flavus*	Franklin
TCW150	10/26/2018	Purpletop tridens	*Tridens flavus*	Anderson
TCW151	10/26/2018	Sideoats grama	*Bouteloua curtipendula*	Hunt
TCW152	10/26/2018	Indiangrass	*Sorghastrum nutans*	Kaufman
TCW153	10/26/2018	Sideoats grama	*Bouteloua curtipendula*	Hunt
TCW154	10/26/2018	White tridens	*Tridens albescens*	Fannin
TCW155	10/26/2018	Silver bluestem	*Bothriochloa laguroides*	Kaufman

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TCW156	10/26/2018	Purpletop tridens	*Tridens flavus*	Kaufman
TCW157	10/26/2018	Florida paspalum	*Paspalum floidanum*	Kaufman
TCW158	10/26/2018	Purpletop tridens	*Tridens flavus*	Hunt
TCW159	10/26/2018	Big bluestem	*Andropogon gerardii*	Fannin
TCW160	10/26/2018	Purpletop tridens	*Tridens flavus*	Lamar
TCW161	10/26/2018	Purpletop tridens	*Tridens flavus*	Hunt
TCW162	10/26/2018	White tridens	*Tridens albescens*	Lamar
TCW163	10/26/2018	Purpletop tridens	*Tridens flavus*	Kaufman
TCW164	10/26/2018	Purpletop tridens	*Tridens flavus*	Lamar
TCW165	10/26/2018	White tridens	*Tridens albescens*	Kaufman
TCW166	10/31/2018	Purpletop tridens	*Tridens flavus*	Nacogdoches
TCW167	10/31/2018	Purpletop tridens	*Tridens flavus*	Nacogdoches
TCW168	10/31/2018	Purpletop tridens	*Tridens flavus*	Nacogdoches
TCW169	10/31/2018	Purpletop tridens	*Tridens flavus*	Nacogdoches
TCW170	10/31/2018	Purpletop tridens	*Tridens flavus*	Nacogdoches
TCW171	11/7/2018	Splitbeard bluestem	*Andropogan tenarius*	Houston
TCW172	11/7/2018	Purpletop tridens	*Tridens flavus*	Houston
TCW173	11/7/2018	Purpletop tridens	*Tridens flavus*	Houston
TCW174	11/7/2018	Silver bluestem	*Bothriochloa laguroides*	Houston
TCW175	11/7/2018	Purpletop tridens	*Tridens flavus*	Houston
TCW176	11/8/2018	Purpletop tridens	*Tridens flavus*	Walker
TCW177	11/8/2018	Purpletop tridens	*Tridens flavus*	San Jacinto
TCW179	11/8/2018	Little bluestem	*Schizachyrium scoparium*	Walker
TCW180	11/8/2018	Big bluestem	*Andropogon gerardii*	Montgomery
TCW181	11/8/2018	Longleaf uniola	*Chasmanthium sessiliflorum*	Montgomery
TCW182	11/8/2018	Purpletop tridens	*Tridens flavus*	Walker
TCW183	11/8/2018	B eaked panicum	*Panicum anceps*	Montgomery
TCW184	11/8/2018	Purpletop tridens	*Tridens flavus*	Walker
TCW187	11/8/2018	Longleaf uniola	*Chasmanthium sessiliflorum*	Montgomery
TCW188	11/8/2018	Purpletop tridens	*Tridens flavus*	Montgomery
TCW189	11/8/2018	Purpletop tridens	*Tridens flavus*	Walker
TCW191	11/15/2018	Longleaf uniola	*Chasmanthium sessiliflorum*	Nacogdoches
TCW192	11/15/2018	Beaked panicum	*Panicum anceps*	Nacogdoches
TCW194	11/15/2018	Bushy bluestem	*Andropogon glomertus*	Nacogdoches
TCW196	11/15/2018	Slender indiangrass	*Sorghastrum elliottii*	Nacogdoches
TCW198	11/15/2018	Purple lovegrass	*Eragrostis spectabilis*	Nacogdoches
TCW199	11/15/2018	Slender indiangrass	*Sorghastrum elliottii*	Nacogdoches
TCW200	11/15/2018	Longleaf uniola	*Chasmanthium sessiliflorum*	Nacogdoches
TCW201	11/15/2018	Purpletop tridens	*Tridens flavus*	Nacogdoches
TCW203	11/15/2018	Arrowfeather Threeawn	*Aristida purpurascens*	Nacogdoches

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TCW204	11/15/2018	Longleaf uniola	*Chasmanthium sessiliflorum*	Nacogdoches
TCW205	11/16/2018	Splitbeard bluestem	*Andropogan tenarius*	Hardin
TCW206	11/16/2018	Arrowfeather Threeawn	*Aristida purpurascens*	Hardin
TCW207	11/16/2018	Purpletop tridens	*Tridens flavus*	Hardin
TCW208	11/16/2018	Bushy bluestem	*Andropogon glomertus*	Hardin
TCW209	11/16/2018	Splitbeard bluestem	*Andropogan tenarius*	Hardin
TCW212	11/26/2018	Purpletop tridens	*Tridens flavus*	Rusk
TCW213	11/26/2018	Purple lovegrass	*Eragrostis spectabilis*	Panola
TCW214	11/26/2018	Purpletop tridens	*Tridens flavus*	Shelby
TCW215	11/26/2018	Purpletop tridens	*Tridens flavus*	Panola
TCW216	11/26/2018	Purpletop tridens	*Tridens flavus*	Sabine
TCW217	11/26/2018	Purpletop tridens	*Tridens flavus*	San Augustine
TCW218	11/26/2018	Purpletop tridens	*Tridens flavus*	San Augustine
TCW219	11/26/2018	Purple lovegrass	*Eragrostis spectabilis*	Shelby
TCW220	11/26/2018	Bushy bluestem	*Andropogon glomertus*	Shelby
TCW221	11/26/2018	Purpletop tridens	*Tridens flavus*	Rusk
TCW222	11/26/2018	Purpletop tridens	*Tridens flavus*	Shelby
TCW223	11/26/2018	Purpletop tridens	*Tridens flavus*	Panola
TCW224	11/26/2018	Purpletop tridens	*Tridens flavus*	Panola
TCW225	11/26/2018	Purpletop tridens	*Tridens flavus*	Panola
TCW226	11/26/2018	Splitbeard bluestem	*Andropogan tenarius*	Panola
TCW227	11/26/2018	Arrowfeather Threeawn	*Aristida purpurascens*	Panola
TCW228	11/26/2018	Splitbeard bluestem	*Andropogan tenarius*	Shelby
TCW229	11/26/2018	Purple lovegrass	*Eragrostis spectabilis*	Rusk
TCW230	11/26/2018	Purple lovegrass	*Eragrostis spectabilis*	Sabine
TCW231	11/26/2018	Bushy bluestem	*Andropogon glomertus*	San Augustine
TCW232	11/26/2018	Bushy bluestem	*Andropogon glomertus*	Shelby
TCW233	11/26/2018	Longleaf uniola	*Chasmanthium sessiliflorum*	Sabine
TCW234	11/26/2018	Arrowfeather Threeawn	*Aristida purpurascens*	Panola
TCW235	11/26/2018	Inland seaoats	*Chasmanthium latifolium*	Sabine
TCW236	11/26/2018	Inland seaoats	*Chasmanthium latifolium*	Rusk
TCW237	11/26/2018	Broomsedge bluestem	*Andropogon virginicus*	Shelby
TCW238	11/26/2018	Inland seaoats	*Chasmanthium latifolium*	Rusk
TCW239	11/26/2018	Arrowfeather Threeawn	*Aristida purpurascens*	Rusk
TCW240	11/26/2018	Arrowfeather Threeawn	*Aristida purpurascens*	Shelby
TCW241	11/28/2018	Purpletop tridens	*Tridens flavus*	Leon
TCW242	11/28/2018	Purpletop tridens	*Tridens flavus*	Robertson
TCW243	11/28/2018	Purpletop tridens	*Tridens flavus*	Madison
TCW244	11/28/2018	Purpletop tridens	*Tridens flavus*	Leon
TCW245	11/29/2018	Purpletop tridens	*Tridens flavus*	Fayette

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TCW246	11/29/2018	Purpletop Tridens	*Tridens flavus*	Fayette
TCW247	11/29/2018	Purpletop tridens	*Tridens flavus*	Caldwell
TCW248	11/29/2018	Purpletop tridens	*Tridens flavus*	Burleson
TCW249	11/29/2018	Purpletop tridens	*Tridens flavus*	Lee
TCW250	11/29/2018	Purpletop tridens	*Tridens flavus*	Milam
TCW251	11/29/2018	Purpletop tridens	*Tridens flavus*	Gonzales
TCW252	11/29/2018	Purpletop tridens	*Tridens flavus*	Fayette
TCW253	11/30/2018	Purpletop tridens	*Tridens flavus*	Bastrop
TCW254	12/6/2018	Purpletop tridens	*Tridens flavus*	Limestone
TCW255	12/6/2018	Purpletop tridens	*Tridens flavus*	Freestone
TCW256	12/6/2018	Purpletop tridens	*Tridens flavus*	Freestone
TCW257	12/6/2018	Purpletop tridens	*Tridens flavus*	Navarro
TCW258	12/6/2018	Purpletop tridens	*Tridens flavus*	Leon
TCW259	11/28/2018	Purpletop tridens	*Tridens flavus*	Madison
TCW260	11/7/2018	Purpletop tridens	*Tridens flavus*	Houston
TCW262	11/29/2018	Little bluestem	*Schizachyrium scoparium*	Milam
TCW263	11/29/2018	Arrowfeather Threeawn	*Aristida purpurascens*	Fayette
TCW265	11/29/2018	Indiangrass	*Sorghastrum nutans*	Fayette
TCW266	11/29/2018	Little bluestem	*Schizachyrium scoparium*	Lee
TCW267	11/29/2018	Little bluestem	*Schizachyrium scoparium*	Fayette
TCW268	11/28/2018	Longspike tridens	*tridens strictus*	Madison
TCW269	12/6/2018	Purple lovegrass	*Eragrostis spectabilis*	Freestone
TCW270	11/28/2018	Little bluestem	*Schizachyrium scoparium*	Leon
TCW271	11/29/2018	Indiangrass	*Sorghastrum nutans*	Burleson
TCW272	11/29/2018	Silver bluestem	*Bothriochloa laguroides*	Burleson
TCW273	11/29/2018	Little bluestem	*Schizachyrium scoparium*	Fayette
TCW274	11/29/2018	Purple lovegrass	*Eragrostis spectabilis*	Burleson
TCW275	11/29/2018	Little bluestem	*Schizachyrium scoparium*	Burleson
TCW276	11/29/2018	Knotroot bristlegrass	*Setaria parviflora*	Burleson
TCW277	11/29/2018	Big bluestem	*Andropogon gerardii*	burleson
TCW278	11/29/2018	Bushy bluestem	*Andropogon glomertus*	Burleson
TCW279	11/29/2018	Longspike tridens	*tridens strictus*	Burleson
TCW280	11/27/2018	Purple lovegrass	*Eragrostis spectabilis*	Hunt
TCW281	11/27/2018	Big bluestem	*Andropogon gerardii*	Hunt
TCW282	11/27/2018	Purple threeawn	*Aristida purpurea*	Hunt
TCW283	11/27/2018	Longspike tridens	*tridens strictus*	Hunt
TCW284	12/12/2018	Purpletop tridens	*Tridens flavus*	Trinity
TCW285	12/12/2018	Purple lovegrass	*Eragrostis spectabilis*	Angelina
TCW286	12/12/2018	Purpletop tridens	*Tridens flavus*	Trinity
TCW287	12/12/2018	Beaked panicum	*Panicum anceps*	Polk

Collector ID	Date	Common Name	Scientific name	County
TCW288	12/12/2018	Purpletop tridens	*Tridens flavus*	Angelina
TCW289	12/12/2018	Purpletop tridens	*Tridens flavus*	Nacogdoches
TCW290	12/12/2018	Purpletop tridens	*Tridens flavus*	Polk
TCW291	12/12/2018	Bushy bluestem	*Andropogon glomertus*	Angelina
TCW292	12/12/2018	Purpletop tridens	*Tridens flavus*	Polk
TCW293	12/12/2018	Beaked panicum	*Panicum anceps*	Trinity
TCW294	12/12/2018	Longspike tridens	*tridens strictus*	Polk
TCW295	12/12/2018	Little bluestem	*Schizachyrium scoparium*	Polk
TCW296	12/12/2018	Red lovegrass	*Eragrostis secundiflora*	Angelina
TCW297	12/12/2018	Red lovegrass	*Eragrostis secundiflora*	Angelina
TCW298	12/12/2018	Longleaf uniola	*Chasmanthium sessiliflorum*	Angelina
TCW299	12/6/2018	Red lovegrass	*Eragrostis secundiflora*	Leon
TCW300	12/18/2018	Purpletop tridens	*Tridens flavus*	Delta
TCW301	12/18/2018	Purpletop tridens	*Tridens flavus*	Hopkins
TCW302	12/18/2018	Little bluestem	*Schizachyrium scoparium*	Wood
TCW303	12/18/2018	Longspike tridens	*Tridens strictus*	Hopkins
TCW304	12/18/2018	Indiangrass	*Sorghastrum nutans*	Wood
TCW305	12/18/2018	Longspike tridens	*tridens strictus*	Hopkins
TCW306	12/18/2018	Purpletop tridens	*Tridens flavus*	Hopkins
TCW307	12/18/2018	Purpletop tridens	*Tridens flavus*	Hopkins
TCW308	12/18/2018	Silver bluestem	*Bothriochloa laguroides*	Hopkins
TCW309	12/18/2018	Splitbeard bluestem	*Andropogan tenarius*	Wood
TCW310	12/18/2018	Purpletop tridens	*Tridens flavus*	Wood
TCW311	12/18/2018	Purpletop tridens	*Tridens flavus*	Hopkins
TCW312	1/9/2019	Purpletop tridens	*Tridens flavus*	Cass
TCW313	1/9/2019	Splitbeard bluestem	*Andropogan tenarius*	Cass
TCW314	1/10/2019	Purpletop tridens	*Tridens flavus*	Bowie
TCW315	1/10/2019	Purpletop tridens	*Tridens flavus*	Bowie
TCW316	1/10/2019	Purpletop tridens	*Tridens flavus*	Red River
TCW317	1/10/2019	Purpletop tridens	*Tridens flavus*	Bowie
TCW318	1/9/2019	Purpletop tridens	*Tridens flavus*	Bowie
TCW319	1/9/2019	Splitbeard bluestem	*Andropogan tenarius*	Marion
TCW320	1/9/2019	Purpletop tridens	*Tridens flavus*	Marion
TCW321	1/9/2019	Longspike tridens	*tridens strictus*	Cass
TCW322	1/10/2019	Purpletop tridens	*Tridens flavus*	Morris
TCW323	1/9/2019	Purpletop tridens	*Tridens flavus*	Marion
TCW324	1/16/2019	Indiangrass	*Sorghastrum nutans*	Anderson
TCW325	1/16/2019	Beaked panicum	*Panicum anceps*	Anderson
TCW326	1/16/2019	Longleaf uniola	*Chasmanthium sessiliflorum*	Anderson
TCW327	1/16/2019	Purpletop tridens	*Tridens flavus*	Anderson

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TCW328	1/16/2019	Splitbeard bluestem	*Andropogan tenarius*	Anderson
TCW329	1/16/2019	Purple lovegrass	*Eragrostis spectabilis*	Anderson
TCW330	11/19/2019	Sand lovegrass	*Eragrostis trichodes*	Sabine
TCW338	11/19/2019	Purpletop tridens	*Tridens flavus*	Sabine
TCW339	1/24/2019	Purpletop tridens	*Tridens flavus*	Hardin
TCW340	1/24/2019	Purpletop tridens	*Tridens flavus*	Polk
TCW341	1/24/2019	Purpletop tridens	*Tridens flavus*	Newton
TCW342	1/24/2019	Purpletop tridens	*Tridens flavus*	Polk
TCW343	1/24/2019	Purpletop tridens	*Tridens flavus*	Tyler
TCW344	1/24/2019	Purpletop tridens	*Tridens flavus*	Newton
TCW345	1/24/2019	Purpletop tridens	*Tridens flavus*	Hardin
TCW346	2/18/2019	Inland seaoats	*Chasmanthium latifolium*	Houston
TCW347	2/18/2019	Inland seaoats	*Chasmanthium latifolium*	Houston
TCW350	12/12/2019	Purpletop tridens	*Tridens flavus*	Cherokee
TCW351	4/30/2019	Texas Wintergrass	*Nassella leucotricha*	Anderson
TCW352	5/14/2019	Texas Wintergrass	*Nassella leucotricha*	Shelby
TCW353	5/14/2019	Texas Wintergrass	*Nassella leucotricha*	Shelby
TCW354	5/29/2019	Texas Wintergrass	*Nassella leucotricha*	Lamar
TCW355	5/29/2019	Texas Wintergrass	*Nassella leucotricha*	Lamar
TCW356	6/18/2019	Virginia wildrye	*Elymus virginicus*	Houston
TCW357	6/18/2019	Brownseed paspalum	*Paspalum plicatulum*	Houston
TCW360	6/18/2019	Eastern gammagrass	*Tripsacum dactyloides*	Houston
TCW363	6/18/2019	Brownseed paspalum	*Paspalum plicatulum*	Houston
TCW364	6/18/2019	Brownseed paspalum	*Paspalum plicatulum*	Houston
TCW365	6/18/2019	Eastern gammagrass	*Tripsacum dactyloides*	Angelina
TCW367	6/19/2019	Canada wildrye	*Elymus canadensis*	Grimes
TCW369	6/19/2019	Canada wildrye	*Elymus canadensis*	Grimes
TCW370	6/20/2019	Brownseed paspalum	*Paspalum plicatulum*	Leon
TCW371	6/20/2019	Virginia wildrye	*Elymus virginicus*	Houston
TCW372	6/20/2019	Virginia wildrye	*Elymus virginicus*	Leon
TCW373	6/20/2019	Canada wildrye	*Elymus canadensis*	Leon
TCW375	7/18/2019	Virginia wildrye	*Elymus virginicus*	Washington
TCW380	7/18/2019	Virginia wildrye	*Elymus virginicus*	Washington
TCW381	7/18/2019	White trdens	*Tridens albescens*	Washington
TCW382	7/19/2019	Canada wildrye	*Elymus canadensis*	Nacogdoches
TCW383	7/19/2019	Virginia wildrye	*Elymus virginicus*	Nacogdoches
TCW384	8/8/2019	Canada wildrye	*Elymus canadensis*	Jasper
TCW385	8/8/2019	Canada wildrye	*Elymus virginicus*	Sabine
TCW386	8/8/2019	Canada wildrye	*Elymus canadensis*	Tyler
TCW387	8/8/2019	Canada wildrye	*Elymus canadensis*	Jasper

