including plants with prostrate growth habit, winter damage, stemminess, lighter color, prominent anthocyanin in leaves, coarser leaves, and early rust symptoms. First Breeder seed was selectively harvested from the 12 endophyte-infected lines in 1998.

'Goalkeeper' (Samudio and Brede, 2002) appears most similar to A.S.A.P.; however, Goalkeeper has heavier seed weight than A.S.A.P. At Post Falls, heading date of A.S.A.P. averages 3 to 5 June, plant height to inflorescence tip averages 60.4 to 62.6 cm, and flag leaf width at 1 cm from the collar averages 4.08 to 4.34 mm.

In turf trials, the genetic color of A.S.A.P. is medium-dark, which is improved over Advent or APM. A.S.A.P. exhibited superior turf quality performance over Advent, APM, 'Manhattan II', and 'Imagine'. A.S.A.P. has medium-high plant density, medium-fine leaf texture, and moderate resistance to gray leaf spot [caused by *Pyricularia grisea* (Cooke) Sacc.] and large brown patch (caused by *Rhizoctonia solani* Kühn) diseases.

A.S.A.P. was developed for year-round turf use on lawns, golf course fairways and roughs, industrial sites, and parks in areas where perennial ryegrass is adapted for turf. A.S.A.P. has demonstrated acceptable performance in company trials in Idaho, Maryland, Ohio, and California. A.S.A.P. has shown good turf quality in winter overseeding trials with College of the Desert, Palm Desert, CA (J. Place, 2002, unpublished data) and is also recommended for overseeding of dormant warm-season grasses.

J.R. Simplot Co., Jacklin Seed maintains Breeder seed of A.S.A.P. Seed production is limited to three generations of increase, one each of Foundation, Registered, and Certified. United States Plant Variety Protection was not applied for A.S.A.P.

S.H. Samudio* and A.D. Brede

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REGISTRATIONS OF GERMPLASMS

Registration of Fish Creek Bottlebrush Squirreltail Germplasm

Fish Creek bottlebrush squirreltail (*Elymus elymoides* subsp. *elymoides*) germplasm (Reg. no. GP-90, PI 633741) was released 4 Sept. 2003 as a selected class, natural-track, pre-variety germplasm. This class of pre-variety germplasm is eligible for seed certification under guidelines developed by the Association of Official Seed Certifying Agencies (2001, p. 1-12 to 1-14, and 2-69 to 2-72; Young et al., 2003). Natural-track designation is merited because no intentional selection was practiced on this material. Participating in the release are the USDA-ARS, the Utah Agricultural Experiment Station, the USDOI-Bureau of Land Management, and the USDA-NRCS. Fish Creek germplasm was tested under the designation T-1223.

According to Wilson (1963), Fish Creek keys to *E. elymoides* subsp. *elymoides* [= *Sitanion hystrix* (Nutt.) J.G. Sm. var. *hystrix*], while Toe Jam Creek germplasm (Jones et al., 2004) keys to *E. elymoides* subsp. *californicus* [= *S. hystrix* (Nutt.) J.G. Sm. var. *californicus*]. Sand Hollow germplasm (Jones et al., 1998) keys to *E. multisetus* [J.G. Smith (M.E. Jones) (= *S. jubatum* J.G. Smith)], that is, big squirreltail (Barkworth et al., 1983; Barkworth, 1997). Recent molecular AFLP data have verified that big squirreltail and bottlebrush squirreltail are indeed distinct species (Larson et al., 2003). The squirreltails are self-pollinating (Jensen et al., 1990).

Fish Creek was collected as Generation 0 (G0) seed in Blaine County, ID (43°20′36″N 113°51′48″W), 9.8 km northeast of the junction of Highways 26 and 20 (Carey, ID), by T.A. Jones on 3 Aug. 1995. Elevation is approximately 1450 m, and the winterhardiness zone is 4b. Estimated average annual precipitation at the site is 355 mm. The site is classified by USDA-NRCS (USDA, 1981) as Major Land Resource Area B10 (Upper Snake River Lava Plains and Hills), by the USDA-Forest Service (Bailey, 1995) as Province 342 (Intermountain Semi-Desert), and by the USEPA (2002) as Level III Ecoregion 12 (Snake River Plain). Associated species were the native plants big sagebrush (*Artemisia tridentata* Nutt.) and Sandberg bluegrass (*Poa secunda* J. Presl.), the cultivated introduction crested wheatgrass [*Agropyron desertorum* (Fisch. ex Link) Schult.], and introduced weeds downy brome (*Bromus tectorum* L.), rattlesnake brome (*B. briziformis* Fisch. & C.A. Mey.), bulbous bluegrass (*Poa bulbosa* L.), and tumble mustard (*Sisymbrium altissimum* L.).

