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Registration of ARS-2892 Munroe Globemallow Germplasm

MUNROE GLOBEMALLOW [*Sphaeralcea munroana* (Dougl.) Spach.] ARS-2892, Reg. no. GP-3, PI564589, 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 a 1325-m elevation 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 is a tetraploid with $2N = 20$ chromosomes (personal communication, 1989, Richard Wang).

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). Other experimental identification codes for this accession were RP 38 and U 2892.

Table 1. Mean agronomic attributes of globemallow (*Sphaeralcea* spp.) accessions grown in spaced-plant nurseries in northern Utah and southern Idaho, 1987 to 1988.

Attribute	ARS-2892	<i>S. munroana</i> †	All accessions	LSD (0.05)
Survival (%)	97	95	98	---
Plant weight (g)	188	102	94	4.3
Stems (no. plant ⁻¹)	22	18	16	0.3
Stems length (cm)	38	35	38	1.7
Leafiness (score)‡	2.8	2.4	2.4	0.1
First flower (day)	174	169	170	3.8
Schizocarps ripe at harvest (%)	39	33	31	1.6
Seed weight (g plant ⁻¹)	1.1	0.7	0.7	0.1

† The species and numbers of accessions evaluated were *S. coccinea* (5), *S. grossulariifolia* (6), *S. leptophylla* (1), *S. munroana* (12), *S. parvifolia* (25), and *S. rusbyi* (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. The leafiness score was obtained by multiplying the leaf size score by the leaf number score with 1 = best to 9 = worst.

The primary reasons for selecting ARS-2892 in preference to the other globemallows examined were its large shoot size, succulence, leafy growth form, and excellent seed yield potential. ARS-2892 is drought and heat tolerant, winterhardy, and survives well in semiarid environments. When included in seed mixtures with adapted grasses, this germplasm will be of value in stabilizing disturbed and eroding lands, including minespoils. It will also be useful in range revegetation and 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 that ARS-2892 could be included in wildflower seed mixtures and planted in perennial gardens.

An isolated seed increase block of ARS-2892 was established near Logan, UT, in 1990. Seed of this germplasm pool, if increased commercially, should be produced in accordance with the Pre-Variety Germplasm Certification Standards adopted by the Association of Official Seed Certifying Agencies. This germplasm qualifies for the Selected Class according to the Utah Crop Improvement Association, the official seed certifying agency for Utah.

Seed will be maintained by the USDA-ARS and available 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 development of new cultivars.

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References and Notes

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