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TCW388	8/15/2019	Virginia wildrye	*Elymus virginicus*	Nacogdoches
TCW394	8/16/2019	Virginia wildrye	*Elymus virginicus*	Angelina
TCW396	8/16/2019	Virginia wildrye	*Elymus virginicus*	Nacogdoches
TCW398	8/16/2019	Virginia wildrye	*Elymus virginicus*	Nacogdoches
TCW399	8/16/2019	Virginia wildrye	*Elymus virginicus*	Nacogdoches
TCW400	8/16/2019	Virginia wildrye	*Elymus virginicus*	Cherokee
Coastal Prairies				
DLJ1	10/1/3118	Silver bluestem	*Bothriochloa laguroides*	Victoria
DLJ3	10/15/2018	Gulf Coast Muhly	*Muhlenbergia cappilaris*	Victoria
DLJ4	10/15/2018	Florida Paspalum	*Paspalum floridana*	Victoria
DLJ5	10/15/2018	Switchgrass	*Panicum virgatum*	Victoria
DLJ6	10/16/2018	Switchgrass	*Panicum virgatum*	DeWitt
DLJ7	10/16/2018	Gulf Coast Muhly	*Muhlenbergia cappilaris*	DeWitt
DLJ8	10/17/2018	Gulf Coast Muhly	*Muhlenbergia cappilaris*	Lavaca
DLJ9	10/18/2018	Gulf Coast Muhly	*Muhlenbergia cappilaris*	Jackson
DLJ10	10/18/2018	Switchgrass	*Panicum virgatum*	Jackson
DLJ11	10/30/2018	Gulf Coast Muhly	*Muhlenbergia cappilaris*	Goliad
DLJ12	10/30/2018	Crinkleawn	*Trachypogon secundus*	Goliad
DLJ14	10/30/2018	Yellow Indiangrass	*Sorghastrum nutans*	Goliad
DLJ15	10/30/2018	silver bluestem	*Bothriochloa laguroides*	Goliad
DLJ16	10/30/2018	longspike tridens	*Tridens strictus*	Goliad
DLJ17	10/30/2018	Switchgrass	*Panicum virgatum*	Goliad
DLJ18	10/30/2018	Silver bluestem	*Bothriochloa laguroides*	DeWitt
DLJ19	10/30/2018	purpletop	*Tridens flavus*	DeWitt
DLJ20	10/30/2018	Yellow Indiangrass	*Sorghastrum nutans*	DeWitt
DLJ21	10/30/2018	Panamerican balsamscale	*Elionurus trapsacoides*	DeWitt
DLJ22	10/30/2018	Gulf Coast Muhly	*Muhlenbergia cappilaris*	DeWitt
DLJ23	10/31/2018	Florida Paspalum	*Paspalum floridana*	Jackson
DLJ24	10/31/2018	Switchgrass	*Panicum virgatum*	Jackson
DLJ25	10/31/2018	longspike tridens	*Tridens strictus*	Jackson
DLJ26	10/31/2018	gulf cordgrass	*Spartina spartinae*	Matagorda
DLJ27	10/31/2018	Yellow Indiangrass	*Sorghastrum nutans*	Matagorda
DLJ28	10/31/2018	longspike tridens	*Tridens strictus*	Victoria
DLJ29	10/31/2018	Silver bluestem	*Bothriochloa laguroides*	Matagorda
DLJ30	10/31/2018	Panamerican balsamscale	*Elionurus trapsacoides*	Goliad
DLJ31	11/1/2018	big bluestem	*Andropogon gerardi*	Victoria
DLJ32	11/1/2018	Lovegrass	*Egrostis*	Victoria

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DLJ33	11/1/2018	Panamerican balsamscale	*Elionurus trapsacoides*	Victoria
DLJ34	11/2/2018	brownseed paspalum	*Paspalum plicatulum*	Victoria
DLJ37	11/2/2018	Gulf Coast Muhly	*Muhlenbergia cappilaris*	Calhoun
DLJ38	11/2/2018	longspike tridens	*Tridens strictus*	Calhoun
DLJ40	11/2/2018	Florida Paspalum	*Paspalum floridana*	Calhoun
DLJ41	11/2/2018	gulf cordgrass	*Spartina spartinae*	Calhoun
DLJ42	11/2/2018	gulf cordgrass	*Spartina spartinae*	Jackson
DLJ43	11/5/2018	longspike tridens	*Tridens strictus*	Colorado
DLJ45	11/5/2018	Yellow Indiangrass	*Sorghastrum nutans*	Colorado
DLJ46	11/5/2018	Gulf Coast Muhly	*Muhlenbergia cappilaris*	Colorado
DLJ48	11/6/2018	longspike tridens	*Tridens strictus*	Brazoria
DLJ51	11/6/2018	Bushy bluestem	*Andropogon glomeratus*	Brazoria
DLJ52	11/6/2018	Gulf Coast Muhly	*Muhlenbergia cappilaris*	Brazoria
DLJ53	11/6/2018	gulf cordgrass	*Spartina spartinae*	Brazoria
DLJ60	11/7/2018	Crinkleawn	*Trachypogon secundus*	Calhoun
DLJ61	11/7/2018	Splitbeard Bluestem	*Andropogon tenarias*	Calhoun
DLJ62	11/7/2018	Gulf Coast Muhly	*Muhlenbergia cappilaris*	Calhoun
DLJ63	11/7/2018	Purple Threeawn	*Aristide purpurea*	Calhoun
DLJ64	11/7/2018	Purple Lovegrass	*Erogrostis spectabilis*	Calhoun
DLJ66	11/7/2018	Pan American balsamscale	*Elionurus trapsacoides*	Calhoun
DLJ67	11/7/2018	Big bluestem	*Andropogon gerardi*	Calhoun
DLJ68	11/7/2018	Yellow Indiangrass	*Sorghastrum nutans*	Calhoun
DLJ69	11/7/2018	Bushy bluestem	*Andropogon glomeratus*	Calhoun
DLJ74	11/13/2018	Broomsedge bluestem	*Andropogon virginicus*	Matagorda
DLJ75	11/13/2018	Gulf Coast Muhly	*Muhlenbergia cappilaris*	Matagorda
DLJ77	11/13/2018	Scribner's Rosette grass	*Dicanthelium oligosanthes*	Matagorda
DLJ78	11/13/2018	Silver bluestem	*Bothriochloa laguroides*	Matagorda
DLJ82	11/13/2018	Bushy bluestem	*Andropogon glomeratus*	Matagorda
DLJ83	11/15/2018	Crinkleawn	*Trachypogon secundus*	Colorado
DLJ84	11/15/2018	Gaping panicum	*Panicum*	Lavaca
DLJ85	11/15/2018	Florida Paspalum	*Paspalum floridana*	Lavaca
DLJ86	11/15/2018	Purpletop	*tridens flavus*	Lavaca
DLJ87	11/15/2018	Bushy bluestem	*Andropogon glomeratus*	Lavaca
DLJ88	11/15/2018	Bushy bluestem	*Andropogon glomeratus*	Austin
DLJ94	11/15/2018	Splitbeard bluestem	*Andropogon tenarias*	Austin
DLJ96	11/15/2018	Panamerican balsamscale	*Elionurus trapsacoides*	Austin
DLJ99	11/15/2018	big bluestem	*Andropogon gerardi*	Austin
DLJ101	11/15/2018	Switchgrass	*Panicum virgatum*	Colorado

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DLJ102	11/15/2018	Yellow Indiangrass	*Sorghastrum nutans*	Colorado
DLJ103	11/26/2018	Splitbeard Bluestem	*Andropogon tenarias*	Victoria
DLJ104	11/26/2018	Bushy bluestem	*Andropogon glomeratus*	Victoria
DLJ105	11/26/2018	Panamerican balsamscale	*Elionurus trapsacoides*	Victoria
DLJ106	11/26/2018	Broomsedge bluestem	*Andropogon virginicus*	Victoria
DLJ107	11/26/2018	Gaping panicum	*Panicum*	Victoria
DLJ108	11/29/2018	big bluestem	*Andropogon gerardi*	Jackson
DLJ111	11/29/2018	Sugarcane Plumegrass	*Saccharum giganteum*	Galveston
DLJ112	11/29/2018	Bushy bluestem	*Andropogon glomeratus*	Galveston
DLJ113	11/29/2018	big bluestem	*Andropogon gerardi*	Galveston
DLJ114	12/4/2018	Yellow Indiangrass	*Sorghastrum nutans*	Victoria
DLJ116	12/4/2018	longspike tridens	*tridens strictus*	DeWitt
DLJ118	12/4/2018	Broomsedge bluestem	*Andropogon virginicus*	DeWitt
DLJ119	12/4/2018	Crinkleawn	*Trachypogon secundus*	DeWitt
DLJ120	12/4/2018	Gaping panicum	*Panicum hiens*	DeWitt
DLJ122	12/4/2018	Bushy bluestem	*Andropogon glomeratus*	DeWitt
DLJ123	12/4/2018	Red lovegrass	*Ergrostis*	DeWitt
DLJ124	12/4/2018	Florida Paspalum	*Paspalum floridana*	DeWitt
DLJ126	12/4/2018	Silver bluestem	*Bothriochloa laguroides*	DeWitt
DLJ127	12/4/2018	Purpletop	*tridens flavus*	Victoria
DLJ128	12/5/2018	Bushy bluestem	*Andropogon glomeratus*	Wharton
DLJ130	12/5/2018	Yellow Indiangrass	*Sorghastrum nutans*	Wharton
DLJ132	12/5/2018	Florida Paspalum	*Paspalum floridana*	Wharton
DLJ134	12/13/2018	Yellow Indiangrass	*Sorghastrum nutans*	Wharton
DLJ135	12/13/2018	Pan American balsamscale	*Elionurus trapsacoides*	Wharton
DLJ136	12/13/2018	Crinkleawn	*Trachypogon secundus*	Wharton
DLJ137	12/13/2018	Gulf Coast Muhly	*Muhlenbergia cappilaris*	Wharton
DLJ138	12/13/2018	longspike tridens	*Tridens strictus*	Wharton
DLJ140	12/13/2018	Broomsedge bluestem	*Andropogon virginicus*	Colorado
DLJ141	12/13/2018	Yellow indiangrass	*Sorghastrum nutans*	Lavaca
DLJ142	12/13/2018	Gulf Coast Muhly	*Muhlenbergia cappilaris*	Lavaca
DLJ144	1/8/2019	Yellow Indiangrass	*Sorghastrum nutans*	Lavaca
DLJ155	4/18/2019	Rosette grass	*Dicanthelium oligosanthes*	Victoria
DLJ156	4/18/2019	brownseed paspalum	*Paspalum plicatulum*	Victoria
DLJ159	4/18/2019	Rosette grass	*Dicanthelium oligosanthes*	Victoria
DLJ164	4/25/2019	Rosette grass	*Dicanthelium oligosanthes*	Galveston
DLJ167	5/31/2019	Canada wildrye	*Elymus canadensis*	Victoria
DLJ184	5/20/2019	Eastern gamagrass	*Tripsacum dactyloides*	Colorado

Collector ID	Date	Common Name	Scientific name	County
Central Texas				
KNH 28	6/17/2019	Canada wildrye	*Elymus canadensis*	Erath
KNH 29	7/25/2019	Canada wildrye	*Elymus canadensis*	Erath
KNH 30	7/17/2019	Canada wildrye	*Elymus canadensis*	Erath
KNH 31	6/12/2019	Canada wildrye	*Elymus canadensis*	Hamilton
KNH 32	7/20/2019	Sideoats grama	*Bouteloua curtipendula*	Erath
KNH 33	6/17/2019	Sideoats grama	*Bouteloua curtipendula*	Erath
KNH 34	6/12/2019	Texas grama	*Bouteloua rigidiseta*	Erath
JRB109	12/20/2018	Indian grass	*Sorghastrum nutans*	Erath
JRB110	12/20/2018	Little Bluestem	*Schizachyrium scoparium*	Erath
JRB111	12/20/2018	Purpletop tridens	*Tridens flavus*	Erath
JRB112	12/20/2018	Big bluestem	*Andropogon gerardii*	Erath
Forbs				
West Texas				
CSS668	11/6/2018	Plains ironweed	*Vernonia marginata*	Brewster
CSS669	5/24/2019	Fragrant Gaillardia	*Gaillardia suavis*	Terrell
CSS671	7/7/2019	Huisache Daisy	*Amblyolepsis setigera*	Kimble
CSS672	6/28/2019	Fragrant Gaillardia	*Gaillardia suavis*	Pecos
CSS673	6/26/2019	Maroon Firewheel	*Gaillardia amblyodon*	Llano
CSS674	6/24/2019	Huisache Daisy	*Amblyolepsis setigera*	Kimble
CSS676	7/7/2019	Indian Blanket	*Gaillardia pulchella*	Crockett
CSS677	6/29/2019	Fragrant Gaillardia	*Gaillardia suavis*	Kimble
CSS678	6/25/2019	Black Eyed Susan	*Rudbeckia hirta*	Mason
CSS679	6/25/2019	White Rosinweed	*Silphium albiflorum*	Mason
CSS680	6/25/2019	Maroon Firewheel	*Gaillardia amblyodon*	Maon
CSS681	6/28/2019	Red Dome Gaillardia	*Gaillardia pinnatifida*	Pecos
CSS682	5/24/2019	Blue curls	*Phacelia conesta*	Terrell
CSS685	5/22/2019	Rayless Gaillardia	*Gaillardia suavis*	Upton
CSS688	6/28/2019	Huisache Daisy	*Amblyolepsis setigera*	Pecos
CSS689	6/25/2019	Plains Coreopsis	*Coreopsis tinctoria*	Mason
CSS690	5/24/2019	Rayless Gaillardia	*Gaillardia suavis*	Terrell
CSS691	6/24/2019	Indian Blanket	*Gaillardia pulchella*	Kimble
CSS692	6/24/2019	Indian Blanket	*Gaillardia pulchella*	Kimble
CSS693	5/16/2019	Rayless Gaillardia	*Gaillardia suavis*	Pecos
CSS695	5/24/2019	Rayless Gaillardia	*Gaillardia suavis*	Pecos
CSS696	6/26/2019	Rayless Gaillardia	*Gaillardia suavis*	Llano
CSS697	9/28/2019	Indian Blanket	*Gaillardia pulchella*	Upton
CSS698	5/14/2019	Rayless Gaillardia	*Gaillardia pulchella*	Pecos
CSS699	5/14/2019	Huisache Daisy	*Amblyolepsis setigera*	Pecos

Collector ID	Date	Common Name	Scientific name	County
CSS700	5/16/2019	Rayless Gaillardia	*Gaillardia suavis*	Pecos
JSC234	11/7/2018	Desert Zinnia	*Zinnia grandiflora*	Cochran
JSC235	11/7/2018	Cowpen daisy	*Verbesina encelioides*	Cochran
HDM001	6/6/2019	Rayless Gaillardia	*Gaillardia suavis*	Pecos
HDM002	6/14/2019	Huisache Daisy	*Amblyolepsis setigera*	Pecos
HDM003	6/14/2019	Red Dome Gaillardia	*Gaillardia pinnatifida*	Pecos
HCS001	6/6/2019	Rayless Gaillardia	*Gaillardia suavis*	Pecos
HCS002	6/6/2019	Rayless Gaillardia	*Gaillardia suavis*	Pecos
HCS003	6/6/2019	Rayless Gaillardia	*Gaillardia suavis*	Crockett
HCS004	6/6/2019	Indian Blanket	*Gaillardia pulchella*	Pecos
HCS005	6/6/2019	Rayless Gaillardia	*Gaillardia pulchella*	Pecos
HCS006	6/6/2019	Huisache Daisy	*Amblyolepsis setigera*	Pecos
SRL262	5/19/2019	Purfumeball	*Gaillardia suavis*	Upton
SRL263	5/19/2019	Prairie Larkspur	*Delphinium carolinianum*	Upton
SRL264	5/19/2019	Purfumeball	*Gaillardia suavis*	Midland
SRL265	5/24/2019	Huisache daisy	*Amblyolepis setigera*	Borden
SRL266	5/24/2019	Purfumeball	*Gaillardia suavis*	Borden
SRL268	6/1/2019	silky prairie clover	*Dalea villosa*	Borden
SRL269	6/1/2019	Fendler's Penstemon	*Penstemon fendlerii*	Borden
SRL270	6/1/2019	Prairie Larkspur	*Delphinium carolinianum*	Borden
SRL271	6/1/2019	Fendler's Penstemon	*Penstemon fendlerii*	Borden
SRL273	7/8/2019	Standing Cypress	*Ipomopsis rubra*	Coleman
SRL274	7/16/2019	White prairie clover	*Dalea candida*	Hockley
SRL275	7/16/2019	Andean prairie clover	*Dalea cylindriceps*	Gaines
SRL276	7/16/2019	Indian Blanket	*Gaillardia pulchella*	Gaines
SRL277	7/16/2019	Spotted Beebalm	*Monarda punctata*	Gaines
SRL278	7/16/2019	Bractless Blazingstar	*Mentzelia nuda*	Gaines
SRL279	7/16/2019	Buckley's Penstemon	*Penstemon buckleyi*	Gaines
East Texas				
TCW178	11/8/2018	Rattlesnake master	*Eryngium yuccifolium*	Montgomery
TCW185	11/8/2018	Prarie blazing star	*Liatris pycnostachya*	Montgomery
TCW186	11/8/2018	Rough blazing star	*Liatris aspera*	Montgomery
TCW190	11/15/2018	Liatris aspera	*Liatris aspera*	Nacogdoches
TCW193	11/13/2018	Rattlesnake master	*Eryngium yuccifolium*	Nacogdoches
TCW195	11/15/2018	Rattlesnake master	*Eryngium yuccifolium*	Nacogdoches
TCW197	11/15/2018	Black Eyed Susan	*Rudbeckia hirta*	Nacogdoches
TCW202	11/15/2018	Prarie blazing star	*Liatris elegans*	Nacogdoches
TCW210	11/16/2018	Prarie blazing star	*Liatris elegans*	Hardin
TCW211	11/26/2018	Black Eyed Susan	*Rudbeckia hirta*	Rusk

