



Los Lunas Plant Materials Center Fall 2011 Newsletter

‘Windbreaker’ big sacaton: A New Plant Release from the Los Lunas Plant Materials Center and New Mexico State University

The Los Lunas Plant Materials Center (PMC) and New Mexico State University have a new plant release: ‘Windbreaker’ big sacaton (*Sporobolus wrightii*). There are a number of considerable conservation uses for this species:

- Erosion control
- Biomass for-energy production
- Forage for livestock and wildlife
- Wildlife cover
- Hay mulch for seeding critical areas
- Landscape plant with low water use for urban and rural areas
- Noise barrier
- Natural fence
- Vegetative filter strips



‘Windbreaker’ big sacaton (*Sporobolus wrightii*) growing at the Los Lunas Plant Materials Center

In 1984, 37 accessions of big sacaton were planted into a non-replicated initial evaluation planting (IEP) at the Los Lunas PMC. By 1992, ten accessions with the most robust plants had been identified. From each of the ten accessions,

the largest plant was selected. These 10 plants displayed an average leaf height of 1.28 meters and an average plant width of 0.75 meters.

In 1999, wind erosion control of valuable cropland was identified as a critical need by New Mexico NRCS field offices in Deming, Tatum, Grants, Hobbs, and Tucumcari. Danny Goodson, agronomist at the Los Lunas PMC, began installing ‘Windbreaker’ big sacaton windstrip planting trials on several cooperators’ farms and at public facilities. These cooperators assisted with the installation of the plantings and also in their evaluations. Their assistance and interest in ‘Windbreaker’ has been paramount in the development of this release.

Breeder and/or foundation seed will be maintained at the Los Lunas PMC. This seed will be distributed to interested certified growers through the New Mexico State Seed Certification Program.

National ALMANAC Pilot Project

In 2011, the Los Lunas Plant Materials Center began participation in a nationally recognized project to aid in the continuing development of a key vegetation prediction model developed by the USDA Agricultural Research Service (ARS). The Agricultural Land Management Alternatives with Numerical Assessment Criteria (ALMANAC) model was developed to help understand the response of vegetation to various types of conservation strategies. The model was designed to simulate the interaction of two or more plant species competing for water, light and nutrients. The competing species can be any type from grass found growing in a forest, to a common cereal grain field invested with a weed species. ALMANAC can also be used to model typical farming monoculture such as corn, sorghum, or wheat crop and has been successfully used to model forage production on native rangeland.

The Natural Resources Conservation Service NRCS has teamed up with ARS to continue the collection of data for input into the ALMANAC model. The ARS’s Grassland, Soil and Water Research Laboratory in Temple, Texas runs the ALMANAC program and all data gathered for inclusion in the model is sent to that location. The NRCS’s Plant Materials Program is participating with the ARS in collection of data on native species that are found at different plant material centers

located around the United States. In 2011, the Los Lunas PMC began gathering data for the ALMANAC project.

The Los Lunas PMC selected the cultivar release ‘Viva’ Galleta grass to be used in the ALMANAC project. Galleta is a native warm season range grass and is an important grazing species for large areas of the western United States. The LLPMC used its existing foundation seed production field of ‘Viva’ to provide data for input into the ALMANAC model. A ceptometer was used to gather solar interception in the galleta field during the growing season. The ceptometer measures the amount of light being intercepted by a plant species using above canopy and below canopy readings taken at a particular time of day and for a specific location. Forage of the plant species canopy is also needed for the input into the ALMANAC model and this was completed by clipping the plants found in designated plots during the growing season.



Danny Goodson, Agronomist at the LLPMC, using a ceptometer to measure light interception of galleta forage canopy

Readings from the ceptometer and forage weights were then sent to the ARS’s Grassland, Soil and Water Research Laboratory for analysis and eventual entry into the ALMANAC model. The data will supply much needed information to assist in development of the model and its ability to assess the production potential of many types of land resources. The ALMANAC model is a promising assessment tool that can help guide individuals, agencies and other types of land managers to make informed decisions to help sustain the land they manage.

The Los Lunas PMC is scheduled to participate in gathering data for the ALMANAC project in 2012. In 2012, along with the galleta grass, the center will add a second native grass species, vine mesquite (*Panicum obtusum*) to the project.



AccuPAR LP-80 Linear PAR Ceptometer

For more information about this project and the Agricultural Research Service’s ALMANAC model, contact the Los Lunas Plant Materials Center at 505-865-4684 or Danny Goodson at danny.goodson@nm.usda.gov.

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