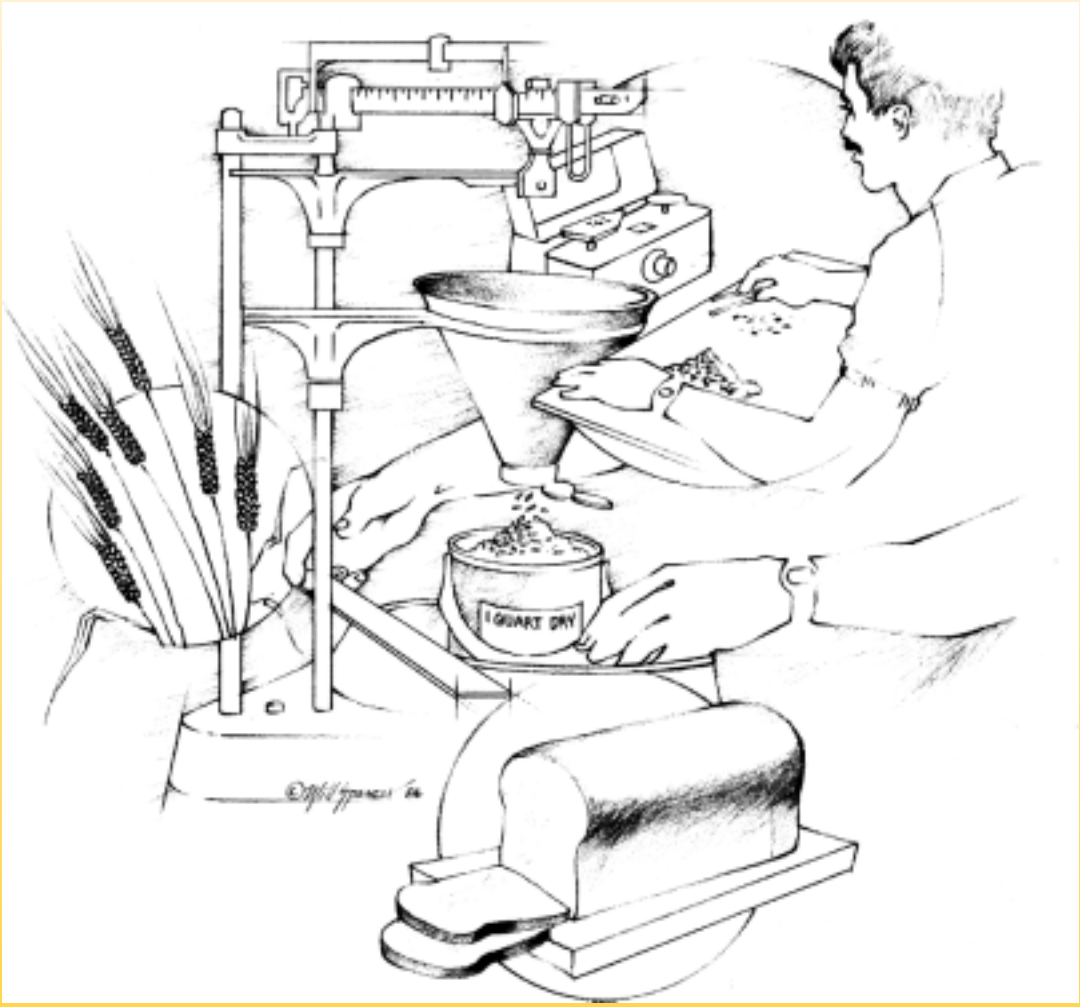
California Wheat Commission

Hard Red Wheat 2005
Hard White Wheat 2005



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CROP QUALITY REPORT 2005

California Wheat

California's wheat growing regions are defined by climate, value of alternative crops, and the distinct differences in variety selection. This system has led to an implied "identity preserved" program in California.

Over the past few years, Hard White (HW) wheat has become more prevalent in the varietal mix. Therefore, HW quality data is included in this hard wheat report. This trend of increased HW production is expected to continue in the upcoming years.

California hard wheats are harvested in the months of June and July. With the strong demand for new crop wheat in the domestic marketplace, export buyers are encouraged to express their interest in purchasing California wheat in early spring.

General Characteristics . California hard wheat varieties have low moisture and large and uniform kernel size. Because it is predominantly grown under irrigation, growers benefit from high yields and consistent quality. California wheat also contains significantly less impurities than its counterparts elsewhere.

2005 Crop Conditions. This year's growing and harvest conditions in the San Joaquin Valley were excellent. Crop yields were extremely good and test weights were high. Crop quality in the Sacramento Valley varied due to cool weather during the growing season. Fortunately, the California industry can easily direct the destination of its wheat production. This capability can assure buyers that they receive the quality expected.