Collector ID	Date	Common Name	Scientific name	County
TCW261	11/27/2018	Rattlesnake master	*Eryngium yuccifolium*	Hunt
TCW264	11/27/2018	Rattlesnake master	*Eryngium yuccifolium*	Hunt
TCW331	11/6/2018	Rattlesnake master	*Eryngium yuccafolia*	Sabine
TCW332	11/20/2018	Rattlesnake master	*Eryngium yuccafolia*	Fannin
TCW333	11/20/2018	Rattlesnake master	*Eryngium yuccafolia*	Fannin
TCW334	11/27/2018	Rattlesnake master	*Eryngium yuccafolia*	Hunt
TCW335	11/21/2019	Rattlesnake master	*Eryngium yuccafolia*	Jasper
TCW336	11/21/2018	Rattlesnake master	*Eryngium yuccafolia*	Jasper
TCW337	11/28/2018	Rattlesnake master	*Eryngium yuccafolia*	Sabine
TCW348	11/30/2018	Pink scale blazing star	*Liatris elegans*	Nacogdoches
TCW349	11/30/2018	Narrowleaf mountain mint	*Pycnanthemum tenuifolium*	Nacogdoches
TCW358	6/18/2019	Zizotes milkweed	*Asclepias oenotheroides*	Houston
TCW359	6/18/2019	Zizotes milkweed	*Asclepias oenotheroides*	Houston
TCW361	6/18/2019	Milkweed	*Asclepias*	Walker
TCW362	6/18/2019	Milkweed	*Asclepias*	Houston
TCW366	6/19/2018	Milkweed	*Asclepias*	Walker
TCW368	6/19/2019	Illinois bundleflower	*Asfiepias*	Grimes
TCW374	7/2/2019	Milkweed	*Asclepias*	Red River
TCW376	7/18/2019	Spotted beebalm	*Monarda punctata*	Washington
TCW377	7/18/2019	Spotted beebalm	*Monarda punctata*	Milam
TCW378	7/18/2019	Spotted beebalm	*Monarda punctata*	Washington
TCW379	7/18/2019	Spotted beebalm	*Monarda punctata*	Lee
TCW389	8/15/2019	Rattlesnake master	*Eryngium yuccifolium*	Nacogdoches
TCW390	8/15/2019	Spotted beebalm	*Monarda punctata*	Nacogdoches
TCW391	8/15/2019	Purple coneflower	*Echinacia sanguinea*	Nacogdoches
TCW392	8/15/2019	Spotted beebalm	*Monarda punctata*	Nacogdoches
TCW393	8/16/2019	Partridge pea	*Chamaecrista fasciculata*	Nacogdoches
TCW395	8/16/2019	Spotted beebalm	*Monarda punctata*	Nacogdoches
TCW397	8/16/2019	Spotted beebalm	*Monarda punctata*	Nacogdoches
Coastal Prairies				
DLJ2	10/8/2018	Liatris acidota	*Liatris acidota*	Victoria
DLJ13	10/30/2018	Liatris acidota	*Liatris acidota*	Goliad
DLJ35	11/2/2018	Coneflower	*Ratibida peduncularis*	Calhoun
DLJ36	11/2/2018	Indian Blanket	*Gaillardia pulchella*	Calhoun
DLJ39	11/2/2018	rattlesnake master	*Eryngium yuccifolium*	Calhoun
DLJ44	11/5/2018	Simpson's Rosinweed	*Silphium simpsonii*	Colorado
DLJ47	11/5/2018	Liatris acidota	*Liatris acidota*	Colorado
DLJ49	11/6/2018	Liatris acidota	*Liatris acidota*	Brazoria

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DLJ50	11/6/2018	Solidago	*Solidago sempervirens*	Brazoria
DLJ54	7/18/2018	White prairie clover	*Dalea candida*	Chambers
DLJ55	10/17/2018	Swamp sunflower	*Helianthus angustifolius*	Chambers
DLJ56	11/6/2018	White top sedge	*Rynchospora colorata*	Chambers
DLJ57	10/18/2018	Liatris pychnostatya	*Liatris Pychnostatya*	Chambers
DLJ58	11/7/2018	Solidago	*Solidago sepervirens*	Calhoun
DLJ59	11/7/2018	Indian Blanket	*Gaillardia pulchella*	Calhoun
DLJ65	11/7/2018	Beebalm	*Monarda citriodora*	Calhoun
DLJ70	11/7/2018	Blue mist flower	*Conoclinium*	Calhoun
DLJ71	11/7/2018	Coneflower	*Ratibida peduncularis*	Calhoun
DLJ72	11/7/2018	rattlesnake master	*Eryngium yuccifolium*	Victoria
DLJ73	11/7/2018	Maximilian Sunflower	*Helianthus maximilliani*	Victoria
DLJ76	11/13/2018	Liatris acidota	*Liatris acidota*	Matagorda
DLJ79	11/13/2018	Swamp sunflower	*Helianthus angustifolius*	Matagorda
DLJ80	11/13/2018	Solidago	*Solidago sempervirens*	Matagorda
DLJ81	11/13/2018	Plains Coreopsis	*Coreopsis*	Matagorda
DLJ89	11/15/2018	Texas Coneflower	*Rudbeckia texana*	Austin
DLJ90	11/15/2018	Liatris Acidota	*Liatris*	Austin
DLJ91	11/15/2018	Rattlesnake master	*Eryngium yuccifolium*	Austin
DLJ92	11/15/2018	Indian plantain	*Arnoglossum*	Austin
DLJ93	11/15/2018	Swamp sunflower	*Helianthus angustifolium*	Austin
DLJ95	11/15/2018	Dog fennel	*Eupotorium*	Austin
DLJ97	11/15/2018	Drummonds Aster	*Symphyotrchum drummondii*	Austin
DLJ98	11/15/2018	Liatris pychnostatya	*Liatris Pychnostatya*	Austin
DLJ100	11/15/2018	Beebalm	*Monarda citriodora*	Austin
DLJ109	11/29/2018	Solidago	*Solidago*	Jackson
DLJ110	11/29/2018	Maximilian Sunflower	*Helianthus maximiliana*	Jackson
DLJ115	12/4/2018	Dog fennel	*Eupotorium*	Victoria
DLJ117	12/4/2018	Heath Aster	*Aster*	DeWitt
DLJ121	12/4/2018	Dog fennel	*Eupotorium*	DeWitt
DLJ125	12/4/2018	Solidago	*Solidago*	DeWitt
DLJ129	12/5/2018	Solidago	*Solidago*	Wharton
DLJ131	12/5/2018	Liatris pychnostatya	*Liatris*	Wharton
DLJ133	12/13/2018	Drummonds Aster	*Symphyotrchum drummondii*	Wharton
DLJ139	12/13/2018	Indigo bush	*Amorpha*	Wharton
DLJ143	1/8/2019	Solidago	*Solidago*	Colorado
DLJ145	3/22/2019	Carolina anemone	*Anemone caroliniana*	Victoria
DLJ146	3/28/2019	Crow's poison	*Nothoscordum bivalve*	Victoria

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DLJ147	3/28/2019	Anemone	*Anemone caroliniana*	Fort Bend
DLJ148	3/28/2019	Mountain mint	*Pycanthemum tenufolium*	Fort Bend
DLJ149	3/28/2019	False Dandelion	*Pyrrhopappus carolinianus*	Fort Bend
DLJ150	4/18/2019	Indian Paintbrush	*Castilleja indivisa*	Jackson
DLJ151	4/18/2019	Simpson's Rosinweed	*Silphium simpsonii*	Jackson
DLJ152	4/18/2019	blue-eyed grass	*Sisrynchium angustifolium*	Victoria
DLJ153	4/18/2019	deer pea vetch	*Vicia ludoviciana*	Victoria
DLJ154	4/18/2019	Simpson's Rosinweed	*Silphium simpsonii*	Victoria
DLJ157	4/18/2019	Tickseed coreopsis	*Coreopsis*	Victoria
DLJ158	4/18/2019	Plains Coreopsis	*Coreopsis tinctoria*	Victoria
DLJ160	4/18/2019	False Dandelion	*Pyrrhopappus carolinianus*	Victoria
DLJ161	4/26/2019	Prairie Nymph	*Herbertia lehue*	Victoria
DLJ162	4/26/2019	Pincushion daisy	*Gaillardia suavis*	Victoria
DLJ163	4/26/2019	Brazoria mint	*Brazoria arenaria*	Victoria
DLJ165	5/6/2019	Obedient plant	*Physostegia virginiana*	Jackson
DLJ166	5/31/2019	Beebalm	*Monarda citriodora*	Victoria
DLJ168	5/31/2019	Indian Blanket	*Gaillardia pulchella*	Victoria
DLJ169	5/31/2019	Prairie Nymph	*Herbertia lehue*	Victoria
DLJ170	5/31/2019	Blackeyed Susan	*Rudbeckia hirta*	Victoria
DLJ171	5/31/2019	Long bracted wild indigo	*Baptisia bracteata*	Victoria
DLJ172	5/31/2019	Prairie parsley	*Polyaenia texana*	Victoria
DLJ173	5/31/2019	Priaire rose gentian	*Sabatia campestris*	Victoria
DLJ174	5/31/2019	Mexican hat	*Ratibida columnifera*	Victoria
DLJ175	5/31/2019	Obedient plant	*Physostegia virginiana*	Victoria
DLJ176	5/17/2019	Yellow Sensitive briar	*Neptunia lutea*	Wharton
DLJ177	5/17/2019	Blackeyed Susan	*Rudbeckia hirta*	Wharton
DLJ178	6/4/2019	Prairie Parsley	*Polytaenia texana*	Austin
DLJ179	6/4/2019	Prairie rose gentian	*Sabatia campestris*	Austin
DLJ180	6/4/2019	Sensitive briar	*Neptunia lutea*	Austin
DLJ181	6/4/2019	Obedient plant	*Physostegia virginiana*	Austin
DLJ182	6/4/2019	Simpson's rosinweed	*Silphium simpsonii*	Austin
DLJ183	6/23/2019	Hoary Pea	*Tephrosia onobrichodes*	Victoria
Central Texas				
KNH 1	5/7/2019	Indian paintbrush	*Castilleja*	Palo pinto
KNH 2	5/7/2019	Indian paintbrush	*Castilleja*	Palo pinto
KNH 3	5/14/2019	Downy Indian paintbrush	*Castilleja purpurea*	Hamilton
KNH 4	5/14/2019	Fragrant Gailardia	*Gaillardia suavis*	Erath
KNH 5	5/14/2019	Fragrant Gailardia	*Gaillardia suavis*	Erath

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SZ 1	6/3/2019	Downy Indian paintbrush	*Castilleja purpurea*	Erath
SZ 2	6/3/2019	Stiff greenthread	*Thelesperma filifolium*	Erath
SZ 3	6/3/2019	Texas sage	*Leucophyllum frutescens*	Erath
KNH 6	6/12/2019	Antelopehorn milkweed	*Asclepias asperula*	Erath
KNH 7	6/12/2019	Antelopehorn milkweed	*Asclepias asperula*	Erath
KNH 8	6/12/2019	Engelmann's daisy	*Engelmannia peristenia*	Hamilton
KNH 9	6/12/2019	Fragrant Gailardia	*Gaillardia suavis*	Erath
KNH 10	6/12/2019	Indian blanket	*Gaillardia pulchella*	Hamilton
KNH 11	6/12/2019	Redseed plantain	*Plantago rhodosperma*	Erath
KNH 12	6/12/2019	Redseed plantain	*Plantago rhodosperma*	Hamilton
KNH 13	6/12/2019	Redseed plantain	*Plantago rhodosperma*	Hamilton
KNH 14	6/12/2019	Showy evening primrose	*Oenothera speciosa*	Erath
KNH 15	6/12/2019	Stiff greenthread	*Thelesperma filifolium*	Hamilton
KNH 16	6/12/2019	Texas sage	*Leucophyllum frutescens*	Hamilton
KNH 17	6/12/2019	Texas skeleton	*Lygodesmia texana*	Erath
KNH 18	6/12/2019	Texas skeleton	*Lygodesmia texana*	Erath
KNH 19	6/12/2019	Texas skeleton	*Lygodesmia texana*	Hamilton
KNH 20	6/12/2019	Texas thistle	*Cirsium texanum*	Erath
KNH 21	6/12/2019	Texas vervain	*verbena halei small*	Erath
KNH 22	6/12/2019	Yellow texas star	*Lindheimera texana*	Hamilton
KNH 23	6/12/2019	Yellow texas star	*Lindheimera texana*	Hamilton
KNH 24	6/17/2019	Antelopehorn milkweed	*Asclepias asperula*	Erath
KNH 25	6/17/2019	Indian blanket	*Gaillardia pulchella*	Erath
KNH 26	6/17/2019	Stiff greenthread	*Thelesperma filifolium*	Erath
KNH 27	6/17/2019	Texas sage	*Leucophyllum frutescens*	Erath
FY 2020				
Grasses				
West Texas				
CSS701	10/22/2019	Alkali sacaton	*Sporobolus airoides*	Brewster
CSS702	11/20/2019	Alkali sacaton	*Sporobolus airoides*	Eddy County NM
CSS703	11/20/2019	Mesa dropseed	*Sporobolus flexuosus*	Culberson
HCS007	11/8/2019	Spike dropseed	*Sporobolus contractus*	Hudspeth
HCS008	11/8/2019	Spike dropseed	*Sporobolus contractus*	Hudspeth
HCS009	11/8/2019	Giant sacaton	*Sporobolus wrightii*	Hudspeth
HDM004	10/8/2019	Mesa dropseed	*Sporobolus flexuosus*	Hudspeth
HDM005	10/25/2019	False Rhodes grass	*Trichloris crinita*	Hudspeth
HDM009	4/23/2020	Fluffgrass	*Dasyochloa pulchella*	Presidio

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HDM011	5/15/2020	Plains Bristlegrass	*Setaria leucopila*	Culberson
HDM015	6/9/2020	Canada Wildrye	*Elymus canadensis*	Terrell
HDM020	6/18/2020	Canada Wildrye	*Elmyus canadensis*	Reagan
HDM021	7/8/2020	Tumble Windmill grass	*Chloris verticullata*	Coke
HDM022	7/8/2020	Canada Wildrye	*Elmyus canadensis*	Coke
HDM023	7/8/2020	Plains Bristlegrass	*Setaria leucopila*	Pecos
HDM024	7/8/2020	Canada Wildrye	*Elmyus canadensis*	Irion
HDM025	7/8/2020	Vine Mesquite	*Panicum obtusum*	Reagan
HDM043	7/17/2020	Alkali Sacaton	*Sporobolus airoides*	Hudspeth
HDM044	7/17/2020	Mexican Feathergrass	*Nassella tenuissima*	Jeff Davis
HDM045	7/17/2020	Bullgrass	*Muhlenbergia emersleyi*	Jeff Davis
BCM004	7/15/2020	Hairy Tridens	*Erioneuron pilosum*	Uvalde
BCM005	7/22/2020	Canada Wildrye	*Elmyus canadensis*	Terrell
BCM006	7/22/2020	Plains Bristlegrass	*Setaria leucopila*	Terrell
BCM007	7/22/2020	Six Weeks Grama	*Bouteloua barbata*	Terrell
BCM008	7/30/2020	Arizona Cottontop	*Digitaria californica*	Terrell
BCM009	7/30/2020	Hairy Tridens	*Erioneuron pilosum*	Terrell
BCM010	7/30/2020	Hairy Grama	*Bouteloua hirsuta*	Terrell
BCM011	7/30/2020	Canada Wildrye	*Erioneuron pilosum*	Pecos
SRL284	9/8/2019	Switchgrass (Upland)	*Panicum virgatum*	Dawson
SRL285	9/8/2019	Switchgrass (Upland)	*Panicum virgatum*	Martin
SRL286	9/8/2019	Indiangrass	*Sorghastrum nutans*	Martin
SRL287	9/8/2019	Sand Bluestem	*Andropogon hallii*	Martin
SRL288	9/8/2019	Little Bluestem	*Schizachyrium scoparium*	Martin
SRL291	9/12/2019	Saltgrass	*Distichlis spicata*	Martin
SRL294	9/21/2019	gummy lovegrass	*Eragrostis curtipedicellata*	Curry, NM
SRL297	10/1/2019	indiangrass	*Sorghastrum nutans*	Gray
SRL298	10/1/2019	little bluestem	*Schizachyrium scoparium*	Gray
SRL301	10/1/2019	switchgrass (upland)	*Panicum virgatum*	Gray
SRL302	10/1/2019	Sand Bluestem	*Andropogon hallii*	Gray
SRL303	10/1/2019	switchgrass (upland)	*Panicum virgatum*	Gray
SRL304	10/1/2019	indiangrass	*Sorghastrum nutans*	Gray
SRL305	10/1/2019	Canada wildrye	*Elmyus canadensis*	Gray
SRL306	10/1/2019	Sand Bluestem	*Andropogon hallii*	Gray
SRL307	10/1/2019	gummy lovegrass	*Eragrostis curtipedicellata*	Donley
SRL308	10/2/2019	blue grama	*Bouteloua gracilis*	Dallam
SRL309	10/2/2019	switchgrass (upland)	*Panicum virgatum*	Dallam
SRL310	10/2/2019	little bluestem	*Schizachyrium scoparium*	Dallam
SRL311	10/2/2019	big bluestem	*Andropogon gerardii*	Dallam
SRL312	10/2/2019	western wheatgrass	*Pascopyrum smithii*	Dallam

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SRL313	10/2/2019	Canada wildrye	*Elmyus canadensis*	Dallam
SRL314	10/2/2019	western wheatgrass	*Pascopyrum smithii*	Dallam
SRL316	10/2/2019	western wheatgrass	*Pascopyrum smithii*	Cimmaron, OK
SRL317	10/2/2019	Sand Bluestem	*Andropogon hallii*	Cimmaron, OK
SRL319	10/3/2019	indiangrass	*Sorghastrum nutans*	Potter
SRL321	10/3/2019	Sand Bluestem	*Andropogon hallii*	Hartley
SRL323	10/3/2019	Canada wildrye	*Elmyus canadensis*	Hartley
SRL324	10/3/2019	western wheatgrass	*Pascopyrum smithii*	Hartley
SRL326	10/17/2019	Arizona Cottontop	*Digitaria californica*	Ector
SRL327	11/16/2019	Sand Bluestem	*Andropogon hallii*	Foard
SRL328	11/16/2019	Sand Bluestem	*Andropogon hallii*	Hardeman
SRL329	11/16/2019	Little Bluestem	*Schizachyrium scoparium*	Hardeman
SRL334	11/20/2019	Little Bluestem	*Schizachyrium scoparium*	Eddy Co, NM
SRL335	11/20/2019	Sand Bluestem	*Andropogon hallii*	Eddy Co, NM
SRL336	12/15/2019	Plains Lovegrass	*Eragrostis intermedia*	Mason
SRL339	5/14/2020	Fall witchgrass	*Digitaria cognata*	Midland
SRL341	5/14/2020	Foxtail Barley	*Horedum jubatum*	Gaines
SRL344	5/14/2020	Foxtail Barley	*Horedum jubatum*	Gaines
SRL349	5/15/2020	Reverchon's bristlegrass	*Setaria reverchonii*	Mitchell
SRL350	5/15/2020	Buffalograss	*Bouteloua dactyloides*	Mitchell
SRL352	5/15/2020	Reverchon's bristlegrass	*Setaria reverchonii*	Mitchell
SRL354	5/15/2020	Texas grama	*Bouteloua rigidiseta*	Howard
SRL356	5/21/2020	Reverchon's bristlegrass	*Setaria reverchonii*	Mitchell
SRL357	5/21/2020	Texas grama	*Bouteloua rigidiseta*	Mitchell
SRL361	5/21/2020	Texas grama	*Bouteloua rigidiseta*	Mitchell
SRL367	6/19/2020	Canada Wildrye	*Elymus canadensis*	Kendall
SRL368	6/19/2020	Canada Wildrye	*Elymus canadensis*	Kerr
SRL369	6/19/2020	Canada Wildrye	*Elymus canadensis*	Kimble
SRL370	6/19/2020	Canada Wildrye	*Elymus canadensis*	Reagan
SRL371	6/26/2020	Canada Wildrye	*Elymus canadensis*	Sterling
SRL373	6/26/2020	Canada Wildrye	*Elymus canadensis*	Tom Green
SRL374	6/29/2020	Virginia Wildrye	*Elymus virginicus*	Menard
East Texas				
TCW401	9/12/2019	Beaked panicum	*Panicum anceps*	Montgomery
TCW402	9/12/2019	Inland seaoats	*Chasmanthium latifolium*	Montgomery
TCW403	9/13/2019	Sideoats grama	*Bouteloua curtipendula*	Lee
TCW406	9/13/2019	Canada wildrye	*Elymus canadensis*	Lee
TCW410	9/13/2019	Inland seaoats	*Chasmanthium latifolium*	Grimes
TCW411	9/12/2019	Longleaf uniola	*Chasmanthium sessiliflorum*	Houston

