Registration of ‘Utah-100’ Wheat

‘Utah-100’ hard red winter wheat (Triticum aestivum L.) (Reg. no. CV-844, PI 594920) was developed by the Utah Agricultural Experiment Station (UAES) and released in 1996. Utah-100 is derived from the cross ‘Weston’/‘Ark’/‘Manning’ and was released to provide superior yield when grown under dryland conditions, where dwarf bunt (caused by Tilletia controversa Kühn in Rabenh.) can be severe. Utah-100 has a high level of resistance to dwarf bunt derived from PI 178383 and ‘Ridit’, two parents of Manning (1). PI 178383 is also a parent of Weston. Utah-100 was named to commemorate the centennial anniversary of Utah statehood.

The F2 through F5 generations were grown as bulks with selection for agronomic types and resistance to common bunt [caused by Tilletia tritici (Bjerk.) G. Wint. in Rabenh.] and dwarf bunt. Individual heads from desirable F5 plants were selected and planted in 1985 as headrows in nurseries at the Greenville Experimental Farm, Logan, and Blue Creek Experimental Farm, Blue Creek, UT. The plants in headrows at the Greenville Experimental Farm were inoculated with dwarf bunt spores in the fall and selected for resistance and agronomic characteristics. Superior headrows were selected for agronomic traits at Blue Creek and resistance to dwarf bunt was determined for these selections in the Logan nursery. The resulting F5-derived lines were evaluated for yield and agronomic traits in an unreplicated plot nursery at Logan and Blue Creek in 1987, and in a replicated yield trial at Blue Creek in 1988. The lines continued to be tested for resistance to dwarf bunt in Logan.

Utah-100 was evaluated for yield and other agronomic traits in six nurseries, with four replications each, located at various sites in Utah from 1989 through 1995. Yields at 6 locations over 7 yr (42 site-years) averaged 2426 kg ha⁻¹ for ‘Promontory’ and 2502 kg ha⁻¹ for Utah-100. Additional yield evaluations were conducted from 1993 through 1995 in the Western Regional Hard Winter Wheat Nursery, where Utah-100 was tested under the designation UT000150. For these 3 yr (34 site-years), Utah-100 averaged 5436 kg ha⁻¹.

Two hundred heads were selected from F15 plants and grown as head rows in 1995. After roguing to remove nonuniform offtype rows, 175 F15-derived lines were harvested and bulked as breeder seed.

Utah-100 has awned, bronze-chaffed, fusiform, middense, and inclined spike characteristics. The coleoptile is white, and juvenile growth is semierect. The average heading date for Utah-100 is 4 d later than Manning. Plants are green at the boot growth stage and the flag leaf is recurved. The kernel is ovate, has rounded creases, with a midwidth, deep seed crease, and medium-sized brush length. The average height of Utah-100 is 4.8 cm taller than Manning and 4.3 cm shorter than Weston.

Bread-making quality was evaluated by the Pillsbury Mill in Ogden, UT, in 1989 and 1990. In subsequent years (1991–1995), Utah-100 was evaluated by the USDA-ARS Western Quality Laboratory in Pullman, WA. Milling characteristics of Utah-100 are slightly poorer than Manning primarily due to a slightly lower flour yield, although flour protein is usually higher. Dough reaction is in the midrange, and the SD gradation score is 7.9.

Registration of ‘Whitebird’ Wheat

‘Whitebird’ soft white spring wheat (Triticum aestivum L.) (Reg. no. CV-837, PI 592982) was released in 1996 by the Oregon, Washington Agricultural Experiment Stations and USDA-ARS. Whitebird is adapted to intensive management crop production in the Pacific Northwest of the United States. Whitebird was derived from the 1979 cross A6596S-A-21-1/’Fieldwin’/’Brevor’/3/’Nugaines’. From 1981 to 1984 a pedigree selection was used to select short-stature, resistance to stripe rust (caused by Puccinia striiformis Westend.), and moderate resistance to leaf rust (caused by P. graminis Pers.:Pers.).

In 1985, the F5 head selection A79270S-2 was evaluated in replicated yield testing at Aberdeen. In 1988, designated IDO392 and entered into the Tri-State Spring Wheat Nursery. IDO392 was evaluated in the Western Regional Spring Wheat Nursery from 1990 to 1993. In 1992, 150 uniform lines were made from IDO392, and uniform lines were bred to form Whitebird.

Whitebird has dark green foliage with erect, lax, awned heads. Whitebird heads approximately 3 d earlier than ‘Fieldwin’ and 2 d later than ‘Centennial’. Whitebird is approximately 2 cm shorter than ‘Fieldwin’ at heading. Whitebird has awned, bronze-chaffed heads with glumes that are long, medium-wide, with squa and an acuminate beak. Whitebird is a white-chaffed mating type similar to ‘Penawawa in time to physiological maturity. Whitebird is elliptical, with a wide, shallow calyx. In Northwest evaluations, Whitebird has adult-plant resistance to stripe rust and moderate resistance to leaf rust (caused by P. graminis Pers.:Pers.).

In 42 site-years of irrigated research and extension trials in southern Idaho from 1986 to 1994, Whitebird averaged 6450 kg ha⁻¹, respectively. In 62 site-years of rainfed trials throughout Idaho from 1987 to 1994, Whitebird had an average yield of 3763 kg ha⁻¹ and 3695 kg ha⁻¹ for Penawawa. In 62 site-years of rainfed trials across southern Idaho from 1986 to 1994, Whitebird had an average yield of 6921 and 6854 kg ha⁻¹, respectively. In 62 site-years of rainfed trials throughout Idaho from 1987 to 1994, Whitebird had an average yield of 3763 kg ha⁻¹ and 3695 kg ha⁻¹ for Penawawa. In 62 site-years of rainfed trials across southern Idaho from 1986 to 1994, Whitebird had an average yield of 6921 and 6854 kg ha⁻¹, respectively.

In 42 site-years of irrigated research and extension trials in southern Idaho from 1986 to 1994, Whitebird had an average yield of 6921 and 6854 kg ha⁻¹, respectively. In 20 site-years of irrigated research and extension trials across southern Idaho from 1986 to 1994, Whitebird had an average yield of 6921 and 6854 kg ha⁻¹, respectively.