'SJ908-186'

Hard Red Spring Wheat

19.a. Exhibit A. Origin and Breeding History of the Variety

'SJ908-186' originated from a cross made by WestBred, LLC in 2006 with the pedigree of Joaquin 2*/Expresso. The objective of the cross was to move Yr15 and Lr37/Sr38/Yr17 into a 'Joaquin' background by using molecular markers for selection. Both genes were moved simultaneously. The F1 was grown in a growth chamber near Bozeman, MT in the fall of 2006. Molecular markers were used to identify the plants heterozygous for both genes. The seed from these plants was planted as an F2 near Yuma, AZ in 2006/2007. The F3 generation was planted near Bozeman in the summer of 2007. Molecular markers were used to identify plants containing both stripe rust resistance genes and the resulting seed was planted near Yuma in 2007/2008. Plants were selected that were homozygous for Yr15 and Lr37/Sr38/Yr17 and the seed was used to seed plant plots near Bozeman in the summer of 2008. One plant plot was designated 'SJ908-186' and the seed was used to plant 1/10 acre near Yuma in 2008/2009. This breeder seed was harvested in bulk and used to plant 4.5 acres of foundation production in Bozeman in 2009. The breeding method used was pedigree, backcross marker assisted selection.

'SJ908-186' was tested in replicated yield trials in three locations in 2009. (Corcoran, CA, Five Points, CA and Yuma, AZ)

The selection criteria used during the breeding of 'SJ908-247 were two flanking molecular markers associated with Yr15 and a molecular marker associated with Lr37/Sr38/Yr17. The plot selection criteria used in Bozeman in 2008 was a phenotype similar to 'Joaquin'. In 2009, the stripe rust resistance of 'SJ908-186' relative to 'Joaquin' was confirmed by field observations at three locations.

'SJ908-186' has been observed for three generations of reproduction and seed increase and is stable and uniform. 'SJ908-186' has a white seed variant that occurs at a frequency of up to 0.2%. A taller variant that is 12-24 cm taller occurs at a frequency of up to 0.2%. An awnletted variant occurs at a frequency of up to 0.2%. The variants are otherwise identical to the variety in all other characteristics as described in Exhibit C.

19.b. Exhibit B. Statement of Distinctness

'SJ908-186' most resembles the hard red spring variety 'Joaquin' but 'differs in that 'SJ908-186' has the molecular markers for Yr15 and Lr37/Sr38/Yr17 while 'Joaquin' does not. 'SJ908-186' is resistant to current stripe rust races in California while 'Joaquin' is susceptible.

The proximal loci microsatellite used for Yr15 was Xgwm 413 and the distal loci microsatellite used was Xbarc 8. The 2NS segment contains the genes Lr37/Sr38/Yr17. The two PCR primers used that were specific for 2NS were VENTRIUP AND LN2. This is a dominant marker so a CAPS marker was used (primer URIC) to identify the absence of the 2A-alle in the homozygous 2NS plants.
The reference is http:/maswheat.ucdavis.edu.

WB-Caliente

WB-Caliente is a hard red spring wheat variety (HRS) that is tailored for the irrigated acreage of the Pacific Northwest area. This WestBred variety is an early maturing, short plant height and trial plot evaluations have shown good yielding potential. WB-Caliente has yellow stripe tolerance through marker assisted selection breeding to the currently known races and increased seeding rates should be considered when choosing this variety.

Protection Option – PVP-94
Release Date – September 2009