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TCW412	9/12/2019	Inland seaoats	*Chasmanthium latifolium*	Houston
TCW414	9/12/2019	Inland seaoats	*Chasmanthium latifolium*	Walker
TCW415	9/19/2019	Florida paspalum	*Paspalum floridanum*	Lamar
TCW417	11/4/2019	Purpletop tridens	*Tridens flavus*	Polk
TCW418	11/4/2019	Longspike tridens	*Tridens strictus*	Polk
TCW419	11/4/2019	Longspike tridens	*Tridens strictus*	Liberty
TCW420	11/4/2019	Bushy bluestem	*Andropogon glomertus*	Liberty
TCW421	11/4/2019	Longspike tridens	*Tridens strictus*	Liberty
TCW422	11/4/2019	Purpletop tridens	*Tridens flavus*	Polk
TCW423	11/5/2019	Longspike tridens	*Tridens strictus*	Jasper
TCW424	11/5/2019	Purple lovegrass	*Eragrostis spectabilis*	Newton
TCW426	11/5/2019	Pineywoods dropseed	*Sporoblous junceus*	Newton
TCW428	11/5/2019	Splitbeard bluestem	*Andropogon ternarius*	Newton
TCW430	11/5/2019	Purpletop tridens	*Tridens flavus*	Newton
TCW431	11/5/2019	Gulf muhly	*Muhlenbergia capillaris*	Jasper
TCW434	11/5/2019	Little bluestem	*Schizachyrium scoparium*	Newton
TCW435	11/5/2019	Beaked panicum	*Panicum anceps*	Newton
TCW436	11/5/2019	Big bluestem	*Andropogon gerardii*	Newton
TCW437	11/5/2019	Beaked panicum	*Panicum anceps*	Newton
TCW438	11/5/2019	Longspike tridens	*Tridens strictus*	Newton
TCW439	11/5/2019	Bushy bluestem	*Andropogon glomertus*	Newton
TCW441	11/5/2019	Purpletop tridens	*Tridens flavus*	Newton
TCW442	11/5/2019	Longspike tridens	*Tridens strictus*	Newton
TCW444	11/5/2019	Gulf muhly	*Muhlenbergia capillaris*	Newton
TCW445	11/5/2019	Purple lovegrass	*Eragrostis spectabilis*	Newton
TCW446	11/5/2019	Purple lovegrass	*Eragrostis spectabilis*	Newton
TCW447	11/14/2019	Canada wildrye	*Elymus canadensis*	Bowie
TCW449	11/14/2019	Purpletop tridens	*Tridens flavus*	Morris
TCW451	11/14/2019	Indiangrass	*Sorghastrum nutans*	Bowie
TCW453	11/14/2019	Eastern gammagrass	*Tripsacum dactyloides*	Bowie
TCW454	11/14/2019	Purpletop tridens	*Tridens flavus*	Bowie
TCW455	11/14/2019	Longspike tridens	*Tridens strictus*	Bowie
TCW456	11/14/2019	Purpletop tridens	*Tridens flavus*	Upshur
TCW457	11/14/2019	Purpletop tridens	*Tridens flavus*	Bowie
TCW458	11/14/2019	Longspike tidens	*Tridens strictus*	Red River
TCW459	11/14/2019	Eastern gammagrass	*Tripsacum dactyloides*	Bowie
TCW460	11/18/2019	Arrowfeather Threeawn	*Aristida purpurascens*	Hardin
TCW462	11/18/2019	Pineywoods dropseed	*Sporoblous junceus*	Hardin
TCW463	11/18/2019	Little bluestem	*Schizachyrium scoparium*	Hardin
TCW464	11/18/2019	Big bluestem	*Andropogon gerardii*	Hardin

Collector ID	Date	Common Name	Scientific name	County
TCW465	11/18/2019	Splitbeard bluestem	*Andropogon ternarius*	Hardin
TCW466	11/20/2019	Bushy bluestem	*Andropogon glomertus*	Angelina
TCW468	11/20/2019	Bigtop lovegrass	*Eragrostis hirsuta*	Angelina
TCW471	11/20/2019	Arrowfeather Threeawn	*Aristida purpurascens*	Angelina
TCW472	11/20/2019	Bushy bluestem	*Andropogon glomertus*	Angelina
TCW473	11/20/2019	Bushy bluestem	*Andropogon glomertus*	Angelina
TCW474	11/20/2019	Beaked panicum	*Panicum anceps*	Angelina
TCW475	11/20/2019	Longspike tridens	*Tridens strictus*	Angelina
TCW476	11/20/2019	Little bluestem	*Schizachyrium scoparium*	Angelina
TCW477	11/20/2019	Purpletop tridens	*Tridens flavus*	Angelina
TCW478	11/20/2019	Purpletop tridens	*Tridens flavus*	Angelina
TCW479	11/20/2019	Inland seaoats	*Chasmanthium latifolium*	Angelina
TCW480	11/20/2019	Broomsedge bluestem	*Andropogon virginicus*	Angelina
TCW481	11/20/2019	Arrowfeather Threeawn	*Aristida purpurascens*	Angelina
TCW482	11/20/2019	Purpletop tridens	*Tridens flavus*	Angelina
TCW483	11/20/2019	Beaked panicum	*Panicum anceps*	Angelina
TCW485	11/20/2019	Longleaf uniola	*Chasmanthium sessiliflorum*	Angelina
TCW486	11/20/2019	Little bluestem	*Schizachyrium scoparium*	Angelina
TCW487	12/4/2019	Splitbeard bluestem	*Andropogon ternarius*	Cass
TCW488	12/4/2019	Big bluestem	*Andropogon gerardii*	Bowie
TCW489	12/4/2019	Longspike tridens	*Tridens strictus*	Marion
TCW490	12/4/2019	Purpletop tridens	*Tridens flavus*	Marion
TCW491	12/4/2019	Splitbeard bluestem	*Andropogon ternarius*	Marion
TCW492	12/4/2019	Old Field Threeawn	*Aristida oligantha*	Bowie
TCW493	12/4/2019	Longspike tridens	*Tridens strictus*	Bowie
TCW494	12/4/2019	Splitbeard bluestem	*Andropogon ternarius*	Bowie
TCW495	12/9/2019	Purpletop tridens	*Tridens flavus*	Trinity
TCW503	12/5/2019	Longspike tridens	*Tridens strictus*	Sabine
TCW504	12/5/2019	Longspike tridens	*Tridens strictus*	Sabine
TCW505	11/29/2019	Longspike tridens	*Tridens strictus*	Hardin
TCW506	12/2/2019	Longspike tridens	*Tridens strictus*	Houston
TCW507	12/2/2019	Longspike tridens	*Tridens strictus*	Trinity
TCW508	11/25/2019	Longspike tridens	*Tridens strictus*	San Augustine
TCW512	11/27/2019	Longspike tridens	*Tridens strictus*	Sabine
TCW513	11/20/2019	Longspike tridens	*Tridens strictus*	Jasper
TCW514	11/25/2019	Longspike tridens	*Tridens strictus*	San Augustine
TCW521	8/18/2020	Virginia wildrye	*Elymus virginicus*	Trinity
TCW524	8/19/2020	Canada wildrye	*Elymus canadensis*	Lamar
TCW525	8/19/2020	Virginia wildrye	*Elymus virginicus*	Lamar
TCW526	8/19/2020	Virginia wildrye	*Elymus virginicus*	Red River

Collector ID	Date	Common Name	Scientific name	County
TCW527	8/19/2020	White tridens	*Tridens albescens*	Lamar
TCW529	8/19/2020	Virginia wildrye	*Elymus virginicus*	Upshur
TCW532	8/19/2020	Florida paspalum	*Paspalum floridanum*	Titus
Coastal Prairies				
DLJ192	10/15/2019	Gaping panicum	*Steinchisma hians*	Lavaca
DLJ194	10/21/2019	Thin paspalum	*Paspalum setaceum*	Victoria
DLJ204	10/25/2019	Gulf muhly	*Muhlenbergia cappilaris*	Matagorda
DLJ207	10/29/2019	Gulf muhly	*Muhlenbergia cappilaris*	austin
DLJ209	10/29/2019	Gulf muhly	*Muhlenbergia cappilaris*	Fort Bend
DLJ212	10/30/2019	Gulf muhly	*Muhlenbergia cappilaris*	Harris
DLJ214	10/30/2019	Gaping panicum	*Steinchisma hians*	Harris
DLJ216	10/30/2019	Florida paspalum	*Paspalum floridana*	Harris
DLJ217	10/30/2019	Purple lovegrass	*Erograstos spectabilus*	Harris
DLJ218	10/30/2019	Longspike tridens	*Tridens stricta*	Harris
DLJ219	10/30/2019	Thin paspalum	*Paspalum setaceum*	Harris
DLJ220	10/30/2019	Canada wildrye	*Euonymus canadensis*	Harris
DLJ255	11/4/2019	Purpletop	*Tridens flavus*	Chambers
DLJ247	11/4/2019	Bushy bluestem	*Andropogon glomeratus*	Chambers
DLJ221	11/4/2019	Purple lovegrass	*Eragrostos spectabilis*	Chambers
DLJ223	11/4/2019	Bushy bluestem	*Andropogon glomeratus*	Chambers
DLJ224	11/4/2019	Longspike tridens	*Tridens strictus*	Chambers
DLJ251	11/4/2019	Longspike tridens	*Tridens strictus*	Chambers
DLJ252	11/4/2019	Bushy bluestem	*Andropogon glomeratus*	Chambers
DLJ254	11/4/2019	Gulf muhly	*Muhlenbergia cappilaris*	Chambers
DLJ248	11/4/2019	Bushy bluestem	*Andropogon glomeratus*	Jefferson
DLJ249	11/4/2019	Little bluestem	*Schizachyrium scoparium*	Chambers
DLJ250	11/4/2019	Longspike tridens	*Tridens strictus*	Jefferson
DLJ230	11/4/2019	Gulf muhly	*Muhlenbergia cappilaris*	Jefferson
DLJ246	11/4/2019	Little bluestem	*Schizachryrium scparium*	Chambers
DLJ231	11/5/2019	Bushy bluestem	*Andropogon gerardii*	Orange
DLJ256	11/5/2019	Red lovegrass	*Eragrostis secundiflora*	Orange
DLJ245	11/5/2019	Bushy bluestem	*Andropogon glomeratus*	Orange
DLJ253	11/5/2019	Purple lovegrass	*Eragrostis spectabilis*	Orange
DLJ234	11/5/2019	Gulf muhly	*Muhlenbergia cappilaris*	Jefferson
DLJ235	11/5/2019	Big bluestem	*Andropogon gerardii*	Jefferson
DLJ237	11/5/2019	Bushy bluestem	*Andropogon glomeratus*	Jefferson
DLJ238	11/5/2019	Purple lovegrass	*Eragrostis spectabilis*	Jefferson
DLJ239	11/5/2019	Longspike tridens	*Tridens stricta*	Jefferson
DLJ258	11/8/2019	Red lovegrass	*Eragrostis secundiflora*	Jackson

Collector ID	Date	Common Name	Scientific name	County
DLJ259	11/8/2019	Purpletop	*Tridens flavus*	Jackson
DLJ261	11/8/2019	Purple lovegrass	*Eragrostis spectabilis*	Jackson
DLJ262	11/8/2019	Longspike tridens	*Tridens flavus*	Jackson
DLJ265	11/8/2019	Gulfdune paspalum	*Paspalum monostachyum*	Jackson
DLJ267	11/14/2019	Purple lovegrass	*Eragrostis spectabilis*	Victoria
DLJ288	11/17/2019	Bigbluestem	*Andropogon gerardii*	Matagorda
DLJ289	11/19/2019	Sideoats grama	*Bouteloua curtinpendula*	Austin
DLJ270	11/20/2019	Big bluestem	*Andropogon gerardii*	Fort Bend
DLJ271	11/22/2019	Big bluestem	*Andropogon gerardii*	Lavaca
DLJ272	11/22/2019	Sideoats grama	*Bouteloua curtipendula*	Lavaca
DLJ273	11/25/2019	Splitbeard bluestem	*Andropogon ternarius*	Austin
DLJ274	11/25/2019	Big bluestem	*Andropogon gerardii*	Austin
DLJ275	11/25/2019	Purple lovegrass	*Eragrostis spectabilis*	Austin
DLJ276	11/25/2019	Longspike tridens	*Tridens stricta*	Austin
DLJ278	11/25/2019	Little blueste,	*Schizachyrium scoparium*	Washington
DLJ279	11/25/2019	Yellow indiangrass	*Sorgastrum nutans*	Washington
DLJ280	11/25/2019	Switchgrass	*Panicum virgatum*	Washington
DLJ282	12/3/2019	Gaping panicum	*Steinchisma hians*	Jackson
DLJ283	12/3/2019	Purpletop	*Tridens flavus*	Jackson
DLJ284	1/1/2020	Longspike tridens	*Tridens stricta*	Galveston
DLJ285	1/2/2020	Gulf muhly	*Muhlenbergia cappilaris*	Galveston
DLJ286	1/29/2020	Bushy bluestem	*Andropogon glomeratus*	Fort Bend
DLJ288	11/17/2019	Bigbluestem	*Andropogon gerardii*	Matagorda
DLJ289	11/19/2019	Sideoats grama	*Bouteloua curtinpendula*	Austin
DLJ293	8/13/2020	Thin paspalum	*Paspalum setaceum*	Lavaca
Central Texas				
KNH36	5/13/2020	Texas grama	*Bouteloua rigidiseta*	Erath
KNH44	5/18/2020	Texas grama	*Bouteloua rigidiseta*	Young
KNH49	5/18/2020	Canda Wildrye	*Elymus canadensis*	Palo Pinto
KNH52	5/22/2020	Texas grama	*Bouteloua rigidiseta*	McLennan
KNH57	6/3/2020	Canada wildrye	*Elymus canadensis*	Erath
KNH58	6/3/2020	Canada wildrye	*Elymus canadensis*	Eastland
KNH 64	6/8/2020	Texas grama	*Bouteloua rigidiseta*	Erath
KNH73	7/17/2020	Silver bluestem	*Bothriochloa saccharoides*	Coryell
KNH74	7/17/2020	Canada wildrye	*Elymus canadensis*	Comanche
KNH78	7/23/2020	Texas grama	*Bouteloua rigidiseta*	Tarrant
KNH79	7/23/2020	Canada wildrye	*Elymus canadensis*	Tarrant
KNH81	7/23/2020	Canada wildrye	*Elymus canadensis*	Johnson
KNH84	7/28/2020	Canada wildrye	*Elymus canadensis*	Young

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KNH85	7/28/2020	Canada wildrye	*Elymus canadensis*	Young
KNH86	7/28/2020	Canada wildrye	*Elymus canadensis*	Young
KNH87	7/28/2020	Hooded windmill		Young
KNH89	7/28/2020	Canada wildrye	*Elymus canadensis*	Palo Pinto
KNH90	7/28/2020	Canada wildrye	*Elymus canadensis*	Palo Pinto
KNH91	7/28/2020	Canada wildrye	*Elymus canadensis*	Palo Pinto
KNH92	7/28/2020	Virginia wildrye	*Elymus virginiana*	Palo Pinto
KNH93	7/28/2020	Canada wildrye	*Elymus canadensis*	Palo Pinto
JRB129	1/24/2020	Virginia wildrye	*Elymus virginiana*	Erath
JRB130	1/24/2020	Splitbeard bluestem	*Andropogon ternarius*	Erath
JRB131	1/24/2020	Canada wildrye	*Elymus canadensis*	Erath
JRB134	6/25/2020	Canada wildrye	*Elymus canadensis*	McCulloch
JRB135	6/25/2020	Canada wildrye	*Elymus canadensis*	McCulloch
Forbs				
West Texas				
CSS704	11/22/2019	Dotted Gayfeather	*Liatris punctata*	Jeff Davis
HDM006	4/23/2020	Big Bend Bluebonnet	*Lupinus havardii*	Brewster
HDM007	4/23/2020	Big Bend Bluebonnet	*Lupinus havardii*	Presidio
HDM008	4/23/2020	Big Bend Bluebonnet	*Lupinus havardii*	Presidio
HDM010	5/8/2020	Hartweg's sundrops	*Calylophus hartwegii*	Presidio
HDM012	5/15/2020	Hartweg's sundrops	*Calylophus hartwegii*	Presidio
HDM013	6/9/2020	Antelope Horns	*Asclepias asperula*	Terrell
HDM014	6/9/2020	Antelope Horns	*Asclepias asperula*	Pecos
HDM016	6/9/2020	Antelope Horns	*Asclepias asperula*	Terrell
HDM018	6/18/2020	Awnless Bush Sunflower	*Simsia calva*	Irion
HDM019	6/18/2020	Cooley Bundleflower	*Desmanthus cooleyi*	Irion
HDM026	7/8/2020	Awnless Bush Sunflower	*Simsia calva*	Irion
HDM027	7/8/2020	Awnless Bush Sunflower	*Simsia calva*	Sterling
HDM028	7/8/2020	Mealy Sage	*Salvia farinacea*	Irion
HDM029	7/8/2020	Upright Prairie Coneflower	*Ratibida columnifera*	Coke
HDM030	7/8/2020	Upright Prairie Coneflower	*Ratibida columnifera*	Reagan
HDM031	7/8/2020	Upright Prairie Coneflower	*Ratibida columnifera*	Tom Green
HDM032	7/15/2020	Upright Prairie Coneflower	*Ratibida columnifera*	Presidio
HDM033	7/15/2020	Rayless Greenthread	*Thelesperma megapotamicum*	Presidio
HDM034	7/15/2020	Engelmann Daisy	*Engelmannia peristenia*	Brewster
HDM035	7/15/2020	Engelmann Daisy	*Engelmannia peristenia*	Presidio

