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 'ROGUE' ARROYO WILLOW (Salix lasiolepis Benth.)

Notification of the naming and release of 'Rogue' arroyo willow.

'Rogue' arroyo willow, Salix lasiolepis Benth., or white willow is a vegetatively propagated cultivar recommended for use in streambank stabilization, rehabilitation of riparian areas, and improvement of freshwater fisheries. In low maintenance streamside plantings, it has performed as well or better than other native willow species. In addition, rapid early growth and adaptation to upland sites makes arroyo willow suitable for use in field windbreaks, native screens, and natural area landscaping. Application should focus on those sites where moderately large, rapidly developing specimens are desired.

'Rogue' arroyo willow is a native tall shrub or small tree, 4-10 meters (m) [14-33 feet] tall, with elliptic to oblong leaves, an erect trunk, upright to spreading branches, and variable crown. 'Rogue' is male and therefore produces only staminate flowers in March or early April. Lack of seed eliminates it as a source of volunteers. The cultivar name refers to the Rogue River in southwest Oregon where the vegetative material was initially collected.

Origin: 'Rogue' arroyo willow originates from specimens growing along the north bank of the Rogue River at the confluence of Two Mile Creek near the town of Illahe in Curry County, Oregon. Vegetative cuttings were first obtained from the site in March 1978 by Roy Carlson of the Soil Conservation Service (SCS). After testing, five plants were chosen by the SCS Corvallis Plant Materials Center to provide the source material for the foundation cutting block established in 1983.

Description: 'Rogue' arroyo willow is a multistemmed, occasionally single trunked, upright, large shrub or small tree, 4-10 m in height, with a broad, rounded or spreading crown and drooping lower branches. In the open, this plant will grow about as wide as it does tall. With With age, the thin, smooth gray bark becomes fissured into broad ridges.

'Rogue' appears to be comprised of two genotypes or clones differing primarily in stem color and degree of pubescence. One has leaves that are nearly glabrous and twigs that are yellow-red and sparsely pubescent to glabrate. The leaves of the second type are more pubescent beneath and its twigs are brownish-red and covered with dense pubescence.

The leaf blades of 'Rogue' are oblanceolate, obovate to elliptic in shape, entire or sinuate to occasionally toothed along the margin, dark green above, glaucous beneath, 4-11 centimeters (cm) long, 1-2.5 cm wide, 2 to 6 times longer than wide, and short-pointed at the apex: stipules small and soon lacking but prominate on vigorous new shoots: petioles short, 6-14 millimeters (mm) long. The male catkins are 2-6 cm long and subsessile or born on a short peduncle with small bracts: stamens two per flower with yellow anthers; scales dark, 1 millimeter (mm) long and densely wooly. Catkins emerge before the leaves, usually in March. The leaves are alternate and deciduous, falling by late November.

Positive identification of 'Rogue' arroyo willow as Salix lasiolepis Benth. was obtained from Dr. George Argus, Botany Division, Museum of Natural Sciences, Ottawa, Ontario, Canada.

'Rogue' arroyo willow was first assigned the accession number 9004818 or T-4818 by the Soil Conservation Service. In January 1987 it was designated PI-508557 under the name of S. scouleriana or scouler wi1low.

Adaptation: 'Rogue' arroyo willow is broadly adapted to moist or wet coastal and inland sites, riparian areas, and mountain valleys west of the Cascade Ridge in Oregon, Washington, and northern California. In addition, it will perform well on moist, upland sites and in foothill meadows where the annual precipitation exceeds 890 mm (35 inches) and the average annual minimum temperature is above -17.7 C (0 F) [USDA Plant Hardiness Zones 7a-9b as defined by H. M. Cathey, 19901. Potential areas of adaptation include the species native range and regions with similar climate and soils.

As a species, S. lasiolepis is indigenous to gullies, gulches (arroyos), and streambeds from sea level to 2100 m (7000 feet). It occurs naturally from Baja California to Washington and east to New Mexico, Utah, and Idaho. It is most common in western California. While arroyo willow tolerates poorly-drained, clay loam soils, it prefers coarser textured, moist, well-drained sites in full sun.

Performance: 'Rogue' arroyo willow or 9004818 was evaluated in an observational row nursery against 105 accessions or individual clones comprising at least eight native species. Accession 9004818 was first tested under the scientific name S. scouleriana. It was selected for its high survival, male sex, rapid early growth rate, and shrubby branching pattern. On an upland site without irrigation at the Corvallis Plant Materials Center (40 inch annual ppt., elev. 69 m), 'Rogue' attained a height of 3.0 m (10 feet) after three years and 6.1 m (20 feet) after nine years. Growth rates ranged from 60-130 cm. (2.0-4.3 feet) per year during the first four years. Data from 42 field plantings along streams, ditches, and on other moist, low maintenance sites in Oregon and Washington, indicates an overall survival rate of 52 percent after one to seven years. However, where proper site selection and planting methods are used, survival exceeds 90 percent.

Propagation: 'Rogue' arroyo willow is a vegetatively propagated cultivar. Fifteen to 20 cm (6-8 inches) cuttings or slips, 6-13 mm (1/4 to 1/2 inch) in diameter, will root readily in most potting medium under greenhouse conditions. One-year-old (1-0) containerized plugs, properly maintained and hardened-off, are recommended over those that are rooted in winter and planted the same spring. In

addition, 30-60 cm (12-24 inch) slips stuck directly into the field will grow if adequate moisture exists and proper site preparation and planting techniques are employed. Where water tables are low or receding, 90-150 cm (3-5 feet) unrooted whips, 13 mm (1/2 inch) or more in diameter, can be utilized to improve survival. Bundles or individual large branches and canes may be utilized in bioengineering practices to stabilize slopes and streambanks. In all cases, no special hormone treatments are required. However, weed control is important for maximum growth and survival.

Materials Distribution: Foundation stock will be available January, 1991 in limited quantities to commercial nurseries, agricultural experiment stations, researchers, and arboretums through the Oregon State University Seed and Plant Certification Program, Corvallis, Oregon 97331. The USDA, Soil Conservation Service, Plant Materials Center, 3420 NE Granger Avenue, Corvallis, Oregon 97330 will maintain original mother plants for supplying certified stock. Material should be commercially available by January 1992.

References:

Cathey, H. M. 1990. USDA Plant Hardiness Zone Map. Micellaneous publication number 1475. US Department of Agriculture, Agricultural Research Service. US-GPO, Washington D.C.

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