

“Lassik (Hard Red Spring)”

Origin and description of the variety

Lassik “UC1495” is a Hard Red Spring (HRS) derived from Anza. Lassik has similar height, flowering time, and spike characteristics as Anza.

Disease resistance

Lassik is resistant to current races of stripe rust (Fig.1, Table 1). It has three different stripe rust resistance genes (*Yr17*, *Yr18* and *Yr36*). Lassik also has two genes for leaf rust resistance (*Lr34* and *Lr37*) and good levels of resistance to septoria tritici blotch and to barley yellow dwarf virus.

Lassik is also resistant to root-knot nematodes in small plot trials, but its effect on current field rotations is still not clear.



Figure 1:
Lassik showed improved resistance to stripe rust in the field than Anza

Table 1. Comparison between Lassik and Anza in %t final stripe rust infection and its effect on yield. Anza yield numbers in red are significantly lower than those of Lassik grown in the same location

2006	Delta		Tulare		UC Davis		Madera	
	Anza	Lassik	Anza	Lassik	Anza	Lassik	Anza	Lassik
% infection	28%	2%	55%	1%	83%	1%	73%	1%
Yield (lb/a)	5368	5258	3734	3877	4969	6739	5357	5357

2007	Delta		Colusa		UC Davis		Madera	
	Anza	Lassik	Anza	Lassik	Anza	Lassik	Anza	Lassik
% infection	60%	2%	25%	2%	70%	1%	10	1
Yield (lb/a)	6670	7070	6240	7100	5060	6190	3790	4750

Yield potential

Lassik showed significantly higher yields than Anza in 2006 and 2007 (Table 1). Differences were particularly clear at locations with high levels of stripe rust infection, suggesting that the increased yield is related to Lassik improved stripe rust resistance. Yield data for 2006 and 2007 are summarized in Table 2 and Figure 2.

Considering the **2008-2010** average yield in the California Small Grain Region Trials, Lassik is the 2nd highest yielding variety in the Sacramento (9 locations) and San Joaquin Valleys (9 locations) <http://smallgrains.ucdavis.edu/>.

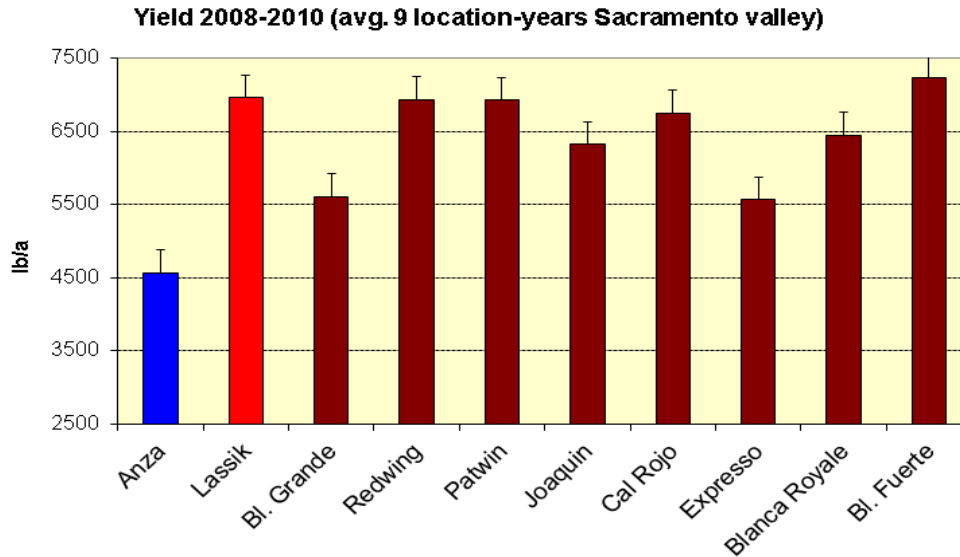


Figure 2. Yield comparison: **Lassik** vs. other varieties in the Sacramento valley (avg. 9 loc in Sac. Valley & Delta 2008-2010)

Detailed data description and statistical analyses for Lassik yield data in California can be obtained at <http://smallgrains.ucdavis.edu/>

Lassik Yield potential in WA: In the year 2011 Lassik was the top yielding variety in the WSU Hard Spring Wheat Trial in all four different precipitation zones. Detailed data description and statistical analyses for Lassik in WA can be obtained at <http://variety.wsu.edu/2011/index.htm>

Breadmaking quality

Lassik has significantly higher grain protein content than Anza (13.6% vs. 12.2%) and stronger gluten than Anza, as a result of the incorporation of the high grain protein content gene *Gpc-B1*. This protein increase results in longer mixing time (109% longer), longer departure time (98% longer), and larger loaf volume (16% larger) (Table 2). Lassik samples tested by ADM – wheat; Bay State Milling; Horizon Milling/Cargill – wheat; Cereal Food Processors, Inc., and the California Wheat Commission quality laboratory, showed good breadmaking characteristics.

Table 2. Comparison between Anza and Lassik breadmaking quality. Data from 4 locations and two blocks per location. Numbers in red are significantly higher.

	Prot. % (12% MB)	Test weight	1000 kernel weight	Flour yield	Fall No. (sec)	Water abs. %	Farin. peak	Farin. M.T. (min)	Farin. depart (min)	Loaf vol. C.C
Anza	12.2	61.7	31.2	66.2	393	57.7	4.0	8.3	10.2	760
Lassik	13.6	61.5	32.4	67.8	421	59.5	8.4	17.4	20.3	882

Allocation of seed & licensing

Foundation seed of **Lassik** is distributed by the University of California Foundation Seed Program to licensed brokers and seed houses **twice annually**, fall and spring. Off-cycle requests are considered on a case-by-case basis.

To obtain information and/or a license for **Lassik** contact the University of California, UC Davis InnovationAccess:

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