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HDM036	7/15/2020	Engelmann Daisy	*Engelmannia peristenia*	Presidio
HDM037	7/17/2020	Engelmann Daisy	*Engelmannia peristenia*	Presidio
HDM038	7/17/2020	Upright Prairie Coneflower	*Ratibida columnifera*	Culberson
HDM039	7/17/2020	Upright Prairie Coneflower	*Ratibida columnifera*	Presidio
HDM040	7/17/2020	Upright Prairie Coneflower	*Ratibida columnifera*	Hudspeth
HDM041	7/17/2020	Bract Milkweed	*Asclepias brachystephana*	Hudspeth
HDM042	7/17/2020	Gyp Indian Blanket	*Gaillardia multiceps*	Hudspeth
HCS007	6/5/2020	Antelope Horns	*Asclepias asperula*	Presidio
HCS008	6/5/2020	Blanket Flower	*Gaillardia spp.*	Presidio
HCS009	6/5/2020	Horsemint	*Monarda spp.*	Presidio
HCS010	6/5/2020	Bract Milkweed	*Asclepias brachystephana*	Presidio
HCS011	6/5/2020	Antelope Horns	*Asclepias asperula*	Presidio
HCS012	6/5/2020	Broadleaf Milkweed	*Asclepias latifolia*	Presidio
HCS013	6/9/2020	Bract Milkweed	*Asclepias brachystephana*	Terrell
HCS014	6/9/2020	Cooley Bundleflower	*Desmanthus cooleyi*	Terrell
HCS015	6/9/2020	Engelmann Daisy	*Engelmannia peristenia*	Terrell
HCS016	6/9/2020	Zizotes Milkweed	*Asclepias oenotheroides*	Terrell
HCS017	6/11/2020	Upright Prairie Coneflower	*Ratibida columnifera*	Pecos
HCS018	6/11/2020	Upright Prairie Coneflower	*Ratibida columnifera*	Brewster
HCS019	6/11/2020	Upright Prairie Coneflower	*Ratibida columnifera*	Pecos
HCS020	6/11/2020	Red Dome Gaillardia	*Gaillardia pinnatifida*	Brewster
HCS021	6/18/2020	Engelmann Daisy	*Engelmannia peristenia*	Irion
HCS022	6/18/2020	Upright Prairie Coneflower	*Ratibida columnifera*	Irion
BCM001	6/3/2020	Engelmann Daisy	*Engelmannia peristenia*	Terrell
BCM002	6/3/2020	Engelmann Daisy	*Engelmannia peristenia*	Terrell
BCM003	6/3/2020	Hartweg's sundrops	*Calylophus hartwegii*	Brewster
CSS705	11/20/2019	Four-wing Saltbush	*Atriplex canescens*	Culberson
CSS706	10/25/2019	Four-wing Saltbush	*Atriplex canescens*	Culberson
HCS007	11/8/2019	Four-wing Saltbush	*Atriplex canescens*	Hudspeth
HCS008	11/8/2019	Four-wing Saltbush	*Atriplex canescens*	Hudspeth
SRL289	9/8/2019	Fendler's Penstemon	*Penstemon fendlerii*	Scurry
SRL290	9/8/2019	Purple prairie coneflower	*Echinacea angustifolia*	Borden
SRL292	9/21/2019	Purple prairie coneflower	*Echinacea purpurea*	Lamb
SRL293	9/21/2019	penstemon	*Penstemon*	Curry, NM
SRL295	9/30/2019	penstemon	*Penstemon*	Swisher

Collector ID	Date	Common Name	Scientific name	County
SRL296	10/1/2019	Purple prairie coneflower	*Echinacea purpurea*	Gray
SRL299	10/1/2019	dalea	*Dalea*	Gray
SRL300	10/1/2019	penstemon	*Penstemon*	Gray
SRL315	10/2/2019	plains ironweed	*Vernonia marginata*	Dallam
SRL318	10/3/2019	Purple prairie coneflower	*Echinacea purpurea*	Potter
SRL320	10/3/2019	Purple prairie coneflower	*Echinacea purpurea*	Moore
SRL322	10/3/2019	Purple prairie coneflower	*Echinacea purpurea*	Hartley
SRL325	10/3/2019	Purple prairie coneflower	*Echinacea purpurea*	Hartley
SRL330	11/16/2019	gayfeather	*Liatris punctata*	Jackson, OK
SRL331	11/16/2019	Gayfeather	*Liatris punctata*	Hardeman
SRL332	11/18/2019	Gayfeather	*Liatris punctata*	Andrews
SRL333	11/20/2019	Gayfeather	*Liatris punctata*	Andrews
SRL337	5/4/2020	Texas Indian Painbrush	*Castilleja indivisa*	Burnet
SRL338	5/6/2020	Purfumeball	*Gaillardia suavis*	Stonewall
SRL340	5/14/2020	Four-Nerve Daisy	*Tetraneuris scaposa*	Andrews
SRL343	5/14/2020	Four-Nerve Daisy	*Tetraneuris scaposa*	Gaines
SRL345	5/15/2020	Purfumeball	*Gaillardia suavis*	Sterling
SRL346	5/15/2020	Texas Indian Painbrush	*Castilleja indivisa*	Sterling
SRL347	5/15/2020	Texas Sage	*Salvia texana*	Sterling
SRL348	5/15/2020	Purfumeball	*Gaillardia suavis*	Sterling
SRL351	5/15/2020	Texas Sage	*Salvia texana*	Mitchell
SRL353	5/15/2020	Purfumeball	*Gaillardia suavis*	Mitchell
SRL355	5/15/2020	Purfumeball	*Gaillardia suavis*	Howard
SRL358	5/21/2020	Penstemon	*Penstemon*	Mitchell
SRL359	5/21/2020	Red dome gaillardia	*Gaillardia pinnatifida*	Mitchell
SRL360	5/21/2020	Texas sage	*Salvia texana*	Mitchell
SRL362	6/6/2020	Englemann's daisy	*Englemannia peristenia*	Upton
SRL363	6/7/2020	Englemann's daisy	*Englemannia peristenia*	Midland
SRL364	6/7/2020	Englemann's daisy	*Englemannia peristenia*	Howard
SRL365	6/7/2020	Englemann's daisy	*Englemannia peristenia*	Glasscock
SRL366	6/7/2020	Dwarf prairie clover	*Dalea nana*	Glasscock
SRL372	6/26/2020	Lemon beebalm	*Monarda citriodora*	Sterling
SRL342	5/14/2020	Feather Dalea	*Dalea formosa*	Gaines
East Texas				
TCW413	9/12/2019	Spotted beebalm	*Mondarda punctata*	Walker
TCW404	9/13/2019	Spotted beebalm	*Mondarda punctata*	Bastrop
TCW405	9/13/2019	Spotted beebalm	*Mondarda punctata*	Fayette
TCW407	9/13/2019	Spotted beebalm	*Mondarda punctata*	Washington
TCW408	9/13/2019	Spotted beebalm	*Mondarda punctata*	Washington

Collector ID	Date	Common Name	Scientific name	County
TCW409	9/13/2019	Spotted beebalm	*Mondarda punctata*	Grimes
TCW499	10/16/2019	Rattlesnake master	*Eryngium yuccifolium*	Houston
TCW425	11/5/2019	Kansas gayfeather	*Liatris pychnostachya*	Newton
TCW427	11/5/2019	Mountain mint	*Pycnanthemum tenuifolium*	Newton
TCW429	11/5/2019	Mistflower	*Conoclinium coelestinum*	Newton
TCW432	11/5/2019	Coneflower	*Echinacea spp*	Newton
TCW433	11/5/2019	Purple sage	*Salvia dorrii*	Newton
TCW416	10/29/2019	Rattlesnake master	*Eryngium yuccifolium*	Montgomery
TCW443	11/5/2019	Indian plantain	*Arnoglossum plantagineum*	Newton
TCW448	11/14/2019	Spotted beebalm	*Monarda punctata*	Upshur
TCW450	11/14/2019	Black eyed Susan	*Rudbeckia hirta*	Upshur
TCW452	11/14/2019	Black eyed susan	*Rudbeckia hirta*	Morris
TCW461	11/18/2019	Liatris elegans	*Liatris elegans*	Hardin
TCW467	11/20/2019	Liatris elegans	*Liatris elegans*	Angelina
TCW469	11/20/2019	Kansas gayfeather	*Liatris pychnostachya*	Angelina
TCW470	11/20/2019	Coneflower	*Echinacea spp*	Angelina
TCW484	11/20/2019	Black eyed susan	*Rudbeckia hirta*	Angelina
TCW497	10/29/2019	Rattlesnake master	*Eryngium yuccifolium*	Walker
TCW440	11/5/2019	Rattlesnake master	*Eryngium yuccifolium*	Newton
TCW335	11/21/2018	Rattlesnake master	*Eryngium yuccifolium*	Jasper
TCW510	11/21/2019	Rattlesnake master	*Eryngium yuccifolium*	San Augustine
TCW511	11/21/2019	Rattlesnake master	*Eryngium yuccifolium*	San Augustine
TCW509	11/25/2019	Rattlesnake master	*Eryngium yuccifolium*	San Augustine
TCW502	12/5/2019	Roundleaf thoroughwort	*Eupatorium rotundifolia*	Sabine
TCW500	12/2/2019	Rattlesnake master	*Eryngium yuccifolium*	Houston
TCW501	12/5/2019	Rattlesnake master	*Eryngium yuccifolium*	Sabine
TCW496	12/9/2019	Rattlesnake master	*Eryngium yuccifolium*	Trinity
TCW518	8/19/2020	Great coneflower	*Rudbeckia maxima*	Red River
TCW519	8/19/2020	American basketflower	*Centaura americana*	Red River
TCW520	8/13/2020	Illinois bundleflower	*Desmanthus illinoensis*	Lamar
TCW522	8/18/2020	Black eyed susan	*Rudbeckia hirta*	Trinity
TCW523	8/19/2020	Illinois bundleflower	*Desmanthus illinoensis*	Lamar
TCW528	8/19/2020	Spotted bee balm	*Monarda punctata*	Upshur
TCW530	8/19/2020	Black eyed susan	*Rudbeckia hirta*	Upshur
TCW531	8/19/2020	Illinois bundleflower	*Desmanthus illinoensis*	Titus
TCW533	8/7/2020	Butterfly milkweed	*Asclepias tuberosa*	Nacogdoches
TCW534	8/8/2020	Spotted bee balm	*Monarda punctata*	Harrison
Coastal Prairies				
DLJ186	9/13/2019	Indian plantain	*Arnoglossum plantagineum*	Matagorda

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DLJ187	9/13/2019	White top sedge	*Rynchospora colorata*	Matagorda
DLJ188	10/15/2019	Indian plantain	*Arnoglossum plantagineum*	Colorado
DLJ190	10/15/2019	Rattlesnake master	*Eryngium yuccifolium*	Lavaca
DLJ191	10/15/2019	Liatris acidota	*Liatris acidota*	Lavaca
DLJ189	10/15/2019	Mountain mint	*Pycanthemum tenuifolium*	Lavaca
DLJ195	10/17/2019	Indian plantain	*Arnoglossum plantagineum*	Galveston
DLJ196	10/21/2019	Rattlesnake master	*Eryngium yuccifolium*	Jackson
DLJ198	10/21/2019	Liatris pycnostachya	*Liastra pycnostachya*	Jackson
DLJ197	10/21/2019	Beebalm	*Monarda citriodora*	Jackson
DLJ193	10/21/2019	Cowpen daisy	*Verbesina enceliodes*	Victoria
DLJ199	10/24/2019	Mistflower	*Chromolaena odorata*	Refugio
DLJ200	10/24/2019	Rattlesnake master	*Eryngium yuccifolium*	Wharton
DLJ201	10/25/2019	Rattlesnake master	*Eryngium yuccifolium*	Matagorda
DLJ203	10/25/2019	Late boneset	*Eupotorium serotinum*	Matagorda
DLJ205	10/25/2019	Drummonds aster	*Symphyotrchum drummondii*	Matagorda
DLJ202	10/25/2019	Missouri ironweed	*Veronia missurica*	Matagorda
DLJ206	10/25/2019	Late boneset	*Eupotorium serotonin*	Brazoria
DLJ208	10/29/2019	Late boneset	*Eupotorium serotonin*	Fort Bend
DLJ210	10/30/2019	Missouri ironweed	*Veronia missurica*	Jackson
DLJ211	10/30/2019	Rattlesnake master	*Eryngium yuccifolium*	Harris
DLJ213	10/30/2019	Yellow silkgrass	*Pityopsis graminifolia*	Harris
DLJ215	10/30/2019	Liatris acidota	*Liatris acidota*	Harris
DLJ222	11/4/2019	Mistflower	*Conoclinium coelestinum*	Chambers
DLJ225	11/4/2019	Missouri ironweed	*Veronia missurica*	Chambers
DLJ226	11/4/2019	Seaside goldenrod	*Solidago sempervirens*	Chambers
DLJ228	11/4/2019	Pitcher sage	*Salvia azures*	Chambers
DLJ229	11/4/2019	Rattlesnake master	*Eryngium yuccifolium*	Chambers
DLJ232	11/5/2019	Missouri ironweed	*Veronia missurica*	Orange
DLJ233	11/5/2019	Mistflower	*Conoclinium coelestinum*	Orange
DLJ236	11/5/2019	Pitcher sage	*Salvia azurea*	Jefferson
DLJ240	11/5/2019	Seaside goldenrod	*Solidago sempervirens*	Jefferson
DLJ241	11/5/2019	Indina plantain	*Arnoglossum plantagineum*	Jefferson
DLJ242	11/5/2019	Mistflower	*Conoclinium coelestinum*	Jefferson
DLJ243	11/5/2019	Rosy palafoxia	*Palafoxia rosea*	Jefferson
DLJ244	11/5/2019	Liatris pycnostachya	*Liatris pycnostachya*	Jefferson
DLJ257	11/8/2019	Liatris pycnostachya	*Liatris Pychnostachya*	Jackson
DLJ260	11/8/2019	Mountain mint	*Pycanthemum tenuifolium*	Jackson
DLJ263	11/8/2019	Rattlesnake master	*Eryngium yuccifolium*	Jackson
DLJ264	11/8/2019	Pitcher sage	*Salvia azurea*	Jackson
DLJ266	11/14/2019	Rattlesnake master	*Eryngium yuccifolium*	Victoria

Collector ID	Date	Common Name	Scientific name	County
DLJ268	11/14/2019	Maximilian sunflower	*Helianthus maximiliana*	Victoria
DLJ277	11/25/2019	Maxmilian sunflower	*Helianthus maximiliani*	Austin
DLJ281	11/25/2019	Liatris pycnostachya	*Liatris pychnostachya*	Washington
DLJ287	2/18/2020	Seaside goldenrod	*Solidago sempervirens*	Galveston
DLJ290	8/6/2020	Mountain mint	*Pycanthemum tenuifolium*	Victoria
DLJ291	8/6/2020	Mexican hat	*Ratibida columnifera*	Victoria
DLJ292	8/7/2020	Green milkweed	*Aesclepias viridis*	Victoria
DLJ294	8/13/2020	Green milkweed	*Aesclepias viridis*	Jackson
DLJ295	8/13/2020	Mountain mint	*Pycanthemum tenuifolim*	Jackson
Central Texas				
KNH35	5/13/2020	Indian paintbrush	*Castilleja*	Erath
KNH37	5/14/2020	Indian paintbrush	*Castilleja*	Erath
KNH38	5/14/2020	Fragrent gailardia	*Gaillardia suavis*	Eastland
KNH39	5/14/2020	Fragrent gailardia	*Gaillardia suavis*	Erath
KNH40	5/14/2020	Downy indian paintbrush	*Castilleja purpurea*	Erath
KNH41	5/14/2020	Fragrent gailardia	*Gaillardia suavis*	Eastland
KNH42	5/14/2020	Cattail	*Typha*	Eastland
KNH43	5/18/2020	Fragrent gailardia	*Gaillardia suavis*	Young
KNH45	5/18/2020	Fragrent gailardia	*Gaillardia suavis*	Palo Pinto
KNH46	5/18/2020	Indian paintbrush	*Castilleja*	Palo Pinto
KNH47	5/18/2020	Fragrent gailardia	*Gaillardia suavis*	Palo Pinto
KNH48	5/18/2020	Redseed plantain	*Plantago rhodosperma*	Palo Pinto
KNH50	5/18/2020	Indian paintbrush	*Castilleja*	Palo Pinto
KNH51	5/18/2020	Redseed plantain	*Plantago rhodosperma*	Palo Pinto
KNH53	5/22/2020	Redseed plantain	*Plantago rhodosperma*	Bosque
KNH54	5/22/2020	Redseed plantain	*Plantago rhodosperma*	Bosque
KNH55	5/22/2020	Indian paintbrush	*Castilleja*	Bosque
KNH56	5/22/2020	Texas bluebonnet	*Lupinus texensis*	Bosque
KNH59	6/8/2020	Antelope horn milkweed	*Asclepias asperula*	Eastland
KNH60	6/8/2020	Antelope horn milkweed	*Asclepias asperula*	Erath
KNH61	6/8/2020	Antelope horn milkweed	*Asclepias asperula*	Erath
KNH62	6/8/2020	Texas Skeleton plant	*Lygodesmia texana*	Erath
KNH63	6/8/2020	Texas Skeleton plant	*Lygodesmia texana*	Erath
KNH65	6/8/2020	Antelope horn milkweed	*Asclepias asperula*	Eastland
KNH66	6/8/2020	Wild onion	*Allium species*	Eastland
KNH 67	6/8/2020	Antelope horn milkweed	*Asclepias asperula*	Eastland
KNH68	7/17/2020	Yellow Prairie coneflower	*Ratibida columnifera*	Coryell
KNH69	7/17/2020	Illinois bundleflower	*Desmanthus illinoensis*	Hamilton
KNH70	7/17/2020	Illinois bundleflower	*Desmanthus illinoensis*	Coryell

Collector ID	Date	Common Name	Scientific name	County
KNH71	7/17/2020	Indian blanket	*Gaillardia pulchella*	McClennan
KNH72	7/17/2020	Illinois bundleflower	*Desmanthus illinoensis*	Hamilton
KNH75	7/17/2020	American basketflower	*Centaurea americana*	Coryell
KNH76	7/17/2020	American basketflower	*Centaurea americana*	Coryell
KNH77	7/17/2020	American basketflower	*Centaurea americana*	McClennan
KNH80	7/23/2020	American basketflower	*Centaurea americana*	Tarrant
KNH82	7/23/2020	Illinois bundleflower	*Desmanthus illinoensis*	Tarrant
KNH83	7/28/2020	American basketflower	*Centaurea americana*	Young
KNH88	7/28/2020	American basketflower	*Centaurea americana*	Young
JRB133	1/24/2020	Gayfeather	*Liatris*	Erath

