

# LARIAT

## RSI - Wheat 02W50076-R

### B. Origin and Breeding History of 02W50076-R Hard Red Spring Wheat.

This line results from the cross Cleo/2Inia/W444/3/DWL5046/2\*Celaya/4/UCSR/PB775/5/Stander. The experimental lines Cleo/2Inia and UCSR (Tadorna) come from the University of California at Davis and were used as donor parents for *Septoria tritici* blotch resistance. The lines W444 and DWL 5046/2\*Celaya are from the International Maize and Wheat Improvement Center (CIMMYT) in Mexico. Probrand 775 is a variety released by Northrup King Co. wheat breeding program. The variety Stander come from Resource Seeds breeding program.

The last cross in the above series of crosses was initiated in 1999. Using pedigree type selection techniques and the use of two nursery locations per year allowed for first trial testing of an F5 bulk population from the above cross in 2002. This wheat is a red selection coming from the same population that resulted in the 02W50076-W. The color separation was made in 2003 at the F6 generation.

A seed purification program was begun in 2003, using head to row selection techniques. Breeder seed was first generated in 2005.

This variety appear to be stable for measurable characteristics such as height, yield and disease reactions. Taller variants have been observed at a frequency of up to 0.2% of the plant population. An awnless variant is present at a frequency of approximately 0.02%.

### C. Description of 02W50076-R.

This hard red spring wheat is most similar to its sister line 02W50076-W (Blanca Royale). There are differences between these two lines as noted in tables 1, 2 and 3 in accompanying Excel file. The red component is about 7 cm taller than the white component. It is also a few days later in heading and it appears to be quite a bit more resistant to the *Septoria* leaf blotch fungus, while having comparable resistance to stripe rust races to which it has been exposed.

In reviewing the objective description form (Exhibit C) the only character difference between the two lines is that the leaves of the red line possess a waxy surface versus the white where the wax is absent.

Data from multiple sites and years that substantiate claims concerning stripe rust and *Septoria* are included in the accompanying Excel file.

E. 02W50076-R is adapted to both the Sacramento and San Joaquin Valleys and will be used as a bread wheat.

F. RSI will maintain Breeder seed that will be generated periodically from composited head row purification plantings as needed. Foundation seed can be used to produce one additional generation of the Foundation class. Registered and Certified seed production will be limited to one generation.

I. Seed Sample Attached.