

THE
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

AND

OREGON STATE UNIVERSITY AGRICULTURAL EXPERIMENT STATION

AND

WASHINGTON STATE UNIVERSITY AGRICULTURAL RESEARCH CENTER

NOTICE OF THE RELEASE OF 'MASON' WESTERN REDOSIER DOGWOOD

[*Cornus stolonifera* Michx. var. *occidentalis* (T. & G.) C.L. Hitchc.]

Notification of the naming and release of 'Mason' western redosier dogwood.

'Mason' western redosier dogwood, [*Cornus stolonifera* Michx. var. *occidentalis* (T. & G.) C.L. Hitchc.; synonym *Cornus sericea* L. var. *occidentalis* T. & G.] or creek dogwood is a vegetatively propagated cultivar recommended for use in streambank stabilization and wildlife habitat improvement. Potential uses also include windbreaks, screens, and naturalized landscaping. The combination of bright red to yellow-green stems (late fall and winter), white flowers clusters (spring), white berries (summer), and variable red fall foliage add ornamental value for borders or massings along highways and in recreational area or residential plantings. The fruit is eaten by many song and game birds and the twigs are browsed by deer, elk, moose, and rabbits. The species ability to spread vegetatively improves its potential for erosion control along streams and rivers.

'Mason' western redosier dogwood is a large, native, multi-stemmed shrub or small tree 3-5 meters (m) [10-16 ft] tall. While the limbs are predominantly upright, the species is recognized for its ability to spread slowly by the layering of lower branches that may come in contact with the ground.

Origin: 'Mason' originates from stem cuttings obtained from a single, wild shrub growing in Mason County, Washington, hence the name. The collection was made by Bill Petty of the Soil Conservation Service (SCS) in 1980. Cuttings taken from six test shrubs cloned from the original plant were used by the SCS Plant Materials Center, Corvallis, Oregon to establish the foundation cutting block in 1984.

'Mason' was first assigned the accession numbers CO-332 and 9019459 by the Soil Conservation Service. In January 1990 it was officially designated PI-540382 under the name *Cornus stolonifera* Michx. var. *occidentalis* (T. & G.) C.L. Hitchc. by the USDA Agricultural Research Service.

Description: 'Mason' western redosier dogwood is a broadleaf deciduous shrub or small tree that grows up to 5 m tall and 4 m wide. Its morphology is typical of the western form of the species. The habit is moderately open, upright, loosely branched or spreading, and multistemmed with a rounded crown. Young stems are yellow-green in summer turning red in fall and winter while the bark of older limbs is grey or brown. Leaves are opposite with blades ovate, elliptic-ovate or somewhat obovate in shape, green and sparsely strigillose to subglabrous above, strigillose and pale beneath, wavy to entire along the margins, acuminate to acute at the tip, 3-5 centimeters (cm) broad, 5-10 cm long and conspicuously veined. Flowers

are born in flat-topped cymes and have white petals 2-4 millimeters (mm) long. The fruit is a white or ivory colored berry-like drupe about 6 mm wide. The stone is slightly grooved lengthwise. Flowering and fruiting occurs over an extended period from May through August. The leaves turn variable shades of red in October and fall by late November. The chromosome number is $2n = 22$.

Performance: 'Mason' (var. *occidentulis*; CO-332, 9019459, PI-540382) western redosier dogwood was evaluated in a common garden nursery against 59 other clones and cultivars from 1980 through 1985. Standards of comparison included 'Cheyenne' (var. *stolonifera*; NY-5870, 9002647), 'Cimmaron' (var. *coloradensis*; CO-381, 9019794) and 'Ruby' (var. *stolonifera*; NY-5214, 9002408, PI-443229). Accession 9019459 was selected as one of the two best clones in the study. It was chosen for its faster growth rate, higher plant vigor, greater stem density, and better foliage appearance (fewer visual disease symptoms and insect signs compared to other accessions, but not necessarily greater pest resistance). 'Mason' ranked in the top eight percent in eight selection criteria, more than any other clone. Of the three cultivars used in study, 'Cheyenne' failed to survive beyond three growing seasons and both 'Cimmaron' and 'Ruby' ranked well below 'Mason' in nearly all selection categories.