Appendix B

Table B-1. Hardeman County SRA Current Specification

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box		
El Reno	sideoats grama	25%	11	2.75	5.50	97.35%	5.65	Fluffy		
Hachita	blue grama	23%	4	0.92	1.84	78.85%	2.33	Fluffy		
VNS	Western Wheatgrass	21%	10	1.60	3.20	91.10%	3.51	Back		
VNS	Galleta	14%	12	1.68	3.36	58.18%	5.78	Fluffy		
VNS	Illinois bundleflower	4%	26	1.04	2.08	93.56%	2.22	Back	**Total Bulk lbs.**	
VNS	green sprangletop	15%	2	0.30	0.60	95.52%	0.63	Back	Fluffy	13.76
									Back	6.364
Project Acres	**2**	**102%**			**16.58**		**20.122**		**Total**	**20.122**

Table B-2. Hardeman County SRA Proposed Specification

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box		
Taylor	sand dropseed	5%	2	0.10	0.10	98.00%	0.102	Back		
VNS	sand lovegrass	10%	3	0.30	0.30	91.90%	0.326	Back		
VNS	purple prairie clover	10%	6	0.60	0.60	92.00%	0.652	Back		
VNS	green sprangletop	10%	2	0.20	0.20	97.00%	0.206	Back		
Burnet Germplasm	hooded windmillgrass	10%	2	0.20	0.20	48.93%	0.409	Fluffy		
Chaparral Germplasm	hairy grama	5%	4	0.20	0.20	56.73%	0.353	Fluffy		
Guadalupe Germplasm	white tridens	10%	2	0.20	0.20	68.34%	0.293	Fluffy		
Haskell	sideoats	10%	10	1.00	1.00	43.14%	2.318	Fluffy		
LaSalle Germplasm	Arizona cottontop	5%	4	0.20	0.20	93.95%	0.213	Fluffy		
Welder Germplasm	shortspike windmillgrass	10%	2	0.20	0.20	52.79%	0.379	Fluffy	**Total Bulk lbs.**	
Cibilo germplasm	little barley	10%	10	1.00	1.00	89.30%	1.120	Fluffy	Fluffy	5.08
									Back	1.287
Project Acres	**1**	**95%**			**4.20**		**6.370**		**Total**	**6.370**

Table B-3. Hardeman County SRA Proposed Specification + Cover

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
Taylor	sand dropseed	5%	2	0.10	0.10	98.00%	0.102	Back

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
VNS	sand lovegrass	10%	3	0.30	0.30	91.90%	0.326	Back
VNS	purple prairie clover	10%	6	0.60	0.60	92.00%	0.652	Back
VNS	green sprangletop	10%	2	0.20	0.20	97.00%	0.206	Back
Burnet Germplasm	hooded windmillgrass	10%	2	0.20	0.20	48.93%	0.409	Fluffy
Chaparral Germplasm	hairy grama	5%	4	0.20	0.20	56.73%	0.353	Fluffy
Guadalupe Germplasm	white tridens	10%	2	0.20	0.20	68.34%	0.293	Fluffy
Haskell	sideoats	10%	10	1.00	1.00	43.14%	2.318	Fluffy
LaSalle Germplasm	Arizona cottontop	5%	4	0.20	0.20	93.95%	0.213	Fluffy
Welder Germplasm	shortspike windmillgrass	10%	2	0.20	0.20	52.79%	0.379	Fluffy
Cibilo germplasm	little barley	10%	10	1.00	1.00	89.30%	1.120	Fluffy
Project Acres	**1**	**95%**			**4.20**		**6.370**	

Total Bulk lbs.	
Fluffy	5.08
Back	1.287
Total	**6.370**

Table B-4. Hardeman County SRA Proposed Specification + Forbs

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
Atascosa Germplasm	Texas grama	5%	10	0.5	0.50	84.80%	0.590	Fluffy
Blackwell	switchgrass	5%	4	0.2	0.20	97.00%	0.206	Back
Burnet Germplasm	hooded windmillgrass	5%	2	0.1	0.10	48.93%	0.204	Fluffy
Catarina blend	bristlegrass	5%	6	0.3	0.30	80.00%	0.375	Back
Chaparral Germplasm	hairy grama	5%	4	0.2	0.20	18.91%	1.058	Fluffy
Chet	sand bluestem	5%	12	0.6	0.60	73.73%	0.814	Fluffy
Guadalupe Germplasm	white tridens	5%	2	0.1	0.10	68.34%	0.146	Fluffy
Hachita	blue grama	10%	4	0.4	0.40	86.92%	0.460	Fluffy
Haskell	sideoats	5%	10	0.5	0.50	43.00%	1.163	Fluffy
LaSalle Germplasm	Arizona cottontop	5%	4	0.2	0.20	93.95%	0.213	Fluffy
Lavaca Germplasm	Canada wildrye	5%	20	1	1.00	92.39%	1.082	Fluffy
Lometa	Indiangrass	5%	10	0.5	0.50	74.70%	0.669	Fluffy
OK Select Germplasm	little bluestem	5%	8	0.4	0.40	71.90%	0.556	Fluffy
Santiago Germplasm	silver bluestem	10%	4	0.4	0.40	45.00%	0.889	Fluffy
Taylor Germplasm	sand dropseed	3%	2	0.05	0.05	98.00%	0.051	Back

***Pollinator Blend**	
Species	**Bulk planting rate/acre**
Zizotes milkweed	0.010
Plains coreopsis	0.125
Blue bonnet	0.870

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
Texoka	buffalograss	5%	16	0.8	0.80	76.00%	1.053	Back
Van Horn	green sprangletop	5%	2	0.1	0.10	97.00%	0.103	Back
Welder Germplasm	shortspike windmillgrass	5%	2	0.1	0.10	52.79%	0.189	Fluffy
Cibilo germplasm	little barley	10%	10	1.00	1.00	89%	1.120	Fluffy
			Forbs					
Cuero Germplasm	purple prairie clover	5%	6	0.30	0.30	14%	2.147	Back
Eldorado	Engelmann's daisy	5%	30	1.50	1.50	86%	1.754	Back
Plains Germplasm	prairie acacia	5%	10	0.50	0.50	80%	0.623	Back
Plateau	awnless bush sunflower	5%	6	0.30	0.30	30%	1.009	Back
Sabine	Illinois bundleflower	5%	26	1.30	1.30	96%	1.354	Back
Pollinators	Blended mix (see attached*)	25%					2.280	Back
Project Acres	**1**	**158%**					**20.111**	

Clasping coneflower	0.125
Drummond phlox	0.313
Gallardia	0.437
Lemon mint	0.150
Mexican hat	0.125
Pink evening primrose	0.125
Total	**2.280**

Total Bulk lbs.	
Fluffy	9.154
Back	10.957
Total	**20.111**

Table B-5. Hardeman County SRA Proposed Specification + Forbs + Cover

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
Atascosa Germplasm	Texas grama	5%	10	0.5	0.50	84.80%	0.590	Fluffy
Blackwell	switchgrass	5%	4	0.2	0.20	97.00%	0.206	Back
Burnet Germplasm	hooded windmillgrass	5%	2	0.1	0.10	48.93%	0.204	Fluffy
Catarina blend	bristlegrass	5%	6	0.3	0.30	80.00%	0.375	Back
Chaparral Germplasm	hairy grama	5%	4	0.2	0.20	18.91%	1.058	Fluffy
Chet	sand bluestem	5%	12	0.6	0.60	73.73%	0.814	Fluffy
Guadalupe Germplasm	white tridens	5%	2	0.1	0.10	68.34%	0.146	Fluffy
Hachita	blue grama	10%	4	0.4	0.40	86.92%	0.460	Fluffy
Haskell	sideoats	5%	10	0.5	0.50	43.00%	1.163	Fluffy
LaSalle Germplasm	Arizona cottontop	5%	4	0.2	0.20	93.95%	0.213	Fluffy
Lavaca Germplasm	Canada wildrye	5%	20	1	1.00	92.39%	1.082	Fluffy
Lometa	Indiangrass	5%	10	0.5	0.50	74.70%	0.669	Fluffy
OK Select Germplasm	little bluestem	5%	8	0.4	0.40	71.90%	0.556	Fluffy

***Pollinator Blend**

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
Santiago Germplasm	silver bluestem	10%	4	0.4	0.40	45.00%	0.889	Fluffy
Taylor Germplasm	sand dropseed	3%	2	0.05	0.05	98.00%	0.051	Back
Texoka	buffalograss	5%	16	0.8	0.80	76.00%	1.053	Back
Van Horn	green sprangletop	5%	2	0.1	0.10	97.00%	0.103	Back
Welder Germplasm	shortspike windmillgrass	5%	2	0.1	0.10	52.79%	0.189	Fluffy
Cibilo germplasm	little barley	10%	10	1.00	1.00	89%	1.120	Fluffy
Cibilo germplasm	little barley	90%	10	9.00	9.00	89%	10.078	Fluffy
			Forbs					
Cuero Germplasm	purple prairie clover	5%	6	0.30	0.30	14%	2.147	Back
Eldorado	Engelmann's daisy	5%	30	1.50	1.50	86%	1.754	Back
Plains Germplasm	prairie acacia	5%	10	0.50	0.50	80%	0.623	Back
Plateau	awnless bush sunflower	5%	6	0.30	0.30	30%	1.009	Back
Sabine	Illinois bundleflower	5%	26	1.30	1.30	96%	1.354	Back
Pollinators	Blended mix (see attached*)	25%					2.280	Back
Project Acres	**1**	**248%**					**30.189**	

Species	Bulk planting rate/acre
Zizotes milkweed	0.010
Plains coreopsis	0.125
Blue bonnet	0.870
Clasping coneflower	0.125
Drummond phlox	0.313
Gallardia	0.437
Lemon mint	0.150
Mexican hat	0.125
Pink evening primrose	0.125
Total	2.280

Total Bulk lbs.	
Fluffy	19.232
Back	10.957
Total	**30.189**

Table B-6. Bell County SRA Current Specification

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
Atascosa Germplasm	Texas grama	10%	10	1.00	1.00	81.89%	1.221	Fluffy
Chaparral Germplasm	hairy grama	10%	4	0.40	0.40	56.73%	0.705	Fluffy
Haskell	sideoats grama	10%	10	1.00	1.00	43.14%	2.318	Fluffy
OK Select	little bluestem	10%	8	0.80	0.80	71.90%	1.113	Fluffy
Van horn	green sprangletop	50%	2	1.00	1.00	97.00%	1.031	Back
Welder Germplasm	Shortspike windmillgrass	10%	2	0.20	0.20	52.79%	0.379	Fluffy
Cuero Germplasm	purple prairie clover	10%	6	0.60	0.60	13.97%	4.295	Back
Eldorado	Engelmann daisy	3%	30	0.75	0.75	85.96%	0.872	Back
Plateau	awnless bush sunflower	3%	6	0.20	0.20	29.72%	0.673	Back
VNS	Illinois bundleflower	5%	26	1.30	1.30	96.00%	1.354	Back

Total Bulk lbs.	
Fluffy	5.74
Back	8.23

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box	
Project Acres	**1**	**121%**			**7.25**		**13.96**		**Total 13.96**

Table B-7. Bell County SRA Proposed Specification

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box	
Atascosa Germplasm	Texas grama	10%	10	1.00	0.50	84.89%	1.178	Fluffy	
Chaparral Germplasm	hairy grama	10%	4	0.40	0.20	56.73%	0.705	Fluffy	
Guadalupe Germplasm	white tridens	5%	2	0.10	0.05	68.34%	0.146	Fluffy	
Mariah Germplasm	hooded windmillgrass	10%	2	0.20	0.10	48.93%	0.409	Fluffy	
OK Select	little bluestem	10%	8	0.80	0.40	71.90%	1.113	Fluffy	
Oso Germplasm	Hall's panicum	10%	2	0.20	0.10	80.43%	0.249	Back	
South Texas Germplasm	sideoats grama	15%	10	1.50	0.75	80.40%	1.866	Fluffy	
Nueces Germplasm	sand dropseed	5%	2	0.10	0.05	97.00%	0.103	Back	
Texoka	buffalograss	15%	16	2.40	1.20	76.90%	3.121	Back	
Welder Germplasm	shortspike windmillgrass	10%	2	0.20	0.10	52.79%	0.379	Fluffy	
Cuero Germplasm	purple prairie clover	10%	6	0.60	0.30	13.97%	4.295	Back	
Eldorado	Engelmann daisy	2.5%	30	0.75	0.38	85.96%	0.872	Back	
Plateau	awnless bush sunflower	3%	6	0.18	0.09	29.72%	0.606	Back	
VNS	Illinois bundleflower	5%	26	1.30	0.65	96.00%	1.354	Back	**Total Bulk lbs.**
Cibilo germplasm	little barley	10%	10	1.00	0.50	89.30%	1.120	Fluffy	Fluffy 6.92
									Back 10.60
Project Acres	**0.5**	**131%**			**5.37**		**17.52**		**Total 17.52**

Table B-8. Bell County SRA Proposed Specification + Cover

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
Atascosa Germplasm	Texas grama	10%	10	1.00	0.50	84.89%	1.178	Fluffy
Chaparral Germplasm	hairy grama	10%	4	0.40	0.20	56.73%	0.705	Fluffy
Guadalupe Germplasm	white tridens	5%	2	0.10	0.05	68.34%	0.146	Fluffy
Mariah Germplasm	hooded windmillgrass	10%	2	0.20	0.10	48.93%	0.409	Fluffy
OK Select	little bluestem	10%	8	0.80	0.40	71.90%	1.113	Fluffy
Oso Germplasm	Hall's panicum	10%	2	0.20	0.10	80.43%	0.249	Back
South Texas Germplasm	sideoats grama	15%	10	1.50	0.75	80.40%	1.866	Fluffy
Nueces Germplasm	sand dropseed	5%	2	0.10	0.05	97.00%	0.103	Back
Texoka	buffalograss	15%	16	2.40	1.20	76.90%	3.121	Back
Welder Germplasm	shortspike windmillgrass	10%	2	0.20	0.10	52.79%	0.379	Fluffy

Cuero Germplasm	purple prairie clover	10%	6	0.60	0.30	13.97%	4.295	Back	
Eldorado	Engelmann daisy	3%	30	0.75	0.38	85.96%	0.872	Back	
Plateau	awnless bush sunflower	3%	6	0.18	0.09	29.72%	0.606	Back	
VNS	Illinois bundleflower	5%	26	1.30	0.65	96.00%	1.354	Back	**Total Bulk lbs.**
Cibilo germplasm	little barley	100%	10	10.00	5.00	89.30%	11.200	Fluffy	Fluffy 17.00
									Back 10.60
Project Acres	**0.5**	**221%**			**9.87**		**27.60**		**Total 27.60**

Table B-9. Bell County SRA Proposed Specification + Forbs

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
Atascosa Germplasm	Texas grama	10%	10	1	0.50	84.89%	1.178	Fluffy
Chaparral Germplasm	hairy grama	10%	4	0.4	0.20	56.73%	0.705	Fluffy
Guadalupe Germplasm	white tridens	5%	2	0.1	0.05	68.34%	0.146	Fluffy
Mariah Germplasm	hooded windmillgrass	10%	2	0.2	0.10	48.93%	0.409	Fluffy
OK Select	little bluestem	10%	8	0.8	0.40	71.90%	1.113	Fluffy
Oso Germplasm	Hall's panicum	10%	2	0.2	0.10	80.43%	0.249	Back
South Texas Germplasm	sideoats grama	15%	10	1.5	0.75	80.40%	1.866	Fluffy
Nueces Germplasm	sand dropseed	5%	2	0.1	0.05	97.00%	0.103	Back
Texoka	buffalograss	15%	16	2.4	1.20	76.90%	3.121	Back
Welder Germplasm	shortspike windmillgrass	10%	2	0.2	0.10	52.79%	0.379	Fluffy
Cuero Germplasm	purple prairie clover	10%	6	0.6	0.30	13.97%	4.295	Back
Eldorado	Engelmann daisy	3%	30	0.75	0.38	85.96%	0.872	Back
Plateau	awnless bush sunflower	3%	6	0.18	0.09	29.72%	0.606	Back
VNS	Illinois bundleflower	5%	26	1.3	0.65	96.00%	1.354	Back
Cibilo germplasm	little barley	10%	10	1.00	0.50	89%	1.120	Fluffy
Additional Forbs								
Plains/Rio grande	prairie acacia	5%	5	0.25	0.13	80%	0.156	Back
Zapata Germplasm	Rio Grande clammyweed	5%	8	0.40	0.20	94%	0.213	Back
Pollinators	Blended mix (see attached*)	25%					2.280	Back
Project Acres	**0.5**	**166%**			**5.69**		**20.164**	

*Pollinator Blend	
Species	**Bulk planting rate/acre**
Zizotes milkweed	0.010
Plains coreopsis	0.125
Blue bonnet	0.870
Clasping coneflower	0.125
Drummond phlox	0.313
Gallardia	0.437
Lemon mint	0.150
Mexican hat	0.125
Pink evening primrose	0.125
Total	**2.280**

Total Bulk lbs.	
Fluffy	6.915
Back	13.248
Total	**20.164**

Table B-10. Bell County SRA Proposed Specification + Forbs + Cover

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
Atascosa Germplasm	Texas grama	10%	10	1	0.50	84.89%	1.178	Fluffy
Chaparral Germplasm	hairy grama	10%	4	0.4	0.20	56.73%	0.705	Fluffy
Guadalupe Germplasm	white tridens	5%	2	0.1	0.05	68.34%	0.146	Fluffy
Mariah Germplasm	hooded windmillgrass	10%	2	0.2	0.10	48.93%	0.409	Fluffy
OK Select	little bluestem	10%	8	0.8	0.40	71.90%	1.113	Fluffy
Oso Germplasm	Hall's panicum	10%	2	0.2	0.10	80.43%	0.249	Back
South Texas Germplasm	sideoats grama	15%	10	1.5	0.75	80.40%	1.866	Fluffy
Nueces Germplasm	sand dropseed	5%	2	0.1	0.05	97.00%	0.103	Back
Texoka	buffalograss	15%	16	2.4	1.20	76.90%	3.121	Back
Welder Germplasm	shortspike windmillgrass	10%	2	0.2	0.10	52.79%	0.379	Fluffy
Cuero Germplasm	purple prairie clover	10%	6	0.6	0.30	13.97%	4.295	Back
Eldorado	Engelmann daisy	3%	30	0.75	0.38	85.96%	0.872	Back
Plateau	awnless bush sunflower	3%	6	0.18	0.09	29.72%	0.606	Back
VNS	Illinois bundleflower	5%	26	1.3	0.65	96.00%	1.354	Back
Cibilo germplasm	little barley	100%	10	10.00	5.00	89%	11.200	Fluffy
Additional Forbs								
Plains/Rio grande	prairie acacia	5%	5	0.25	0.13	80%	0.156	Back
Zapata Germplasm	Rio Grande clammyweed	5%	8	0.40	0.20	94%	0.213	Back
Pollinators	Blended mix (see attached*)	25%					2.280	Back
Project Acres	**0.5**	**256%**			**10.19**		**24.643**	