Data in this report. Samples for this year's report were collected from grain handlers and producers. This program collects data throughout the harvest season, resulting in a crop quality report that is highly representative of the crop. Grade information is provided by the Federal Grain Inspection Service. Milling and end-use quality analysis was conducted by the California Wheat Commission Laboratory.

California Wheat Production

Production History

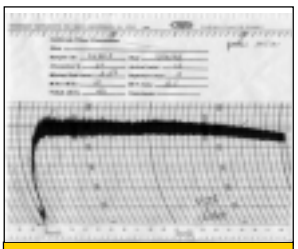
(Winter wheat -- all classes, excluding Durum)

YEAR	METRIC TONS (1,000 MT'S)
2005	568
2004	740
2003	614
2002	612
2001	724
2000	743
1999	785
1998	621

Hard Red Winter (Mixed Varieties)

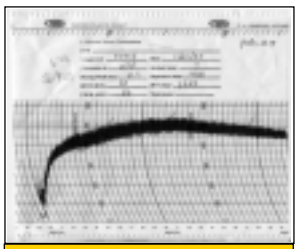
WHEAT	Low Protein (10.9% & Below) 2004*	2005*	Intermediate Protein (11.0% - 12.4%) 2004	2005	High Protein (12.5% & Above) 2004	2005
Protein[1]						
Dry Basis	11.5	11.7	13.4	13.3	14.8	15.3
As - Is	10.4	10.6	12.1	12.0	13.4	13.9
12% MB	10.1	10.3	11.8	11.7	13.0	13.4
Moisture	9.7	9.4	9.4	9.8	9.4	9.2
Test Weight						
lb/bu	63.5	61.4	62.3	60.1	62.8	60.9
kg/hl[4]	83.5	80.8	81.9	79.1	82.4	80.1
1000 Kernel Weight (gr)	41.0	42.6	38.2	41.7	38.8	41.5
SKCS Hardness Score	74	64	75	67	70	68
Kernel Size Distribution						
Large (7W)	88	90	83	90	85	88
Medium (10W)	12	10	17	10	15	11
Small (12W)	0	0	0	0	0	0
MILLING						
Test Mill Yield[2] (%)	68.1	66.5	68.6	66.5	69.8	67.8
Wheat Protein (Dry-Basis)	11.5	11.7	13.4	13.3	14.8	15.3
Flour Protein[1] (Dry-Basis)	10.4	10.4	12.0	12.0	13.5	14.0
Wheat Ash (Dry-Basis)	1.61	1.55	1.60	1.70	1.73	1.72
Flour Ash (Dry-Basis)	0.49	0.55	0.49	0.51	0.47	0.51
FLOUR						
Flour Protein[1] (14% MB)	9.0	9.0	10.3	10.4	11.6	12.1
Flour Ash (14% MB)	0.42	0.47	0.42	0.44	0.40	0.44
Wet Gluten (14% MB)	22.9	23.2	28.8	26.8	32.3	31.5
Falling Number (sec.)	307	362	325	372	337	385
FARINOGRAM						
Arrival Time (min.)	1.6	1.5	3.1	2.4	3.6	4.1
Mixing Peak (min.)	7.9	3.4	10.4	8.0	10.3	9.5
Mixing Tolerance (min.)	17.7	10.6	25.8	13.7	17.6	13.1
Absorption (%)	60.9	61.3	61.8	62.8	60.8	64.7
BAKING RESULTS						
Bake Volume[3] (cc)	734	768	833	865	875	933

* 2004 samples collected by California State Inspection Service. 2005 samples collected by handlers; 1) Wheat and Flour Protein: Leco Combustion Nitrogen Analyzer Model FP 428; 2) Test mill yield: Brabender Quadromat Senior Mill, modified in 1997; 3) Bake Volume = AACC Method 10-10B; 4) Test weight conversion from lb/bu to kg/hl according to FGIS-PN-97-5, {(1.292 x (lb/bu) + 1.419}.



