

USDA, NRCS
PLANT MATERIALS
PROGRAM

POINTS
OF
INTEREST

- ODOT
Contract
- New Cultivar

PMC
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Oklahoma Department of Transportation

Cooperating with the Oklahoma Department of Transportation, the Plant Materials Center initiated a study in 2006 to examine the establishment of native grasses along Oklahoma rights of way. The problem originates from moderate to severe erosion along highway rights of way depositing silt which is filling drainage ditches and impacting the drainage of the ditches. This silt, over time, may be transported to local streams and riparian areas.

Three sites have been identified that are representative of most of the severe slope problems in eastern Oklahoma. The slopes are bare to somewhat bare of vegetation. Several attempts have been made in the past to establish vegetation on these areas. This has been met with little or no success. The PMC will begin a complete site characterization study of each of the areas. This evaluation will identify why plants will not persist at each site. Factors considered will include, but will not be limited to, soil pH, presence of organic salts, organic matter, depth of bed rock, solid type and composition.

The information gained from this characterization will be used by the PMC to develop multiple techniques that will be tested at each site. The techniques will consist of a variety soil amendments, plant species, planting methods, dates, rates, mulches, mulch rates and mulch application methods. Another establishment technique will consist of hydro-seeding and mulching, seedbed preparation, planting rates and species. The study will examine components needed for successful establishment of permanent vegetative cover and the economics of each treatment.

At the completion of the study, this information will be beneficial to the Oklahoma Department of Transportation for addressing other problem areas and sites that require special treatment application.



Mission Statement of NRCS

The mission of the Natural Resources Conservation (NRCS) Plant Materials Program (PM) is to develop, test, and transfer effective state-of-the-art plant science technology to meet customer and resource needs. NRCS PM activities are consistent with the objectives of the current United States Department of Agriculture (USDA) and NRCS Strategic Plans (Exhibit 539-1), namely to provide timely and effective vegetative solutions for identified resource needs.

New Indiangrass Cultivar

Indiangrass (*Sorghastrum nutans* (L.) Nash) is a deep rooted perennial warm season native bunchgrass, found in remnant prairie sites across the country. It is a highly nutritious forage that produces an abundance of dry matter annually. Indiangrass is very insect/disease resistant, and requires little fertility. Several cultivars of Indiangrass are commercially available, including, 'Americus', 'Cheyenne', 'Rumsey', and 'Osage'. These are recommended for the Booneville service area of Western Arkansas, Eastern Oklahoma, and Southeast Missouri.

In a variety trial of Indiangrass cultivars conducted at Booneville, 'Cheyenne' proved to out perform others. Tested characteristics included, germination, seedling vigor, forage quality/quantity, drought tolerance, and seed production/viability. 'Cheyenne' scored high marks in all categories except drought tolerance. It was evident that all cultivars tested had very low drought tolerance.

A draft study plan was presented by PMC staff to the State Plant Materials Committee in 2005. The plan outlined a means to collect Indiangrass seed (fall of 2006) from across Arkansas to identify a drought resistant ecotype, that would be released as a new cultivar. The plan was approved, and implemented. Field office staffs across the state collected seed from 87 sites, and forwarded the materials to Booneville. The center staff assigned individual accession numbers to each collection and stored the materials in cold storage for the winter. In January, the staff planted each accession in flats that were placed in the greenhouse for germination. When the plants were 3-6 cm in height, they were transplanted into planting cones, placed in racks, and transplanted into an initial evaluation nursery in the spring. The seedlings will be evaluated on seedling vigor, disease resistance, insect resistance, forage production/quality, and drought resistance. Within two years the top 10 percent will be identified and moved into advanced evaluation to isolate the very best accession that will become a cultivar. The new cultivar will be named and released for commercial production.



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