In the evaluation nursery at the Corvallis Plant Materials Center (40 inch ppt.), 'Mason' attained a height of 1.1 m (3.5 ft) in three years and 1.9 m (6.2 ft) after five years. On a similar upland site at Corvallis without irrigation, five uniform specimens reached an average height of 3.2 m (10.5 ft) with a canopy width of 3.3 m (10.8 ft) after seven growing seasons.

To evaluate performance under actual field use, 'Mason' was established in low maintenance riparian plantings in Oregon and Washington between 1985 and 1989. In 23 trials, overall survival after one to five years averaged 59 percent. However, where better growing conditions exist and proper planting techniques were employed, survival rates have exceeded 90 percent.

Adaptation: 'Mason' redosier dogwood is best adapted to moist, moderately acid to neutral, well drained, medium to coarse textured soils. However, it will tolerate fine textured, poorly drained, or temporarily ponded soils if weed competition is not too severe. The species grows best in sun or partial shade. Known areas of adaptation for 'Mason' include riverbanks, lakeshores, seasonal wetlands, and other moist sites west of the Cascade Mountain ridge in Oregon, Washington, and northern California (USDA-SCS Major Land Resource Areas 1-5). The variety can also be planted on well drained uplands in the region if the average annual precipitation exceeds 890 mm (35 in) or supplemental water is applied.

Grouped as one species, redosier dogwood occurs widely throughout much of North America at elevations up to 2450 m (8000 ft) within USDA Plant Hardiness Zones 3-8. However until further information on cold and heat tolerance is known, the cultivar 'Mason' (var. *occidentulis*) is recommended for use within Zones 7a-8b at elevations below 600 m (2000 ft) in the Pacific Northwest. Potential area of adaptation may include Zones 6-9 and extend to other regions of North America with similar climate and soils.

Propagation: 'Mason' western redosier dogwood is a vegetatively propagated cultivar. Fifteen to 20 cm (6-8 in) hardwood cuttings, 8-13 mm (0.3-0.5 in) in diameter will root at a rate of 90-100 percent in moist, greenhouse potting medium without hormonal treatment. However, in one rooting trial with 20 cm (8 in) cuttings, root development was greater after six weeks for all IBA hormone treatments [XBA quick dips at 1000 and 5000 ppm, IBA dips (1000 and 5000 ppm) plus captan fungicide, a commercial dip containing IBA and NAA, and a commercial powder containing IBA] compared to captan alone and the control. A bottom heat of 24 C (75 F) was applied to all treatments in the mist bench. Improved rooting of redosier dogwood using IBA (with and without a fungicide) has also been reported in the literature. For

bareroot production, larger 30 cm (12 in) treated cuttings can be inserted directly into irrigated nursery beds in spring and dug for transplanting the following year.

Establishment and Use: Direct streamside planting of unrooted, dormant cuttings or slips, 30-50 cm (12-20 in) in length and 10-15 mm (0.4-0.6 in) in diameter has yielded mixed results. Attempts to revegetate with rooted cuttings that were greenhouse propagated in winter from hardwood stems, grown in 164 mL (10 cubic in) cone-tainers, and planted the same spring have generally been unsuccessful. For large scale restoration efforts, the use of properly hardened 1-0rooted cuttings, large 1 m (3 ft) unrooted whips, or bareroot stock is more advisable, especially in late spring or on drier sites where water tables are receding or rainfall diminishing.

Minimum spacing for most stabilization projects along streams of low velocity is 60 cm by 60 cm (2 ft by 2 ft), beginning at waterline and proceeding up the bank. However, plantings of 'Mason' should be concentrated close to the shoreline. Good soil moisture, proper planting techniques, livestock exclusion and weed control are among the most important factors for maximum growth and survival.

Interplanting 'Mason' with a mixture of species, including native willows and other riparian shrubs, has achieved the most desirable results in terms of long term survival, stabilization and fish and wildlife habitat improvement. When planted using traditional methods, 'Mason' should not be used alone except on low hazard sites where its ornamental and wildlife value are major objectives, or in windbreaks and screens. Although yet to be tested, this variety may find application in bioengineering practices such as wattling, brush matting, and brush layering. The success of other redosier dogwoods using these techniques has been reported.

Distribution: Foundation stock is available to commercial nurseries, agricultural experiment stations, researchers, and arboreturns through the Oregon State University Seed and Plant Certification Program, Corvallis, Oregon. The USDA, Soil Conservation Service, Plant Materials Center, 3415 NE Granger Avenue, Corvallis, Oregon 97330 will maintain original mother plants for supplying certified stock.

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