Low Protein (10.5%)

Intermediate Prot. (11.5%)



High Protein (15.2%)

2005 Hard Red Variety Specific Information

	SUMMIT		YECORA ROJO	
WHEAT	Intermediate[5] Protein	High[6] Protein	Intermediate Protein	High Protein
Protein[1]				
Dry Basis	13.4	15.2	13.0	15.2
As - Is	12.1	13.8	11.8	13.9
12% MB	11.8	13.4	11.5	13.4
Moisture	9.8	9.0	9.9	8.9
Test Weight				
lb/bu	60.1	60.4	60.2	61.2
kg/hl[4]	79.0	79.5	79.2	80.5
1000 Kernel Weight (gr)	42.2	39.8	33.1	39.3
SKCS Hardness Score	66	71	80	71
Kernel Size Distribution				
Large (7w)	91	87	64	82
Medium (10W)	9	13	34	18
Small (12W)	0	0	2	0
MILLING				
Test Mill Yield[2] (%)	66.6	67.3	68.3	69.1
Wheat Protein (Dry-Basis)	13.4	15.2	13.0	15.2
Flour Protein[1] (Dry-Basis)	12.1	13.9	11.8	13.6
Wheat Ash (Dry-Basis)	1.70	1.73	1.67	1.56
Flour Ash (Dry-Basis)	0.51	0.53	0.60	0.48
FLOUR				
Flour Protein[1] (14% MB)	10.4	11.9	10.1	11.7
Flour Ash (14% MB)	0.43	0.45	0.52	0.41
Wet Gluten (14% MB)	27.0	31.0	23.0	29.3
Falling Number (sec.)	368	383	416	394
FARINOGRAM				
Arrival Time (min.)	2.5	4.2	1.4	3.1
Mixing Peak (min.)	8.3	9.8	4.1	9.9
Mixing Tolerance (min.)	13.4	12.9	22.6	21.1
Absorption (%)	63.0	64.4	60.6	61.9
BAKING RESULTS				
Bake Volume[3] (cc)	871	927	780	910

For protein ranges not indicated, please contact the California Wheat Commission.
* Limited samples were available for analysis.
1) Wheat and Flour Protein: Leco Combustion Nitrogen Analyzer Model FP 428.
2) Test mill yield: Brabender Quadromat Senior Mill, modified in 1997.
3) Bake Volume = AACC Method 10-10B.
4) Test weight conversion from lb/bu to kg/hl according to FGIS-PN-97-5, (1.292 x lb/bu) + 1.419.
5) Intermediate Protein: (11.0-12.4%).
6) High Protein: (12.5% & Above).
7) Low Protein (10.9% & Below)

2005 Hard Red Variety Specific Information

DASH 12		SOLANO	STANDER		
Low[7] Protein	Intermediate Protein	High Protein	Intermediate Protein*	High Protein	**WHEAT**
					Protein[1]
11.1	13.2	15.6	12.7	15.1	Dry Basis
10.1	11.9	14.0	11.7	13.8	As-Is
9.8	11.6	13.8	11.2	13.3	12% MB
9.0	9.8	10.3	7.9	8.5	Moisture
					Test Weight
64.2	61.0	62.2	60.0	62.0	lb/bu
83.5	80.2	81.8	78.9	81.5	kg/hl[4]
45.0	39.7	47.0	41.1	47.5	1000 Kernel Weight (gr)
60	64	65.1	57	55.5	SKCS Hardness Score
					Kernel Size Distribution
93	87	95	87	94	Large (7W)
7	12	5	12	6	Medium (10W)
0	0	0	0	0	Small (12W)
					MILLING
67.6	68.3	69.7	66.9	68.7	Test Mill Yield[2] (%)
11.1	13.2	15.6	12.7	15.1	Wheat Protein (Dry-Basis)
9.9	11.7	14.9	11.3	13.8	Flour Protein[1] (Dry-Basis)
1.65	1.67	1.79	1.6	1.6	Wheat Ash (Dry-Basis)
0.54	0.48	0.47	0.52	0.53	Flour Ash (Dry-Basis)
					FLOUR
8.5	10.1	12.8	9.7	11.9	Flour Protein[1] (14% MB)
0.46	0.41	0.41	0.45	0.45	Flour Ash (14% MB)
22.6	27.0	33.7	25.3	33.3	Wet Gluten (14% MB)
375	395	388	407	397	Falling Number (sec.)
					FARINOGRAM
1.3	1.8	4.0	1.8	3.5	Arrival Time (min.)
2.9	8.4	8.4	2.5	9.8	Mixing Peak (min.)
9.7	12.6	11.1	13.8	14.0	Mixing Tolerance (min.)
60.8	59.9	66.7	58.9	64.6	Absorption (%)
					BAKING RESULTS
749	848	979	800	875	Bake Volume[3] (cc)

