

UNITED STATES DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

COFFEEVILLE, MISSISSIPPI

NOTICE OF RELEASE OF MORTON GERMPLASM KORI-YANAGI WILLOW  
TESTED CLASS OF NATURAL GERMPLASM

The Natural Resources Conservation Service (NRCS), U.S. Department of Agriculture announces the germplasm release of kori-yanagi willow (*Salix koriyanagi* Kimura ex Goerz) (SAKO3). As a tested class release this plant will be referred to as Morton Germplasm. It has been assigned the NRCS accession number 9004882.

This alternative release procedure is justified because of the need for adapted woody planting stock that is of fairly short stature, resistant to diseases and insects, and able to produce numerous, small flexible branches for use in stream bank erosion control. Secondly, the two released cultivars developed for this purpose, 'Bankers' dwarf willow (*S. x cotteti* Kerner.) and 'Streamco' purple willow (*S. purpurea* L.), are marginally adapted in the southern states and 'Streamco' can be severely damaged by black canker (*Physalospora* sp.) and Cytospora canker (*Cytospora* sp.). Cankers are rarely found on Morton germplasm.

**Collection Site Information:** The original planting stock was collected from the Morton Arboretum, Lisle, Illinois. Planting stock was sent to Coffeeville, Mississippi in 1963 via National Plant Materials Center, Beltsville, Maryland.

**Description:** Taxonomic description of Morton Germplasm does not differ from that of the species. Newholme (1992) describes *S. koriyanagi* as a large, upright, multi-branched shrub to 4 m (13 ft.). Branches glabrous, yellowish gray; branchlets slender, glabrous, very flexible, pale green and yellowish under the bark. Leaves opposite or alternate, linear to lanceolate, 5-10 cm long, 5-12 mm wide, faintly serrate, apex acuminate, base rounded or obtuse, pale pink and brown when young, glabrous bright green above and glaucous beneath when mature, with numerous lateral veins. Male catkins cylindrical, densely flowered, 2-3 cm long, sessile with hairy, obovate flower scales, staminal filaments connate, anthers purple at emergence becoming red, orange, and yellow progressively. Female catkins 2-3.5 cm long, subsessile, densely flowered, scales long-hairy, ovary sessile, densely pubescent, style and stigma short, bifid.

**Method of Breeding and/or Selection:** Morton Germplasm was selected from 77 accessions of *Salix* spp. evaluated from 1963-1981 at Coffeeville, Mississippi. It, along with three other willows (erect willow (*S. eriocephala* Michx.), prairie willow (*S. humilis* Marsh.) and goat willow (*S. caprea* L.), was considered to have release potential based upon vigor, form, and freedom from diseases and insects (USDA, SCS, 1984).

Rooting ability of stem cuttings of Morton Germplasm, erect, prairie, goat, 'Bankers', 'Streamco' and black willow (*S. nigra* Marsh.) were compared in the field and greenhouse environment. Morton Germplasm rooting ability from stem cuttings was equivalent to the other willows, but was superior to prairie willow (Snider et al., 1986).

Comparative evaluations were made on the aforementioned willows and Morton Germplasm on stream banks in Mississippi, Arkansas and Louisiana from 1984-1989. These field plantings provided limited performance data and it was concluded that 'Streamco' and 'Bankers' would be recommended for the PMC service area because their performance was similar to the other willows (Wolfe, 1992).

Additional field observations in the early 1993-1994 at Coffeeville found that 'Streamco' and 'Bankers' were susceptible to stem canker. By 1995 all plants of these cultivars had died, providing justification to release Morton Germplasm. Limited field testing in Mississippi found Morton Germplasm performed well on eroded stream banks in central and northern Mississippi and some nurserymen in Tennessee recommended it for its ornamental attributes.

Black willow is the predominant willow found in riparian areas in the Southeast. However, it can grow to be fairly tall and has a tendency to be shallow rooted, often causing it to fall into and block the stream course. Morton Germplasm is a much smaller shrub and therefore, should be superior to the native species because this problem will be minimized. Furthermore, because of its fairly small branches [5 cm (2 in.) in diameter] a rotary or flail type mower can be used to mechanically remove old growth or control height and canopy along stream corridors that run through urban areas.

**Environmental Considerations and Evaluation:** The short-term viability of its seed and the minimum likelihood of vegetative spread under conditions in which it will be used indicate that Morton Germplasm will not become an invasive species. Therefore, it does not pose any undue environmental risk as determined by NRCS Plant Materials Program invasive guidelines (USDA-NRCS, 1999).

**Conservation Use:** Uses of Morton Germplasm include stream bank erosion control, plant diversity in riparian buffer plantings, urban conservation as an ornamental shrub and as a source of plant material for making baskets (Newsholme, 1992). It also can provide food, cover, and nesting sites for wildlife (U.S Army Engineers Waterways Experiment Station, 1978).

**Anticipated Area of Adaptation:** *S. koriyanagi* is native to Korea, but is widely grown in Japan. It prefers moist soil areas with good fertility. Adaptation information specific to this species and release are limited; however, it should have similar preferences as other willow species. Willows prefer fresh water sites, with an acid to neutral pH and should tolerate seasonal inundation with standing water (U.S Army Engineers Waterways Experiment Station, 1978). It is anticipated that the area of adaptation for Morton Germplasm would be plant hardiness zones 5a, 5b, 6a, 6b, 7a, 7b, 8a, 8b.

**Availability of Plant Materials:** Planting stock of Morton Germplasm will be maintained by the USDA-NRCS Jamie L. Whitten Plant Materials Center, and is available in limited quantities for commercial increase purposes.

**References**

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