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**ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES
NATIONAL SMALL GRAIN VARIETY REVIEW BOARD**

APPLICATION - PART B - 2006

This application - Part B - is to be submitted along with Part A

All information provided on this application shall be maintained in complete confidence by the Association of Official Seed Certifying Agencies (AOSCA), its staff, and individual members of the AOSCA National Variety Review Board. Each member of the Review Board will be required to sign a statement to this effect prior to their receipt of any applications for review. Upon completion of the review process, reviewers will be required to destroy or delete all applications in their possession. One copy of each application will be maintained on file in the AOSCA office.

**VARIETY APPLICATION
FOR**

WHEAT (*Triticum durum*)

Variety Name Westmore Experimental Designation 257-11

Origin and Breeding History: Describe the variety's origin and the breeding procedures used in its development.

The durum variety "WESTMORE" was derived from a cross of the breeding line D95-257 from Arizona Plant Breeders Inc. (APB) durum breeding program to a line carrying the grain protein content gene from wheat at the University of California at Davis under a grant program in 1999.

Seed from the first backcross to D95-257 was grown in a plot in the spring of 2000 in Montana by A.P.B. Twenty heads were harvested at random from this plot to produce the F3 head rows grown in the 2000-2001 season in Arizona. In the spring of 2001, four head rows from each of the selected F3 rows were seeded in Montana. The line 257-11 was obtained from the eleventh F4 plot of D95-257 crossed to the line carrying the grain protein content gene. Protein was one of the quality traits used for selection.

In the 2001-2002 season in Arizona, a bulk F5 plot was grown from one of the F4 head rows grown in Montana in 2001. In the 2002-2003 season in Arizona the F6 generation of 257-11 was evaluated for yield and quality by APB at various locations. In the 2003-2004 season in Arizona the F7 generation of 257-11 was again evaluated for yield and quality by APB.

In the 2004-2005 season, 50 head rows were grown from the F7 generation. A total of 43 of these head rows were selected for uniformity and bulked to form the pre-breeders seed. In the 2005-2006 season one-half acre was seeded by APB to produce the Breeders seed variety of "WESTMORE". This breeder's seed was used to plant 17 acres of Foundations seed productions in the summer of 2006 in Montana.

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Novelty Statement: Describe the distinguishing characteristics that can be used to identify this variety as compared to a known variety. (Example: - *Newwheat* is most similar to the variety *Oldwheat* except that it is ten centimeters shorter at maturity.) If novelty is based on a quantitative trait or traits, attach data with statistical evidence to support the claim.

"WESTMORE" is the most similar to the variety "KRONOS" except that it is 3 days later in heading. (see table #1). The seeds of Westmore are smaller than Kronos with a thousand kernel weight of 38.5 grams compared to the Kronos weight of 49.5 grams. (see table #2) The Semolina yellow color of Westmore is 29.24 which is greater than that of Kronos at 26.78. (see table # 3)

Table 1 A comparison of heading data for 257-11 and Kronos when grown in the same yield trials at two locations over three years.

Sample			Days from March 1 st to Heading	
			257-11	Kronos
1	Davis California	06	52	47
2	Davis California	05	34	30
3	Davis California	04	55	53
4	Imperial California	06	13	7
5	Imperial California	05	14	12
6	Imperial California	04	33	31
			mean 33.5 days	mean 30.0 days

*All data is provided by UC Davis Department of Plant Science and Cooperatives Extension for 2004, 2005 and 2006

257-11 mean heading days = 33.5

Kronos mean heading days = 30.0

$d = 3.5$ days

$t = 4.904^{**}$

Table 2 A comparison of the 1000 kernel weights of 257-11 and Kronos when grown in ten different yield trials.

Trial location			1000 kernel Weight in Grams	
			257-11	Kronos
1	Davis UCD	06	39.4	52.
2	AZ APB	06	32.8	43.0
3	King UCD	06	24.1	37.6
4	AZ APB	06	34.0	42.2
5	Imperial UCD	05	42.0	51.0
6	Davis UCD	05	44.2	59.5
7	5-Points APB	06	40.2	56.8
8	King UCD	05	40.6	48.7
9	Imperial UCD	05	39.8	50.6
10	El Centro APB	06	48.0	53.4
			mean = 38.5	mean = 49.5

Kronos mean 1000 kernel = 49.5 grams

257-11 mean 1000 kernel = 38.5 grams

$d = 11.0$ grams

$t = 3.162^{**}$

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Table 3 A comparison in the b value (semolina color) of 257-11 and Kronos when grown at the same location by UC Davis Extension service and quality tests done by California Wheat Commission Laboratory at Woodland, California.

Sample	Location & Year			b-Values	
				257-11	Kronos
1	Kings	CO 1>	06	30.0	26.0
2	Kings	CO 2>	06	29.3	28.0
3	Imperial	CO 2>	06	28.4	26.3
4	Kings	CO 2>	05	29.0	27.6
5	Imperial	CO 2>	05	29.5	26.0
				mean = 29.24	mean = 26.78

- 1> Collaborations Wheat Quality Trial
- 2> U.C. Davis Research Trials

mean of 257-11 = 29.24 b - value
 mean of Kronos = 26.78 b - value
 d = 2.46 b - value
 t = 4.472**

Description: Provide a concise description of the variety as you wish it published by AOSCA and certifying agencies. Special emphasis on characteristics serving to distinguish it from others is requested.

The variety "WESTMORE" was evaluated in public trials in Arizona and California as 257-11. Westmore is a spring durum developed by Arizona Plant Breeders Inc. (APB)

Westmore is a variety that was selected from a cross between an APB breeding line D95-257 and a durum line containing the grain protein content gene from wheat. The cross was made by Dr. Jorge Dubcovsky at the University of California at Davis. The selection and evaluation was made by APB. After the first backcross to D95-257 was made a pedigree selection program was used.

Westmore is adapted to the irrigated durum growing area of the U.S.A. The primary use will be to provide high quality grain to the domestic and export markets. Westmore does not have enough leaf disease resistance to be grown in the durum growing areas of North Dakota.

Westmore has long narrow kernels with shallow creases. The heads of Westmore are more lax than other durum varieties and are oblong compared to the general tapered heads of most durums. No variants have been noted in Westmore at this time.

Westmore's stripe rust resistance is better than Kronos but not as good as Desert King.

Westmore will have four classes of seed certification being: Breeders, Foundation, Registered, and Certified. Seed stocks will be reconstituted by head rows.

Certified seed will be offered for sale in 2007. An application for protection under the Plant Variety Protection Act will be made and the certification option will be selected. AOSCA and State Certifying Agencies may publish the seed production acreage of "Westmore".

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Supportive Information: Provide data to support area of adaptation, quality claims, disease and insect resistance, and other factors supporting the identity of the variety and the statements or claims made in the description above. (Attach separate sheets)

Separate attachment