Hard Red Wheat Grade Data

	HARVEST DATA			EXPORT CARGO AVERAGE	
	2003	2004	2005	03/04[1]	04/05[1]
Test Weight					
lb/bu	61.4	62.6	60.7	62.9	63.2
kg/hl[2]	80.7	82.3	79.8	81.9	83.0
Moisture (%)	9.4	9.8	10.1	9.8	10.0
Damage (%)	0.0	0.0	0.0	0.0	0.0
*Foreign Material (%)	0.1	0.0	0.1	0.2	0.1
*Shrunken/Broken (%)	0.7	0.6	0.4	0.9	0.8
Total Defects (%)	0.8	0.6	0.5	1.1	0.9
*Dockage (%)	0.7	0.6	0.8	0.5	0.4
Total Screenings (%)	1.5	1.2	1.3	1.6	1.3
Moisture (%)	9.4	9.8	10.1	9.8	10.0
Net Wheat (%)[3]	89.2	89.1	88.7	88.8	88.8
CTW (%)[4]	106.2	106.1	105.6	105.7	105.7
MWVI (%)[5]	94.2	94.3	94.7	94.6	94.6

[1] Limited samples. Cargo data represents information obtained from official export inspection certificates. Export year = June 1-July 30, Harvest year = Calendar year. *Total Screenings are those factors represented on the grade certificate that are cleaned out in the flour mill. [2]Test weight conversion from lb/bu to kg/hl according to FGIS-PN-97-5, (1.292 x lb/bu) + 1.419. [3]Net Wheat = (100%-(FM+SHBN+Dockage)) x (100%-Moisture)/100%. [4] Clean, Tempered Wheat (CTW%) =(100%- (FM+SHBN+Dockage)) x (100%-Moisture)/(100%-16%(temper moisture)). [5] Millable Wheat Value Index (MWVI) = 100%/CTW.

Varietal Descriptions

Summit - (HRW) Based on its grain yield, quality, and overall agronomic performance, Summit has been the predominant wheat variety in the Sacramento Valley, and is also grown in the San Joaquin Valley. Summit has good gluten qualities and good flour yield and flour water absorption. Summit remains the top yielding commercial wheat variety in the state.

Yecora Rojo- (HRW) Yecora Rojo has been produced in California since the early 1970's. It is produced mainly in California's San Joaquin Valley for grain and forage purposes. Yecora Rojo has very strong gluten and is excellent for bread baking and whole wheat flour.

Stander - (HRW) Stander is a hard red wheat grown in both the Sacramento Valley and San Joaquin Valley. Stander is unique among currently available wheat varieties for its excellent tolerance to lodging, and has shown outstanding resistance to grain shatter.

Dash 12 - (HRW) Dash 12 is a stripe rust resistant and Septoria tritici Leaf Blotch tolerant variety adapted to the Sacramento Valley and rain fed areas. Dash 12 is similar to the variety Express in plant height and quality. In the University of California Extension field trials, Dash 12 was 5th overall in yield average in the Sacramento Valley and 1st in the rain fed tests over the last three years. Dash 12 has baking qualities similar to Express but has better mixing tolerance.

Blanca Grande- (HW) Blanca Grande is the most widely grown wheat variety for grain production in the San Joaquin Valley and also is becoming more widely grown in the Sacramento Valley based on its grain yield and quality. It has continued to test well in a broad range of end-use applications, such as Asian noodles, bread, and tortillas.

2005 Hard White Wheat

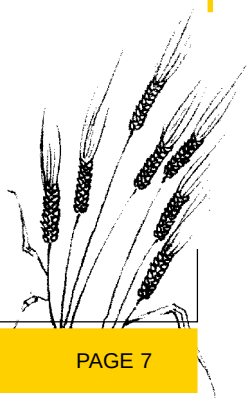
BLANCA GRANDE

WHEAT	High Protein (12.5% & Above) 2005	High Protein (12.5% & Above) 2004	Intermediate Protein (11.0% - 12.4%) 2005	Intermediate Protein (11.0% - 12.4%) 2004
Protein				
Dry Basis	15.4	15.6	13.5	13.4
As - Is	14.0	14.2	12.2	12.2
12% MB	13.6	13.7	11.9	11.8
Moisture	9.2	8.9	9.7	9.0
Test Weight				
lb/bu	63.1	64.8	62.9	65.2
kg/hl[4]	83.0	85.2	82.6	85.7
1000 Kernel Weight (gr)	46.3	47.3	46.7	45.1
SKCS Hardness Score	56.8	61.2	57.2	68.4
Kernel Size Distribution				
Large (7w)	94	94	93	91
Medium (10W)	6	6	7	9
Small (12W)	0	0	0	0
MILLING				
Test Mill Yield[2] (%)	70.1	70.1	68.7	69.3
Wheat Protein (Dry-Basis)	15.4	15.6	13.5	13.4
Flour Protein[1] (Dry-Basis)	15.4	14.3	12.3	12.1
Wheat Ash (Dry-Basis)	1.69	1.72	1.72	1.65
Flour Ash (Dry-Basis)	0.48	0.43	0.47	0.44
FLOUR				
Flour Protein[1] (14% MB)	10.8	12.3	10.6	10.4
Flour Ash (14% MB)	0.41	0.37	0.41	0.38
Wet Gluten (14% MB)	32.1	34.4	27.1	27.4
Falling Number (sec.)	377	319	361	331
FARINOGRAM				
Arrival Time (min.)	8.7	8.6	4.1	5.7
Mixing Peak (min.)	13.9	15.4	10.3	13.9
Mixing Tolerance (min.)	16.0	15.1	15.7	26.7
Absorption (%)	67.0	67.5	64.7	64.9
BAKING RESULTS				
Bake Volume[3] (cc)	912	939	876	805

