REGISTRATION OF GERMPLASM

Registration of Sand Hollow Squirreltail Germplasm

Sand Hollow squirreltail [*Elymus elymoides* (Raf.) Swezey sensu amplo] germplasm (Reg. no. GP-74, PI 595899) was released 15 Nov. 1996 as a selected class of certified seed (natural track). This class of precultivar germplasm is eligible for seed certification under guidelines developed by the Association of Seed Certifying Agencies (2). Participating in the release are the USDA-ARS, the Utah Agricultural Experiment Station, and the USDA-NRCS. This alternative release procedure was utilized because existing commercial sources of squirreltail are inadequate, propagation material of specific ecotypes is needed for ecosystem restoration, potential for immediate use is high, and commercial potential beyond specific restoration and reclamation objectives is probably limited (6). Sand Hollow has been tested under the designations Acc:1118 and EE-25 by USDA-ARS and T-45219 and Ab-1609 by USDA-NRCS.

Sand Hollow was originally collected in Gem County, Idaho (Township 6N, Range 1W, Section 21), on 12 July 1984 by Greg Painter and Rich Edlund, then of the USDA-SCS district office in Emmett, ID. The site is classified by USDA-NRCS (1) as Major Land Resource Area B10 (Upper Snake River Lava Plains and Hills) along the transition with B11 (Snake River Plains). The collection was made from a Lolalita loamy coarse sand (coarse-loamy, mixed, nonacid, mesic Xeric Torriorthents) on a west-facing slope (35%) at 830 m elevation. Estimated average annual precipitation at the site is 28 cm. The original collection packet indicates that "6 or more" plants were included in the sample. No intentional genetic selection has been practiced on the original collection.

Original seed of Sand Hollow was obtained in 1993 by the USDA-ARS Forage and Range Research Laboratory, Logan, UT, from the USDA-NRCS Plant Materials Center at Aberdeen, ID. Sand Hollow and 36 other accessions from California, Colorado, Idaho, Montana, Nevada, Oregon, Utah, Washington, and Wyoming were established in a transplanted test site on a Millville silt loam (coarse-silty, carbonatic, mesic Typic Rendolls; 2–4% slopes) at Greenville Farm, North Logan, UT, in September 1993 and evaluated in 1994 and 1995. Sand Hollow exhibited the highest seed yield averaged over 2 yr, higher-than-average seed weight, and medium-late maturity as evidenced by seed harvest date in 1994 and heading date in 1995. Its multicleft glumes and reduced awnlike florets may facilitate seed dispersal (4,5). Besides its original collection site, Sand Hollow has performed well on a Nibley silty clay loam (fine, mixed, mesic Aquic Argiustolls; 0–3% slopes) at Richmond Farm (near Richmond, UT) and a Millville silt loam at Greenville Farm.

Sand Hollow should be adapted to sandy soils throughout the Snake River Plain in southern Idaho and in adjacent regions to the south, east, and west in Idaho, Nevada, Oregon, and Utah. Its intended use is for reclamation and restoration of rangelands dominated by exotic annual grassy weeds by assisting ecological succession (3).

No commercial cultivars of squirreltail have been released. Generation 2 (two generations beyond the original collection) of Sand Hollow will be maintained by the USDA-ARS Forage and Range Research Laboratory, Logan, UT. Generations 3, 4, and 5 will be eligible for seed certification. No more than 5 yr of certified seed production will be permitted for a field. Small quantities of Sand Hollow breeder seed will be provided upon request to the corresponding author.

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References and Notes

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7. T.A. Jones, D.C. Nielson, and D.A. Johnson, USDA-ARS Forage and Range Research, Utah State Univ., Logan, UT 84322-6300; D.G. Ogle, USDA-NRCS 3244 Elder St., Rm. 124, Boise, ID 83705-4711; and S.A. Young, Utah Crop Improvement Association, Utah State Univ., Logan, UT 84322-4820. Research supported by the Utah Agric. Exp. Stn., Utah State Univ., Logan, UT 84322-4810. Approved as Journal Paper no. 4979. Registration by CSSA. Accepted 30 June 1997. *Corresponding author (tomjones@cc.usu.edu).

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Registration of *Trifolium ambiguum* × *T. repens* Hexaploid Germplasm HBC/F2-C

A hexaploid ($2n = 6x = 48$) backcross (Reg. no. GP-177, PI 597645) of the hybrid *T. ambiguum* M. Bieb. (kura clover) × *T. repens* L. to *T. repens* (white clover) was released by the Kentucky Agricultural Experiment Station in 1996. The hexaploid clone (designated HBC/F2-C) was produced by backcrossing the $4x$ hybrid 435 ($2n = 32$) (1) to *T. repens* ($2n = 32$) (cultivar unknown). The higher than expected ploidy level may have resulted from the union of $2n$ gametes of the hybrid with n gametes from *T. repens*.

Pollen stainability of HBC/F2-C was 8.9% and mean chromosome associations per cell at meiosis were 3.50 univalents, 21.00 bivalents and 0.83 trivalents (2). This $6x$ hybrid is morphologically intermediate between the two parents and appears to exhibit both stolons and rhizomes but not to the degree exhibited by the parents. In an experiment in Kentucky, HBC/F2-C had less spread (via stolons), fewer flowers and virus symptoms, and similar vigor and crown diameter than white clover cultivars. ELISA tests of a few plants of the hexaploid hybrid and white clover, following the methods of Anderson et al. (3), indicated susceptibility to bean yellow mosaic virus (BYMV) and peanut stunt virus (PSV); however, *T. ambiguum* was resistant to both viruses. Under field cages, crosses of HBC/F2-C with other hexaploid hybrids yielded more seed per cage (4834) than the octoploid (10) ($2n = 8x = 64$) hybrid (4). The hybrid is similar in winter hardiness to white clover but is less hardy than kura clover. The hexaploid will backcross to