Registration of ARS-2892 Munroe Globemallow Germplasm

MUNROE GLOBEMALLOW [Sphaeralcea munroana (Dougl.) Spach.] ARS-2892, Reg. no. GP-3, PI 564589, is a native, xerophytic, perennial herb widely distributed in shadscale [Atriplex confertifolia (Torr, & Frem.)], juniper (Juniperus spp.), desert shrub, and mountain brush communities (1). This species is found in southern British Columbia, southwestern Montana and Wyoming, Utah, Nevada, and California (2). In Utah, S. munroana is generally restricted to the northern Wasatch Mountains where it intergrades with S. grossulariifolia (H. & A.) Rydb. Globemallow plants are self-sterile and insect pollinated. Leaves are three- to five-parted with dentate margins and stellate trichomes. Plant height is 20 to 50 cm and the inflorescence often contains more than 25 flowers with brick-red petals.

ARS-2892 is a selected ecotype of Munroe globemallow. It originated from seed collected from naturally occurring plants growing on the Hyrum Lake Dam (41° 37' N, 111° 52' E), Cache County, UT, on 7 July 1986. The collection site is at an elevation of 1325 m and the average annual precipitation is 406 mm. Soils are disturbed, sandy, and rocky. Associated vegetation was alfalfa (Medicago sativa L.), sagebrush (Artemisia tridentata Nutt.), and cheatgrass (Bromus japonicus Murray). Plants of this accession grown in a spaced-plant nursery near Logan, UT, were identified as S. munroana by the staff of the Intermountain Herbarium, Utah State University, Logan, UT.


ARS-2892 was evaluated in comparison with 49 other accessions of S. munroana and other species of globemallows in non-competitive, spaced-plant nurseries in northern Utah (471-mm mean annual precipitation) and southern Idaho (321-mm mean annual precipitation) from 1987 to 1992. Subjective evaluation and selection of the plants for amount of shoot biomass, leafiness, and seed yield potential repeatedly identified ARS-2892 as the most desirable accession in the nurseries (Table 1). There were 10 replications with two plants per plot for each accession at each location. Leaf size was scored 1 = largest to 3 = smallest. Leaf number per plant was scored 1 = most to 3 = least. Seed set was obtained by multiplying the leaf size score by the leaf number. It was scored with 1 = best to 9 = worst.

The primary reasons for selecting ARS-2892 in preference to the other globemallows examined were its succulence, leafy growth form, and excellent seed yield potential. ARS-2892 is drought and heat tolerant and survives well in semiarid environments. In seed mixtures with adapted grasses, this species adds value in stabilizing disturbed and eroding desert soils. It will also be useful in roadside beautification. Since S. munroana is a native species, ARS-2892 may be used where introduced species are prohibited or not desired. The attractive foliage and flowers indicate its potential. ARS-2892 is drought and heat tolerant, winter-hardy, succulent, leafy, and good for erosion control and road signs. It is generally restricted to the northern Wasatch Mountains where it intergrades with S. grossulariifolia in Utah and southern Idaho, 1987 to 1988.

Seed will be maintained by the USDA-ARS from the corresponding author in 10-g samples. We ask that appropriate recognition of the original source be given when this germplasm contributes to research or commercial products.