1) Wheat and Flour Protein: Leco Combustion Nitrogen Analyzer Model FP 428. 2) Test mill yield: Brabender Quadromat Senior Mill, modified in 1997. 3) Bake Volume = AACC Method 10-10B. 4) Test weight conversion from lb/bu to kg/hl according to FGIS-PN-97-5, (1.292 x lb/bu) + 1.419.

Variety Descriptions *continued...*

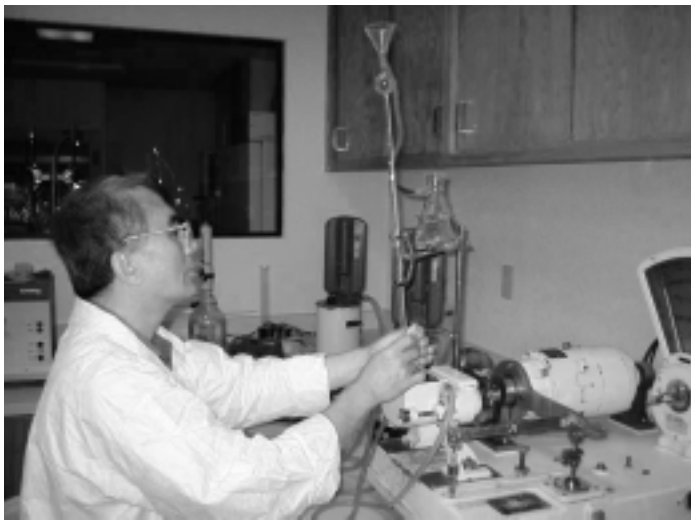
Solano - (HRW) Solano is adapted primarily to the Sacramento Valley. Solano is similar to the variety Express but is shorter and has higher yield. In the University of California Extension field trials, Solano was 2nd overall in yield average in the Sacramento Valley over the last three years. Solano has similar protein percent and water absorption to Express (high) but has better mixing and baking characteristics, particularly better loaf volume.



Technical and Laboratory Services

The California Wheat Commission laboratory has the equipment necessary for evaluation of wheat and durum milling quality, chemical analysis of wheat and flour, physical dough testing, semolina analysis, bake and noodle production tests, and pasta analysis.

The Commission's staff is available to work for customers in the area of quality assurance, problem solving, quality control training, and research. The price list for laboratory services is available on the California Wheat Commission website at www.californiawheat.org.



Customer Assistance and Support

• The Commission is available to answer *technical questions* about California's wheat quality, including recommendations for blending and appropriate end-use.

• The Commission conducts *specialized training programs* in milling, baking, semolina, pasta, and quality control. These specific programs may be customized to meet the customer's needs.

Crop and Export Survey

California produces five classes of wheat: Hard Red Winter (HRW), Desert Durum®, Hard White, Soft White Wheat, and Hard Red Spring. While HRW and Durum are the predominately produced and exported classes, all wheat classes are surveyed and information is available at the Commission office. Every effort is extended to make sure that an accurate assessment of quality is made available to buyers. With greater amounts of wheat being sold by variety, varietal specific information is emphasized in Commission surveys.

Research

The Commission laboratory is available for flour, semolina, milling, end-product, and new-product research. Technical expertise is available in hearth breads, pasta, Asian food products, standard loaf bread, steamed bread, Asian noodles, cookies, tortillas and middle-eastern flat breads.

Varietal Development

Private and public breeding programs play an important role in the development of new varieties available to California wheat producers. The Commission analyzes over 1,000 samples each year to support these programs and encourages the release of new varieties that will meet the customers' needs.

Advanced varieties are evaluted by commercial mills through the California Wheat Collaborator program.

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