United States Department of Agriculture
Natural Resources Conservation Service

Notice of the Selected Class Release
of
Citrus Germplasm Maidencane

The Natural Resources Conservation Service, United States Department of Agriculture announce the naming and selected class release of Citrus Germplasm Maidencane, *Panicum hemitomon* Schultes.

Citrus maidencane was assigned the NRCS accession number 12-5434 and the Plant Introduction (PI) number of 421993. It was selected to provide a Florida native maidencane that exhibits superior characteristics to other native maidencane, to be used primarily in controlling erosion along stream banks and around ponds.

Origin: Citrus Germplasm was collected vegetatively by NRCS employees J. Joiner and J. Moen August 28, 1970, on Stage Pond Road off County Road 480, Citrus County, Florida (MLRA 154).

Selection Method: Citrus maidencane was selected from an original assembly of 121 accessions collected throughout the State of Florida in 1970 and 1971, for its leafy, semi-erect growth habit, rate of spread and persistence. Evaluations at the Brooksville, Florida Plant Materials Center, and off center plantings, have shown PI-421993 performed better than other accessions of native Florida maidencane, and as well or better than the released cultivar 'Halifax'.

Ecotype Description: Citrus maidencane is a native perennial, warm season, semi-erect grass with stems diverging from true vertical to 30-35 degrees. It is an aquatic to semi-aquatic grass and will spread from the shoreline both towards and away from the water. It grows 36-40 inches tall and spreads by creeping rhizomes. Growth generally commences in June and persists with good vigor into mid-autumn. Leaf blades are characteristically lush green, 8-12 inches long, ½ inch wide. Rhizomes produce both sterile and fertile shoots. Sterile stems, which produce no seed heads, have hairy leaf sheaths; stems producing seeds are hairless. The inflorescence is a compact, elongated panicle, 6 to 8 inches long. The quantity of viable seed produced by this plant makes it impractical to use seed for planting. Citrus maidencane has not shown any marked susceptibility to disease or insects.

Citrus maidencane will grow in a wide variety of soils varying from mineral clays to floating organic soils. It grows best if water level fluctuates from 2 inches above soil surface to 4 inches below (Leithead *et al,* 1971).

Anticipated Conservation Use: The potential use of Citrus maidencane is controlling erosion along ponds, stream banks, shorelines, channels and as a native forage for use on moist areas of improved pastures and rangelands. Evaluations have shown this germplasm to be more beneficial than other native species in controlling erosion because of its height and rate of spread. When evaluated for use as a forage species, results have shown the Citrus Germplasm produced three times more high quality forage than other native maidencane, or the released cultivar 'Halifax'. Overgrazing can be detrimental to maidencane, especially if sites are abnormally dry. Nutrient uptake on wastewater application sites is another conservation use where this germplasm has shown great potential.

Potential Area of Adaptation: Wet or moist areas throughout the State of Florida.

Literature Review: Maidencane *(Panicum hemitomon)*, (or paille fine as it is called in Louisiana and Texas) is widespread in the coastal plain extending from New Jersey to Florida and westward into east Texas. It has been observed northward and inland as far as Tennessee. This grass has often been called the "ice-cream" native grass of Florida. Cattlemen know it as the most productive, dependable and nutritious native grass in Florida. It is well adapted to marshes, sand ponds and broad flood plains of most major rivers and streams (Yarlett, 1980). It is a good indicator of fresh marsh conditions where salinity is no problem, in land use and development (USDA, 1974).

Management: Field production can be established with mature stem material or rhizomes.

Leaf and stem material may be cut and used for mid-summer planting of material on moderately well drained to poorly drained soils. The rainy season should be selected for this type planting. The material should be distributed on well prepared soils and embedded by means of a disk or roller chopper. When disked into the soil about 1/4-1/3 of the stem materials should be left exposed. One to one and one-half tons of top material should be used per acre. Care must be taken to prevent drying out of these materials until the planting is well established.

Well-developed, fleshy and vigorous rhizome materials may be used for summer or winter plantings. Similar materials may be used in spring or autumn plantings if irrigation is available. For quick stand development, plant in a shallow furrow and cover about 2 inches deep. Lay the rhizome pieces end to end in the furrow, or spaced with one-foot intervals between the rhizome pieces (25-30 bushels per acre). Moist soil should be used for covering the rhizomes and the planting should be prevented from drying out until well established. Once well established, maidencane is able to withstand drought and will respond quickly to renewed rains.

Digging or harvesting of material should not occur until the end of the second growing season, or until the field is well established.

Plant Performance – Field evaluation plantings have been established at three locations in Florida thus far. Additional plantings have been established but data are not currently available.

Defuniak Springs – Borrow pit: Citrus Germplasm and 'Halifax' were established during 1983 on a borrow pit in NW Florida, in Plinthic fine sand subsoil of the Troup soil series, in ten foot rows with plants one foot apart and rows five feet apart. Evaluations showed the Florida native maidencane was more heat and drought tolerant, had more stems per plant, greater basal spread and greater height than 'Halifax' did.

Ocala Pine Oaks Golf Course – Wastewater Application Site: Citrus Germplasm and 'Halifax' were established on this site in Central Florida during 1990. In all plantings, the native Florida accession was superior to 'Halifax'. 'Halifax' spread well but produced less than half the above ground growth compared to the Florida native material. Approximate dry matter yield for the Florida accession was 4 tons per acre while 'Halifax' produced only about 1.2 tons.

Belleview – J. D. Perry Wastewater Application Site: Citrus Germpasm was established on this site in Central Florida, using bermuda grass as the standard of comparison. During the 1998 growing season, the Citrus maidencane was cut twice and produced an average of 5,495 pounds of dry matter per acre. The bermuda grass was cut four times and averaged 14,247 pounds of dry matter per acre.

Release Justification: Currently the cultivar 'Halifax', released by the Coffeeville, Mississippi Plant Materials Center, is the only maidencane commercially available. There is a need for a maidencane native to Florida. Citrus Germplasm maidencane has been selected to meet this need.

Source Material Maintenance: Foundation stock (stem material or rhizomes) is available from the Brooksville Plant Materials Center, Brooksville, Florida, to commercial producers. Citrus Germplasm maidencane production blocks must be established from foundation materials distributed by the Brooksville Plant Materials Center.

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References:

Yarlett, Lewis L. 1980. Maidencane – the 'ice cream' grass of Florida, The Florida Cattleman. Jan. pp. 42-44

Leithead, H. L., L. L. Yarlett, T. N. Shiflet. 1971. 100 Native Forage Grasses in 11 Southern States. USDA – SCS, Agriculture Handbook 389. Washington, D.C.

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