*Pollinator Blend	
Species	**Bulk planting rate/acre**
Zizotes milkweed	0.010
Plains coreopsis	0.125
Blue bonnet	0.870
Clasping coneflower	0.125
Drummond phlox	0.313
Gallardia	0.437
Lemon mint	0.150
Mexican hat	0.125
Pink evening primrose	0.125
Total	2.280

Total Bulk lbs.	
Fluffy	11.394
Back	13.248
Total	**24.643**

Table B-11. Colorado County SRA Current Specification

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
Chaparral Germplasm	hairy grama	20%	4	0.80	0.24	57.63%	0.42	Fluffy
Dilley Germplasm	slender grama	10%	10	1.00	0.30	31.12%	0.96	Fluffy
Mariah Germplasm	hooded windmillgrass	20%	2	0.40	0.12	77.27%	0.16	Fluffy
Welder Germplasm	shortspike indmillgrass	10%	2	0.20	0.06	52.79%	0.11	Fluffy
Van horn	green sprangletop	50%	2	1.00	0.30	97.00%	0.31	Back
Comanche	partridge pea	4%	13.4	0.60	0.18	87.90%	0.20	Back
Cuero Germplasm	purple prairie clover	10%	6	0.60	0.18	13.97%	1.29	Back
Eldorado	Englemann daisy	4%	30	1.00	0.30	85.96%	0.35	Back
Project Acres	**0.3**	**128%**			**1.68**		**3.801**	

Total Bulk lbs.	
Fluffy	1.65
Back	2.152
Total	**3.801**

Table B-12. Colorado County SRA Proposed Specification

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
Burnet Germplasm	hooded windmillgrass	20%	2	0.40	0.08	48.93%	0.16	Fluffy
Duval Germplasm	red lovegrass	10%	2	0.20	0.04	50.00%	0.08	Fluffy
Guadalupe Germplasm	white tridens	10%	2	0.20	0.04	68.34%	0.06	Fluffy
Haskell	sideoats grama	10%	10	1.00	0.20	210.00%	0.10	Fluffy
Welder Germplasm	shortspike windmillgrass	20%	2	0.40	0.08	52.79%	0.15	Fluffy
Cibola	little barley	10%	10	1.00	0.20	89.30%	0.22	Fluffy
Nueces Germplasm	sand dropseed	5%	2	0.10	0.02	97.00%	0.02	Back
Oso Germplasm	Hall's panicum	5%	2	0.10	0.02	80.43%	0.02	Back
Van horn	green sprangletop	20%	2	0.40	0.08	97.00%	0.08	Back
Project Acres	**0.2**	**110%**			**0.76**		**0.90**	

Total Bulk lbs.	
Fluffy	0.77
Back	0.13
Total	**0.90**

Table B-13. Colorado County SRA Proposed Specification + Cover

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
Burnet Germplasm	hooded windmillgrass	20%	2	0.40	0.08	48.93%	0.16	Fluffy
Duval Germplasm	red lovegrass	10%	2	0.20	0.04	50.00%	0.08	Fluffy
Guadalupe Germplasm	white tridens	10%	2	0.20	0.04	68.34%	0.06	Fluffy
Haskell	sideoats grama	10%	10	1.00	0.20	210.00%	0.10	Fluffy
Welder Germplasm	shortspike windmillgrass	20%	2	0.40	0.08	52.79%	0.15	Fluffy
Cibola	little barley	10%	10	1.00	0.20	89.30%	0.22	Fluffy
Cibola	little barley	90%	10	9.00	1.80	89.30%	2.02	Fluffy
Nueces Germplasm	sand dropseed	5%	2	0.10	0.02	97.00%	0.02	Back
Oso Germplasm	Hall's panicum	5%	2	0.10	0.02	80.43%	0.02	Back
Van horn	green sprangletop	20%	2	0.40	0.08	97.00%	0.08	Back
Project Acres	**0.2**	**185%**			**13.20**		**2.916**	

Total Bulk lbs.	
Fluffy	2.79
Back	0.128
Total	**2.916**

Table B-14. Colorado County SRA Proposed Specification + Forbs

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
Burnet Germplasm	hooded windmillgrass	20%	2	0.4	0.08	0.49	0.16	Fluffy
Guadalupe Germplasm	white tridens	10%	2	0.2	0.04	0.68	0.06	Fluffy
Haskell	sideoats grama	10%	10	1	0.2	2.10	0.10	Fluffy
Welder Germplasm	shortspike windmillgrass	20%	2	0.4	0.08	0.53	0.15	Fluffy
Nueces Germplasm	sand dropseed	5%	2	0.1	0.02	0.97	0.02	Back
Oso Germplasm	Hall's panicum	5%	2	0.1	0.02	0.80	0.02	Back
Van horn	green sprangletop	20%	2	0.4	0.08	0.97	1.16	Back
Cibola	little barley	10%	10	1.00	0.20	89.30%	0.22	Fluffy
Forbs								
Eldorado	Englemann daisy	10%	30	3.00	0.60	14%	4.295	Back

*Pollinator Blend	
Species	**Bulk planting rate/acre**
Zizotes milkweed	0.010
Plains coreopsis	0.125
Blue bonnet	0.870
Clasping coneflower	0.125
Drummond phlox	0.313
Gallardia	0.437
Lemon mint	0.150
Mexican hat	0.125
Pink evening primrose	0.125
Total	**2.280**

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box	*Pollinator Blend	
Mariposa Germplasm	zizotes milkweed	10%	3	0.30	0.06	86%	0.070	Back		
VNS	Texas bluebonnet	10%	8	0.80	0.16	80%	0.199	Back	**Total Bulk lbs.**	
									Fluffy	0.693
									Back	5.773
Project Acres	**0.2**	**130%**			**1.54**		**6.466**		**Total**	**6.466**

Table B-15. Colorado County SRA Proposed Specification + Forbs + Cover

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box	*Pollinator Blend	
Burnet Germplasm	hooded windmillgrass	20%	2	0.4	0.08	0.49	0.16	Fluffy	**Species**	**Bulk planting rate/acre**
Guadalupe Germplasm	white tridens	10%	2	0.2	0.04	0.68	0.06	Fluffy	Zizotes milkweed	0.010
Haskell	sideoats grama	10%	10	1	0.2	2.10	0.10	Fluffy	Plains coreopsis	0.125
Welder Germplasm	shortspike windmillgrass	20%	2	0.4	0.08	0.53	0.15	Fluffy	Blue bonnet	0.870
Nueces Germplasm	sand dropseed	5%	2	0.1	0.02	0.97	0.02	Back	Clasping coneflower	0.125
Oso Germplasm	Hall's panicum	5%	2	0.1	0.02	0.80	0.02	Back	Drummond phlox	0.313
Van horn	green sprangletop	20%	2	0.4	0.08	0.97	1.16	Back	Gallardia	0.437
Cibola	little barley	10%	10	1.00	0.20	89.30%	0.22	Fluffy	Lemon mint	0.150
Cibola	little barley	90%	10	9.00	1.80	89.30%	2.02	Fluffy	Mexican hat	0.125
									Pink evening primrose	0.125
			Forbs						Total	2.280
Eldorado	Englemann daisy	10%	30	3.00	0.60	14%	4.295	Back		
Mariposa Germplasm	zizotes milkweed	10%	3	0.30	0.06	86%	0.070	Back	**Total Bulk lbs.**	
VNS	Texas bluebonnet	10%	8	0.80	0.16	80%	0.199	Back	Fluffy	2.708
									Back	5.773
Project Acres	**0.2**	**220%**			**3.34**		**8.481**		**Total**	**8.481**

Table B-16. Medina County SRA Current Specification

Variety	Species	% of mix	full rate (PLS/ac)	pls/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
Atascosa Germplasm	Texas grama	10%	10.00	1.00	1.000	84.89%	1.18	Fluffy
Catarina blend	bristlegrass	5%	4.00	0.20	0.200	80.31%	0.25	Back
Dilley Germplasm	slender grama	10%	10.00	1.00	1.000	31.12%	3.21	Fluffy
Kinney Germplasm	false Rhodesgrass	5%	2.00	0.10	0.100	83.00%	0.12	Fluffy
La Salle Germplasm	Arizon cottontop	5%	4.00	0.20	0.200	93.95%	0.21	Fluffy
Mariah Germplasm	hooded windmillgrass	10%	2.00	0.20	0.200	77.27%	0.26	Fluffy
Maverick Germplasm	pink pappusgrass	10%	6.00	0.60	0.600	92.72%	0.65	Fluffy
Oso Germplasm	hall's panicum	10%	2.00	0.20	0.200	80.43%	0.25	Back
South Texas Germplasm	sideoats grama	7%	14.00	0.91	0.910	80.10%	1.14	Fluffy
Van Horn	green sprangletop	25%	4.00	1.00	1.000	97.00%	1.03	Back
Welder germplasm	shortspike windmillgrass	10%	1.00	0.10	0.100	52.79%	0.19	Fluffy
Project acres	**1**	**107%**			**5.51**		**8.48**	

Total Bulk lbs.	
Fluffy	6.96
Back	1.53
Total	8.48

Table B-17. Medina County SRA Proposed Specification

Variety	Species	% of mix	full rate (PLS/ac)	pls/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
Atascosa Germplasm	Texas grama	5%	10.00	0.50	0.250	84.89%	0.29	Fluffy
Catarina blend	bristlegrass	5%	4.00	0.20	0.100	80.31%	0.12	Back
Dilley Germplasm	slender grama	5%	10.00	0.50	0.250	31.12%	0.80	Fluffy
Guadalupe Germplasm	white tridens	5%	3.00	0.15	0.075	68.34%	0.11	Fluffy
Kinney Germplasm	false Rhodes grass	5%	2.00	0.10	0.050	83.00%	0.06	Fluffy
LaSalle Germplasm	Arizona cottontop	10%	4.00	0.40	0.200	93.95%	0.21	Fluffy
Mariah Germplasm	hooded windmillgrass	5%	2.00	0.10	0.050	77.27%	0.06	Fluffy
Maverick Germplasm	pink pappusgrass	10%	6.00	0.60	0.300	92.72%	0.32	Fluffy
Nueces Germplasm	Sand dropseed	5%	2.00	0.10	0.050	97.00%	0.05	Back
Oso Germplasm	Hall's panicum	10%	2.00	0.20	0.100	80.43%	0.12	Back
South Texas Germplasm	sideoats grama	10%	14.00	1.40	0.700	80.10%	0.87	Fluffy
Texoka	buffalograss	5%	16.00	0.80	0.400	76.90%	0.52	Back
Webb Germplasm	whiplash pappusgrass	10%	6.00	0.60	0.300	82.00%	0.37	Fluffy
Cibilo germplasm	little barley	10%	10.00	1.00	0.500	89.30%	0.56	Fluffy

Variety	Species	% of mix	full rate (PLS/ac)	pls/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box	
STN experimental	slim tridens	5%	4.00	0.20	0.100	50.00%	0.20	Fluffy	**Total Bulk lbs.**
STN experimental	rough tridens	5%	4.00	0.20	0.100	50.00%	0.20	Fluffy	Fluffy 4.07
									Back 0.82
Project area	**0.5**	**110%**			**3.53**		**4.89**		**Total** 4.89

Table B-18. Medina County SRA Proposed Specification + Cover

Variety	Species	% of mix	full rate (PLS/ac)	pls/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box	
Atascosa Germplasm	Texas grama	5%	10.00	0.50	0.250	84.89%	0.29	Fluffy	
Catarina blend	bristlegrass	5%	4.00	0.20	0.100	80.31%	0.12	Back	
Dilley Germplasm	slender grama	5%	10.00	0.50	0.250	31.12%	0.80	Fluffy	
Guadalupe Germplasm	white tridens	5%	3.00	0.15	0.075	68.34%	0.11	Fluffy	
Kinney Germplasm	false Rhodes grass	5%	2.00	0.10	0.050	83.00%	0.06	Fluffy	
LaSalle Germplasm	Arizona cottontop	10%	4.00	0.40	0.200	93.95%	0.21	Fluffy	
Mariah Germplasm	hooded windmillgrass	5%	2.00	0.10	0.050	77.27%	0.06	Fluffy	
Maverick Germplasm	pink pappusgrass	10%	6.00	0.60	0.300	92.72%	0.32	Fluffy	
Nueces Germplasm	Sand dropseed	5%	2.00	0.10	0.050	97.00%	0.05	Back	
Oso Germplasm	Hall's panicum	10%	2.00	0.20	0.100	80.43%	0.12	Back	
South Texas Germplasm	sideoats grama	10%	14.00	1.40	0.700	80.10%	0.87	Fluffy	
Texoka	buffalograss	5%	16.00	0.80	0.400	76.90%	0.52	Back	
Webb Germplasm	whiplash pappusgrass	10%	6.00	0.60	0.300	82.00%	0.37	Fluffy	
Cibilo germplasm	little barley	10%	10.00	1.00	0.500	89.30%	0.56	Fluffy	
Cibilo germplasm	little barley	90%	10	9.00	9.000	89.00%	10.11	Fluffy	
STN experimental	slim tridens	5%	4.00	0.20	0.100	50.00%	0.20	Fluffy	**Total Bulk lbs.**
STN experimental	rough tridens	5%	4.00	0.20	0.100	50.00%	0.20	Fluffy	Fluffy 14.18
									Back 0.82
Project area	**0.5**	**200%**			**12.53**		**15.00**		**Total** 15.00

Table B-19. Medina County SRA Proposed Specification + Forbs

Variety	Species	% of mix	full rate (PLS/ac)	pls/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
Atascosa Germplasm	Texas grama	5%	10.00	0.50	0.250	84.89%	0.29	Fluffy
Catarina blend	bristlegrass	5%	4.00	0.20	0.100	80.31%	0.12	Back
Dilley Germplasm	slender grama	5%	10.00	0.50	0.250	31.12%	0.80	Fluffy
Guadalupe Germplasm	white tridens	5%	3.00	0.15	0.075	68.34%	0.11	Fluffy
Kinney Germplasm	false Rhodes grass	5%	2.00	0.10	0.050	83.00%	0.06	Fluffy
LaSalle Germplasm	Arizona cottontop	10%	4.00	0.40	0.200	93.95%	0.21	Fluffy
Mariah Germplasm	hooded windmillgrass	5%	2.00	0.10	0.050	77.27%	0.06	Fluffy
Maverick Germplasm	pink pappusgrass	10%	6.00	0.60	0.300	92.72%	0.32	Fluffy
Nueces Germplasm	Sand dropseed	5%	2.00	0.10	0.050	97.00%	0.05	Back
Oso Germplasm	Hall's panicum	10%	2.00	0.20	0.100	80.43%	0.12	Back
South Texas Germplasm	sideoats grama	10%	14.00	1.40	0.700	80.10%	0.87	Fluffy
Texoka	buffalograss	5%	16.00	0.80	0.400	76.90%	0.52	Back
Webb Germplasm	whiplash pappusgrass	10%	6.00	0.60	0.300	82.00%	0.37	Fluffy
Cibilo germplasm	little barley	10%	10.00	1.00	0.500	89.30%	0.56	Fluffy
STN experimental	slim tridens	5%	4.00	0.20	0.100	50.00%	0.20	Fluffy
STN experimental	rough tridens	5%	4.00	0.20	0.100	50.00%	0.20	Fluffy
Forbs								
Goliad Germplasm	orange zexmenia	5%	2.00	0.10	0.050	12.00%	0.40	Back
STN experimental	tropical sage						trace	Back
STN-561	hookers plantain	10%	5.00	0.50	0.250	25.00%	1.00	Back
Venado Germplasm	awnless bush sunflower						trace	Back
VNS	blue bonnet	10%	15.00	1.50	0.750	38.00%	1.98	Back
Zapata Germplasm	Rio Grande clammyweed	5%	8.00	0.40	0.200	46.00%	0.43	Back
Pollinators	Blended mix (see attached*)	25%					2.28	Back
Project area	**0.5**	**110%**			**4.03**		**10.98**	

***Pollinator Blend**	
Species	**Bulk planting rate/acre**
Zizotes milkweed	0.010
Plains coreopsis	0.125
Blue bonnet	0.870
Clasping coneflower	0.125
Drummond phlox	0.313
Gallardia	0.437
Lemon mint	0.150
Mexican hat	0.125
Pink evening primrose	0.125
Total	**2.280**

Total Bulk lbs.	
Fluffy	4.07
Back	6.91
Total	10.98

Table B-20. Medina County SRA Proposed Specification + Forbs + Cover

Variety	Species	% of mix	full rate (PLS/ac)	pls/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
Atascosa Germplasm	Texas grama	5%	10.00	0.50	0.250	84.89%	0.29	Fluffy
Catarina blend	bristlegrass	5%	4.00	0.20	0.100	80.31%	0.12	Back
Dilley Germplasm	slender grama	5%	10.00	0.50	0.250	31.12%	0.80	Fluffy
Guadalupe Germplasm	white tridens	5%	3.00	0.15	0.075	68.34%	0.11	Fluffy
Kinney Germplasm	false Rhodes grass	5%	2.00	0.10	0.050	83.00%	0.06	Fluffy
LaSalle Germplasm	Arizona cottontop	10%	4.00	0.40	0.200	93.95%	0.21	Fluffy
Mariah Germplasm	hooded windmillgrass	5%	2.00	0.10	0.050	77.27%	0.06	Fluffy
Maverick Germplasm	pink pappusgrass	10%	6.00	0.60	0.300	92.72%	0.32	Fluffy
Nueces Germplasm	Sand dropseed	5%	2.00	0.10	0.050	97.00%	0.05	Back
Oso Germplasm	Hall's panicum	10%	2.00	0.20	0.100	80.43%	0.12	Back
South Texas Germplasm	sideoats grama	10%	14.00	1.40	0.700	80.10%	0.87	Fluffy
Texoka	buffalograss	5%	16.00	0.80	0.400	76.90%	0.52	Back
Webb Germplasm	whiplash pappusgrass	10%	6.00	0.60	0.300	82.00%	0.37	Fluffy
Cibilo germplasm	little barley	10%	10.00	1.00	0.500	89.30%	0.56	Fluffy
Cibilo germplasm	little barley	90%	10.00	9.00	9.000	89.00%	10.11	Fluffy
STN experimental	slim tridens	5%	4.00	0.20	0.100	50.00%	0.20	Fluffy
STN experimental	rough tridens	5%	4.00	0.20	0.100	50.00%	0.20	Fluffy
Forbs								
Goliad Germplasm	orange zexmenia	5%	2.00	0.10	0.050	12.00%	0.40	Back
STN experimental	tropical sage						trace	Back
STN-561	hookers plantain	10%	5.00	0.50	0.250	25.00%	1.00	Back
Venado Germplasm	awnless bush sunflower						trace	Back
VNS	blue bonnet	10%	15.00	1.50	0.750	38.00%	1.98	Back
Zapata Germplasm	Rio Grande clammyweed	5%	8.00	0.40	0.200	46.00%	0.43	Back
Pollinators	Blended mix (see attached*)	25%					2.28	Back
Project area	**0.5**	**200%**			**13.03**		**21.09**	