Awn removal without resultant seed damage has been problematic in Sand Hollow big squirreltail germplasm. A less robust awn makes the seed more amenable to debearding. Mass of the proximal centimeter of the awn for Fish Creek was 0.272 mg, 33% lower than Sand Hollow in 2001 at Evans Farm, Millville, UT. Awn mass of Fish Creek was not significantly different from Toe Jam Creek bottlebrush squirreltail germplasm at North Park Farm, North Logan, UT, in 2001 or 2002. Therefore, seed damage of Fish Creek resulting from conditioning is expected to be similar to Toe Jam Creek and much lesser than for Sand Hollow.

The spike of Fish Creek disarticulates in a determinate fashion at the base, unlike most *E. elymoides* subsp. *elymoides* accessions that disarticulate indeterminately at each rachis internode, as does Toe Jam Creek germplasm. Determinate

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disarticulation is preferred for seed harvest because intact spikes may remain trapped within the crop canopy rather than settling to the ground.

Fish Creek was compared with other accessions keying to *E. elymoides* subsp. *elymoides*, along with *E. elymoides* subsp. *brevifolius* and *E. multisetus* accessions (Jones et al., 2003). Fish Creek ranked first for rate of emergence among 10 accessions in a greenhouse trial. Fish Creek ranked last for heading date, second for plant height, and fourth for seed mass among 12 accessions at Evans Farm. Compared with Toe Jam Creek germplasm, Fish Creek is less glaucous, and its awns are less purple.

The intended area of use is the Upper Snake River Plain of Idaho and the northern Great Basin of Oregon, Idaho, and Nevada. It may be used for rangeland restoration, rehabilitation, or reclamation.

Fish Creek G1 seed produced at Evans Farm was used to establish a seed-increase block in the spring of 1998 at Evans Farm, from which G2 seed was harvested beginning in 1999. Seed of the G2 generation will be maintained by the USDA-ARS Forage and Range Research Laboratory, Logan, UT, and will be made available to growers for production of G3 to G5 seed by the Utah Crop Improvement Association. Seed through the G5 generation will be eligible for certification, but sale of Fish Creek seed beyond the G5 generation is expressly prohibited. Small quantities of seed will be provided to researchers upon request to the corresponding author. Appropriate recognition should be made if this material contributes to the development of a new breeding line or cultivar.

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Registration of Toe Jam Creek Bottlebrush Squirreltail Germplasm

Toe Jam Creek bottlebrush squirreltail [*Elymus elymoides* subsp. *californicus*] germplasm (Reg. no. GP-89, PI 531604) was released 4 Sept. 2003 as a selected class, natural-track, pre-variety germplasm. This class of pre-variety germplasm is eligible for seed certification under guidelines developed by the Association of Seed Certifying Agencies (2001, p. 1-12 to 1-14, 2-69 to 2-72.; Young et al., 2003). Natural-track designation is merited because no intentional selection was practiced on this material. Participating in the release were the USDA-ARS, the Utah Agricultural Experiment Station, the USDA-NRCS, and the USDOI-Bureau of Land Management. Toe Jam Creek germplasm was tested under the designations D-2986 and Acc:1104c.

According to Wilson (1963), Toe Jam Creek keys to *E. elymoides* subsp. *californicus* [= *Sitanion hystrix* (Nutt.) J.G. Sm. var. *californicus*], while Fish Creek germplasm (Jones et al., 2004) keys to *E. elymoides* subsp. *elymoides* [= *S. hystrix* (Nutt.) J.G. Sm. var. *hystrix*]. Sand Hollow germplasm (Jones et al., 1998) keys to *E. multisetus* J.G. Smith (M.E. Jones) (= *S. jubatum* J.G. Smith), that is, big squirreltail (Barkworth et al., 1983; Barkworth, 1997). The squirreltails are self-pollinating (Jensen et al., 1990).

Toe Jam Creek was collected in northwestern Elko County, NV, approximately 13 km west of Tuscarora by J. Garrison [USDA-SCS (NRCS)]. The collection site is classified by the USDA-NRCS (USDA, 1981) as Major Land Resource Area D25 (Owyhee High Plateau), by the USDA-Forest Service (Bailey, 1995) as Province 342 (Intermountain Semi-Desert), and by the USEPA (2002) as Level III Ecoregion 80 (Northern Basin and Range). Elevation at the site is 1829 m, winterhardiness zone is 5b, and average annual precipitation is 312 mm.

Awn removal without resultant seed damage has been problematic in Sand Hollow big squirreltail germplasm. A less robust awn makes the seed more amenable to debearding. Mass of the proximal centimeter of the awn for Toe Jam Creek was 0.266 mg at Evans Farm, Millville, UT in 2001, 34% lower than Sand Hollow. Awn mass of Toe Jam Creek was not significantly different from Fish Creek bottlebrush squirreltail germplasm at North Park Farm, North Logan, UT, in 2001 or 2002. Therefore, seed damage of Toe Jam Creek resulting from conditioning is expected to be similar to Fish Creek and much lesser than for Sand Hollow.