

Expresso  
Hard Red Spring Wheat

B. Origin and breeding of the variety.

'Expresso' originated from a backcross breeding scheme with the objective of moving stripe rust resistant genes YR15 and YR17 into 'Express' background. The donor of YR15 was the isogenic line of YR15 in 'Avocet' provided by Bob McIntosh. The donor of LR37/SR38/YR17 was the variety Madsen. The genes were introduced separately into Express using 6 backcrosses with Express as the recurrent parent and using molecular markers for selection. The two resulting lines were crossed and the double homozygote line that become 'Expresso' was selected using molecular markers. The pedigree is Express 6\*/YR15 Avocet//Express 6\*/Madsen. The crossing and marker assisted selection were performed in the green house by Dr. Jorge Dubcovsky of the University of California Davis. In the F3 generation of the final cross, four plants were found to be homozygous for YR15 and LR37/SR38/YR17. The seed of these four plants were planted in a growth chamber near Bozeman, MT in September of 2004. Seed was harvested from 132 plants in December and planted as plant plots near Yuma, AZ in December of 2004. One hundred twenty plant plots that were identical and uniform were harvested and bulked together and designated DA984-034SRR. This seed was used to plant 6 acres of Breeder Seed near Bozeman, MT in the summer of 2005. The resulting seed was used to produce Foundation Seed near Woodland, CA in 2006.

'Expresso' has a tall variant that is 12 cm to 30 cm taller that occurs at a frequency of up to .5%. A white seed variant occurs at a frequency of up to .5%. An awnless variant occurs at a frequency of up to .5%.

'Expresso' has been observed for three generations of reproduction and seed increase and is stable and uniform.

C. Botanical description of the variety

'Expresso' is day length insensitive hard red spring wheat. "Expresso" is a semidwarf variety with good straw strength and medium maturity. 'Expresso' has white colored chaff, long awned heads that are strap shape. The glumes are long, wide with oblique shoulders. Plant color at booting is blue green and the flag leaf is erect and twisted. Hairs are present on both the last rachis internode and the auricles.

'Expresso' most resembles the variety the hard red spring variety 'Express' but differs in that 'Expresso' has the molecular markers for YR15 and LR37/SR38/YR17 while 'Express' does not have the markers.

Please see an attached completed copy of an Objective Description of Variety – Wheat.

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D. Evidence to support identity of variety

MEAN AGRONOMIC DATA OF 'EXPRESSO' IN THE 2006  
UC REGIONAL COMMON WHEAT AND TRITICALE TEST

AT SITES WITH HIGH STRIPE RUST INFESTATION. (UC DAVIS, SACRAMENTO/SAN JOAQUIN DELTA, AND MADERA)						
VARIETY	YIELD LBS/A	PLANT HEIGHT INCHES	LODGING RATING	DAYS TO HEAD AFTER 3/1	TEST WEIGHT LBS /BU	STRIPE RUST RATING
EXPRESSO	5997	43	2.2	51	62.2	1.3
EXPRESS	4190	43	2.8	50	53.9	6.6
SUMMIT	4390	38	1.1	50	55.0	6.9

AGRONOMIC DATA OF 'EXPRESSO' IN WESTBRED LLC TRIAL AT DAVIS, CA IN 2006					% PROTEIN	SDS SED
EXPRESSO	4978	41		62.0	1.0	104
EXPRESS	3179	40		57.1	5.5	107
SUMMIT	2253	35		51.5	8.0	118

MEAN AGRONOMIC DATA OF 'EXPRESSO' IN 2006 WESTBRED LLC TRIALS IN THE ABSENCE OF HIGH LEVELS OF STRIPE RUST (YUMA, AZ; CORCORAN, CA; FIVE POINTS, CA; DIXON, CA)							
EXPRESSO	5560	39		42	62.0	14.9	111
EXPRESS	5658	39		42	61.4	14.5	109
SUMMIT	5405	35		43	60.1	13.9	114

Rating scale for stripe rust and lodging: 1 = 0-3%, 2 = 4-14%, 3 = 15-29%, 4 = 30-49%  
5 = 50-69%, 6 = 70-84%, 7 = 85-95%, 8 = 96-100%

E. Area of adaptation and primary use of the variety

'Expresso' is adapted to the same areas of production as the variety 'Express'. This includes the central valleys of California as well as the irrigated areas in Washington, Idaho and Montana. The primary use of 'Expresso' will be for general purpose bread flour.

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F. Maintaining Seed Stock classes

Westbred, LLC will maintain breeder seed by planting spike rows as needed. The certified classes of seed will be Foundation, Registered and Certified. Foundation seed will be produced from foundation seed stocks as long as certification standards are maintained.

J. Information to assist Field and Seed Inspectors

'Expresso' is day length insensitive hard red spring wheat. "Expresso" is a semidwarf variety with good straw strength and medium maturity. 'Expresso' has white colored chaff, long awned heads that are strap shape. The glumes are long, wide with oblique shoulders. Plant color at booting is blue green and the flag leaf is erect and twisted. Hairs are present on both the last rachis internode and the auricles. 'Expresso' has a tall variant that is 12-30 cms taller that occurs at a frequency of up to .5%. A white seed variant occurs at a frequency of up to .5%. An awnless variant occurs at a frequency of up to .5%.