*Pollinator Blend	
Species	**Bulk planting rate/acre**
Zizotes milkweed	0.010
Plains coreopsis	0.125
Blue bonnet	0.870
Clasping coneflower	0.125
Drummond phlox	0.313
Gallardia	0.437
Lemon mint	0.150
Mexican hat	0.125
Pink evening primrose	0.125
Total	**2.280**

Total Bulk lbs.	
Fluffy	14.18
Back	6.91
Total	21.09

Table B-21. Midland County SRA Current Specification

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
Catarina blend	bristlegrass	3%	6	0.20	0.40	80.31%	0.50	Back
Hachita	blue grama	10%	4	0.40	0.80	86.92%	0.92	Fluffy
Kinney Germplasm	false Rhodes grass	5%	2	0.10	0.20	83.02%	0.24	Fluffy
LaSalle Germplasm	Arizona cottontop	5%	4	0.20	0.40	93.45%	0.43	Fluffy
Maverick Germplasm	pink pappusgrass	10%	6	0.60	1.20	92.77%	1.29	Fluffy
Saltalk	alkali sacaton	10%	2	0.20	0.40	94.00%	0.43	Back
South Texas Germplasm	sideoats grama	10%	10	1.00	2.00	80.40%	2.49	Fluffy
Van horn	green sprangletop	50%	2	1.00	2.00	97.00%	2.06	Back
Viva	galleta grass	5%	12	0.60	1.20	58.18%	2.06	Fluffy
Webb Germplasm	whiplash pappusgrass	10%	6	0.60	1.20	82.00%	1.46	Fluffy
Welder Germplasm	shortspike windmillgrass	10%	2	0.20	0.40	52.79%	0.76	Fluffy
Project Acres	**2**	**128%**		**5.10**			**12.64**	

Total Bulk lbs.	
Fluffy	9.65
Back	2.99
Total	**12.64**

Table B-22. Midland County SRA Proposed Specification

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
Brewster Germplasm	sideoats grama	10%	10	1.00	1.00	63.00%	1.59	Fluffy
Catarina blend	bristlegrass	10%	6	0.60	0.60	80.30%	0.75	Back
Hachita	blue grama	10%	4	0.40	0.40	86.92%	0.46	Fluffy
LaSalle Germplasm	Arizona cottontop	10%	4	0.40	0.40	93.95%	0.43	Fluffy
Permian Germplasm	whiplash pappusgrass	10%	6	0.60	0.60	76.27%	0.79	Fluffy
Van horn	green sprangletop	10%	2	0.20	0.20	97.00%	0.21	Back
Viva	galleta grass	10%	12	1.20	1.20	58.18%	2.06	Fluffy
Welder Germplasm	shortspike windmillgrass	5%	2	0.10	0.10	52.79%	0.19	Fluffy
Burnet Germplasm	hooded windmillgrass	10%	2	0.20	0.20	48.93%	0.41	Fluffy
Santiago Germplasm	silver bluestem	10%	4	0.40	0.40	45.00%	0.89	Fluffy
Nueces Germplasm	sand dropseed	5%	2	0.10	0.10	97.00%	0.10	Back
Project Acres	**1**	**100%**		**5.20**			**7.87**	

Total Bulk lbs.	
Fluffy	6.81
Back	1.06
Total	**7.87**

Table B-23. Midland County SRA Proposed Specification + Cover

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
Brewster Germplasm	sideoats grama	10%	10	1.00	1.00	63.00%	1.59	Fluffy
Catarina blend	bristlegrass	10%	6	0.60	0.60	80.30%	0.75	Back
Hachita	blue grama	10%	4	0.40	0.40	86.92%	0.46	Fluffy
LaSalle Germplasm	Arizona cottontop	10%	4	0.40	0.40	93.95%	0.43	Fluffy
Permian Germplasm	whiplash pappusgrass	10%	6	0.60	0.60	76.27%	0.79	Fluffy
Van horn	green sprangletop	10%	2	0.20	0.20	97.00%	0.21	Back
Viva	galleta grass	10%	12	1.20	1.20	58.18%	2.06	Fluffy
Welder Germplasm	shortspike windmillgrass	5%	2	0.10	0.10	52.79%	0.19	Fluffy
Burnet Germplasm	hooded windmillgrass	10%	2	0.20	0.20	48.93%	0.41	Fluffy
Santiago Germplasm	silver bluestem	10%	4	0.40	0.40	45.00%	0.89	Fluffy
Nueces Germplasm	sand dropseed	5%	2	0.10	0.10	97.00%	0.10	Back
Cibilo Germplasm	little barley	10%	10	1.00	1.00	89.30%	1.12	Fluffy
Project Acres	**1**	**110%**		**6.20**			**8.99**	

Total Bulk lbs.	
Fluffy	7.93
Back	1.06
Total	**8.99**

Table B-24. Midland County SRA Proposed Specification + Forbs

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
Atascosa Germplasm	Texas grama	5%	10	0.50	0.50	84.89%	0.59	Fluffy
Brewster Germplasm	sideoats grama	10%	10	1.00	1.00	63.00%	1.59	Fluffy
Catarina blend	bristlegrass	5%	6	0.30	0.30	80.31%	0.37	Back
Chaparral Germplasm	hairy grama	5%	4	0.20	0.20	56.73%	0.35	Fluffy
Chet	sand bluestem	5%	12	0.60	0.60	37.50%	1.60	Fluffy
Guadalupe Germplasm	white tridens	5%	2	0.10	0.10	68.24%	0.15	Fluffy
Hachita	blue grama	5%	4	0.20	0.20	86.92%	0.23	Fluffy
LaSalle Germplasm	Arizona cottontop	5%	4	0.20	0.20	93.95%	0.21	Fluffy
Mariah Germplasm	hooded windmillgrass	5%	2	0.10	0.10	72.27%	0.14	Fluffy
Mason	sand lovegrass	5%	3	0.15	0.15	91.90%	0.16	Back
Nueces Germplasm	sand dropseed	10%	2	0.20	0.20	97.00%	0.21	Back

*Pollinator Blend	
Species	**Bulk planting rate/acre**
Zizotes milkweed	0.01
Plains coreopsis	0.13
Blue bonnet	0.87

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
OK Select Germplasm	little bluestem	5%	8	0.40	0.40	71.90%	0.56	Fluffy
Oso Germplasm	Hall's panicum	5%	2	0.10	0.10	80.43%	0.12	Back
Santiago Germplasm	silver bluestem	5%	4	0.20	0.20	45.00%	0.44	Fluffy
Texoka	buffalograss	5%	16	0.80	0.80	76.90%	1.04	Back
Viva	galleta grass	5%	12	0.60	0.60	58.18%	1.03	Fluffy
Van Horn	green sprangletop	10%	2	0.20	0.20	97.00%	0.21	Back
Forbs								
Cuero Germplasm	purple prairie clover	5%	6	0.30	0.30	13.97%	2.15	Back
Eldorado	Engelmann's daisy	5%	30	1.50	1.50	85.96%	1.74	Back
Pollinators	Blended mix (see attached*)	25%					2.28	Back
Project Acres	**1**	**135%**					**15.175**	

Clasping coneflower	0.13
Drummond phlox	0.31
Gallardia	0.44
Lemon mint	0.15
Mexican hat	0.13
Pink evening primrose	0.13
Total	**2.28**

Total Bulk lbs.	
Fluffy	6.889
Back	8.286
Total	**15.175**

Table B-25. Midland County SRA Proposed Specification + Forbs + Cover

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
Atascosa Germplasm	Texas grama	5%	10	0.5	0.50	84.89%	0.59	Fluffy
Brewster Germplasm	sideoats grama	10%	10	1	1.00	63.00%	1.59	Fluffy
Catarina blend	bristlegrass	5%	6	0.3	0.30	80.31%	0.37	Back
Chaparral Germplasm	hairy grama	5%	4	0.2	0.20	56.73%	0.35	Fluffy
Chet	sand bluestem	5%	12	0.6	0.60	37.50%	1.60	Fluffy
Guadalupe Germplasm	white tridens	5%	2	0.1	0.10	68.24%	0.15	Fluffy
Hachita	blue grama	5%	4	0.2	0.20	86.92%	0.23	Fluffy
LaSalle Germplasm	Arizona cottontop	5%	4	0.2	0.20	93.95%	0.21	Fluffy
Mariah Germplasm	hooded windmillgrass	5%	2	0.1	0.10	72.27%	0.14	Fluffy
Mason	sand lovegrass	5%	3	0.15	0.15	91.90%	0.16	Back
Nueces Germplasm	sand dropseed	10%	2	0.2	0.20	97.00%	0.21	Back
OK Select Germplasm	little bluestem	5%	8	0.4	0.40	71.90%	0.56	Fluffy

*Pollinator Blend	
Species	**Bulk planting rate/acre**
Zizotes milkweed	0.01
Plains coreopsis	0.13
Blue bonnet	0.87
Clasping coneflower	0.13

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs Needed	% PLS of Lot	Total Bulk lbs Seeded	Seed Box
Oso Germplasm	Hall's panicum	5%	2	0.1	0.10	80.43%	0.12	Back
Santiago Germplasm	silver bluestem	5%	4	0.2	0.20	45.00%	0.44	Fluffy
Texoka	buffalograss	5%	16	0.8	0.80	76.90%	1.04	Back
Viva	galleta grass	5%	12	0.6	0.60	58.18%	1.03	Fluffy
Van Horn	green sprangletop	10%	2	0.2	0.20	97.00%	0.21	Back
Cibilo Germplasm	little barley	10%	10	1	1.00	89.13%	1.12	Fluffy
Forbs								
Cuero Germplasm	purple prairie clover	5%	6	0.30	0.30	13.97%	2.15	Back
Eldorado	Engelmann's daisy	5%	30	1.50	1.50	85.96%	1.74	Back
Pollinators	Blended mix (see attached*)	25%					2.28	Back
Project Acres	**1**	**145%**					**16.297**	

Drummond phlox	0.31
Gallardia	0.44
Lemon mint	0.15
Mexican hat	0.13
Pink evening primrose	0.13
Total	**2.28**

Total Bulk lbs.	
Fluffy	8.011
Back	8.286
Total	**16.297**

Table B-26. Ward County SRA Current Specification

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs	% PLS of Lot	Total Bulk lbs	Seed Box
Chaparral Germplasm	hairy grama	10%	4	0.40	0.80	56.73%	1.41	Fluffy
chet	sand bluestem	10%	12	1.20	2.40	73.73%	0.24	Fluffy
Cuero Germplasm	purple prairie clover	5%	6	0.30	0.60	10.48%	0.43	Fluffy
Hachita	blue grama	10%	4	0.40	0.80	86.92%	1.29	Fluffy
Mariah Germplasm	hooded windmillgrass	10%	2	0.20	0.40	72.27%	0.43	Back
vns	sand lovegrass	6%	3	0.18	0.36	91.90%	2.49	Fluffy
cimmeron	little bluestem	10%	8	0.80	1.60	63.05%	2.06	Back
Rim Rock	Indian ricegrass	30%	5	1.50	3.00	97.76%	2.06	Fluffy
Van horn	green sprangletop	50%	2	1.00	2.00	97.00%	1.46	Fluffy
Project Acres	**2**	**141%**		**5.98**			**11.87**	

Total Bulk lbs.	
Fluffy	9.39
Back	2.49
Total	**11.87**

Table B-27. Ward County SRA Proposed Specification

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs	% PLS of Lot	Total Bulk lbs	Seed Box
Chaparral Germplasm	hairy grama	10%	4	0.40	0.40	56.73%	0.71	Fluffy
Cuero Germplasm	purple prairie clover	5%	6	0.30	0.30	13.97%	2.15	Fluffy
Hachita	blue grama	10%	4	0.40	0.40	86.92%	0.46	Fluffy
Mariah Germplasm	hooded windmillgrass	10%	2	0.20	0.20	72.27%	0.28	Fluffy
Mason	sand lovegrass	30%	3	0.90	0.90	91.90%	0.98	Back
Nueces Garmplasm	sand dropseed	10%	2	0.20	0.20	97.00%	0.21	Fluffy
Pastura	little bluestem	10%	8	0.80	0.80	63.05%	1.27	Fluffy
Van horn	green sprangletop	30%	2	0.60	0.60	95.52%	0.63	Fluffy
Cibilo germplasm	little barley	10%	10	1.00	1.00	89.30%	1.12	Fluffy
Project Acres	**1**	**125%**		**4.80**			**7.79**	

Total Bulk lbs.	
Fluffy	6.81
Back	0.98
Total	**7.79**

Table B-28. Ward County SRA Proposed Specification + Cover

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs	% PLS of Lot	Total Bulk lbs	Seed Box
Chaparral Germplasm	hairy grama	10%	4	0.40	0.40	56.73%	0.71	Fluffy
Cuero Germplasm	purple prairie clover	5%	6	0.30	0.30	13.97%	2.15	Fluffy
Hachita	blue grama	10%	4	0.40	0.40	86.92%	0.46	Fluffy
Mariah Germplasm	hooded windmillgrass	10%	2	0.20	0.20	72.27%	0.28	Fluffy
Mason	sand lovegrass	30%	3	0.90	0.90	91.90%	0.98	Back
Nueces Garmplasm	sand dropseed	10%	2	0.20	0.20	97.00%	0.21	Fluffy
Pastura	little bluestem	10%	8	0.80	0.80	63.05%	1.27	Fluffy
Van horn	green sprangletop	30%	2	0.60	0.60	95.52%	0.63	Fluffy
Cibilo germplasm	little barley	10%	10	1.00	1.00	89.30%	1.12	Fluffy
Cibilo Germplasm	little barley	90%	10	9.00	9.00	0.89	10.08	Fluffy
Project Acres	**1**	**215%**		**13.80**			**17.87**	

Total Bulk lbs.	
Fluffy	16.89
Back	0.98
Total	**17.87**

Table B-29. Ward County SRA Proposed Specification + Forbs

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs	% PLS of Lot	Total Bulk lbs	Seed Box
Brewster Germplasm	sideoats grama	10%	10	1.00	1.00	63.00%	1.59	Fluffy

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs	% PLS of Lot	Total Bulk lbs	Seed Box
Catarina blend	bristlegrass	10%	4	0.40	0.40	80.31%	0.50	Back
Chaparral Germplasm	hairy grama	5%	4	0.20	0.20	56.73%	0.35	Fluffy
Chet	sand bluestem	5%	12	0.60	0.60	73.73%	0.81	Fluffy
Hachita	blue grama	5%	4	0.20	0.20	86.92%	0.23	Fluffy
LaSalle Germplasm	Arizona cottontop	10%	4	0.40	0.40	93.90%	0.43	Back
Burnet Germplasm	hooded windmillgrass	5%	2	0.10	0.10	48.93%	0.20	Fluffy
Mason	sand lovegrass	5%	3	0.15	0.15	91.90%	0.16	Fluffy
Nueces Germplasm	sand dropseed	10%	2	0.20	0.20	97.00%	0.21	Fluffy
OK Select Germplasm	little bluestem	10%	8	0.80	0.80	71.90%	1.11	Fluffy
Oso Germplasm	Hall's panicum	10%	2	0.20	0.20	80.43%	0.25	Back
Santiago Germplasm	silver bluestem	5%	4	0.20	0.20	45.00%	0.44	Fluffy
Texoka	buffalograss	5%	16	0.80	0.80	76.90%	1.04	Back
Van Horn	green sprangletop	5%	2	0.10	0.10	97.00%	0.10	Back
Forbs								
Cuero Germplasm	purple prairie clover	5%	6	0.30	0.30	13.97%	2.15	Back
Eldorado	Engelmann's daisy	5%	30	1.50	1.50	85.96%	1.74	Back
Pollinators	Blended mix (see attached*)	25%					2.28	Back
Project Acres	**1**	**135%**					**13.603**	

*Pollinator Blend	
Species	**Bulk planting rate/acre**
Zizotes milkweed	0.01
Plains coreopsis	0.13
Blue bonnet	0.87
Clasping coneflower	0.13
Drummond phlox	0.31
Gallardia	0.44
Lemon mint	0.15
Mexican hat	0.13
Pink evening primrose	0.13
Total	**2.28**

Total Bulk lbs.	
Fluffy	5.11
Back	8.489
Total	**13.603**

Table B-30. Ward County SRA Proposed Specification + Forbs + Cover

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs	% PLS of Lot	Total Bulk lbs	Seed Box
Brewster Germplasm	sideoats grama	10%	10	1.00	1.00	63.00%	1.59	Fluffy
Catarina blend	bristlegrass	10%	4	0.40	0.40	80.31%	0.50	Back
Chaparral Germplasm	hairy grama	5%	4	0.20	0.20	56.73%	0.35	Fluffy
Chet	sand bluestem	5%	12	0.60	0.60	73.73%	0.81	Fluffy
Hachita	blue grama	5%	4	0.20	0.20	86.92%	0.23	Fluffy
LaSalle Germplasm	Arizona cottontop	10%	4	0.40	0.40	93.90%	0.43	Back

***Pollinator Blend**

Variety	Species	% of Mix	Full Rate (PLS/ac)	PLS/ac	Total PLS lbs	% PLS of Lot	Total Bulk lbs	Seed Box
Burnet Germplasm	hooded windmillgrass	5%	2	0.10	0.10	48.93%	0.20	Fluffy
Mason	sand lovegrass	5%	3	0.15	0.15	91.90%	0.16	Fluffy
Nueces Germplasm	sand dropseed	10%	2	0.20	0.20	97.00%	0.21	Fluffy
OK Select Germplasm	little bluestem	10%	8	0.80	0.80	71.90%	1.11	Fluffy
Oso Germplasm	Hall's panicum	10%	2	0.20	0.20	80.43%	0.25	Back
Santiago Germplasm	silver bluestem	5%	4	0.20	0.20	45.00%	0.44	Fluffy
Texoka	buffalograss	5%	16	0.80	0.80	76.90%	1.04	Back
Van Horn	green sprangletop	5%	2	0.10	0.10	97.00%	0.10	Back
Cibilo Germplasm	little barley	90%	10	9.00	9.00	89.30%	10.08	Fluffy
Forbs								
Cuero Germplasm	purple prairie clover	5%	6	0.30	0.30	13.97%	2.15	Back
Eldorado	Engelmann's daisy	5%	30	1.50	1.50	85.96%	1.74	Back
Pollinators	Blended mix (see attached*)	25%					2.28	Back
Project Acres	**1**	**225%**					**23.682**	

Species	Bulk planting rate/acre
Zizotes milkweed	0.01
Plains coreopsis	0.13
Blue bonnet	0.87
Clasping coneflower	0.13
Drummond phlox	0.31
Gallardia	0.44
Lemon mint	0.15
Mexican hat	0.13
Pink evening primrose	0.13
Total	**2.28**

Total Bulk lbs.	
Fluffy	15.19
Back	8.489
Total	**23.682**