



Arizona / California Combined Crop Analysis

2012 Desert Durum[®] Quality Report





2012 Desert Durum® Crop Quality Report

Desert Durum®

The phrase “DESERT DURUM” is trademarked in the U.S. under the ownership of the Arizona Grain Research and Promotion Council and the California Wheat Commission. Only durum grown in the states of Arizona and California may qualify as DESERT DURUM®.

DESERT DURUM® wheat is produced under irrigation in the desert valleys and lowlands of Arizona and California. These are regions of high temperatures (May-June temperatures average above 32°C) and low rainfall (annual precipitation averages less than 200 mm). DESERT DURUM® wheat is planted in November through February and harvested in May and June. DESERT DURUM® grain enters the market up to three months ahead of the spring durum crops harvested in other North American durum-producing areas.

DESERT DURUM® wheat is often delivered “identity preserved” to U.S. domestic and export markets. The identity preservation system allows buyers to purchase varieties of grain with intrinsic quality parameters specific to their needs. Annual production requirements can be contracted ahead to experienced growers who plant Certified seed. After harvest, the grain can be stored by varietal identity for season-long shipment at the buyer’s schedule.

The data presented in this crop quality report are from samples that were traceable to known quantities of grain of each variety. Sampling techniques have been approved by an agricultural statistician and at least 80% of the crop was sampled. Thus, this information is intended to characterize the 2012 DESERT DURUM® crop by both variety and as an entire crop.

The milling, semolina, and pasta analyses used to produce this report were conducted at the California Wheat Commission’s wheat quality laboratory. The laboratory staff works closely with small-grain plant breeding companies and buyers to provide an accurate assessment of crop quality for each variety.

DESERT DURUM® PRODUCTION			
Year	METRIC TONS		
	Arizona	California	Total
2012	268,900	*280,000	548,900
2011	217,155	263,500	480,655
2010	247,256	197,860	445,116
2009	337,476	299,374	636,850
2008	397,405	270,389	667,794
2007	227,633	127,588	355,221
2006	201,397	67,931	269,328

* Final data available February 2013 from USDA

MILLING, SEMOLINA, AND PASTA CHARACTERISTICS OF DESERT DURUM® VARIETIES																								
WHEAT	Desert King		Duraking		Havasu		Kronos		Maestrale		Ocotillo		Orita		RSI 59		Saragolla		Sky		WB-Mead		Westmore	
	2012	2011 ¹	2012 ¹	2011 ¹	2012	2011	2012	2011	2012	2011	2012 ¹	2011 ¹	2012	2011	2012 ¹	2011 ¹	2012	2011 ¹	2012 ¹	2011 ¹	2012	2011 ¹	2012	2011
Protein																								
Dry (%)	14.7	15.6	15.1	14.8	15.4	15.3	15.4	15.5	14.7	16.2	16.6	15.7	15.7	15.1	13.1	13.8	14.8	15.4	14.4	16.3	15.3	16.2	16.1	
As Is (%)	13.8	14.4	14.1	13.8	14.4	14.3	14.5	14.6	13.7	15.2	15.5	14.8	14.7	14.0	12.1	12.8	13.7	14.4	13.6	15.3	14.4	15.2	15.1	
(12% mb)	13.0	13.7	13.3	13.0	13.5	13.4	13.6	13.7	12.9	14.3	14.7	13.8	13.8	13.3	11.5	12.1	13.1	13.5	12.7	14.4	13.5	14.2	14.1	
Moisture (%)	6.5	7.7	6.6	6.8	6.4	6.2	6.4	6.3	6.6	6.4	7.1	6.1	6.5	6.7	7.9	6.8	7.4	6.0	6.0	6.0	5.9	6.2	5.9	
1000 Kernel Weight (g)	44.2	47.0	45.9	47.0	44.1	49.7	49.3	52.5	45.8	41.7	50.0	48.8	53.7	43.0	48.0	44.5	49.0	40.5	50.0	44.8	51.1	36.1	43.1	
Kernel Size Distribution																								
Large (%)	88	88	90	84	87	91	92	94	85	81	92	91	93	91	94	87	86	82	87	87	87	68	71	
Medium (%)	12	12	10	16	13	9	8	6	15	19	8	9	7	9	6	12	13	18	13	13	13	31	29	
Small (%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	
MILLING AND SEMOLINA																								
Total Extraction (%)	74.6	76.8	76.4	76.6	75.9	74.2	75.3	71.4	74.6	75.3	74.3	75.8	74.2	77.1	77.4	74.5	74.2	76.9	73.8	76.1	72.6	73.9	74.0	
Semolina Extraction (%)	62.8	63.5	63.4	67.9	61.9	62.5	61.5	60.3	62.9	60.8	63.1	62.5	64.4	63.4	66.7	62.5	64.5	61.4	63.6	63.5	64.4	60.0	61.0	
Wheat Ash (As Is % mb)	2.18	1.94	1.97	1.80	1.94	2.01	1.84	1.86	1.80	1.89	1.77	1.93	1.90	1.94	2.04	1.99	1.90	1.71	1.89	1.89	2.14	1.80	1.94	
Semolina Ash (As Is % mb)	0.75	0.84	0.86	0.88	0.97	0.91	0.91	0.87	0.90	0.95	0.77	0.91	0.82	1.01	0.65	0.96	0.88	1.00	0.75	0.89	0.85	0.9	0.87	
Semolina Protein (As Is % mb)	11.7	12.6	12.1	11.7	12.4	12.4	12.4	12.5	11.4	13.3	13.3	12.7	12.7	12.1	10.7	11.1	11.5	12.5	11.6	13.1	12.4	13.2	13.1	
Falling Number (sec)	581	628	590	528	781	660	650	667	575	648	551	710	646	596	621	566	536	643	550	656	561	628	622	
Specks (no/10 sq in)	8	7	9	5	4	5	3	5	16	2	5	3	6	6	4	5	5	1	7	4	5	1	3	
Wet Gluten (%) (14% mb)	29.6	29.5	31.9	27.7	31.4	30.0	32.0	32.2	30.3	34.1	35.8	33.6	33.2	32.8	26.1	28.1	28.2	31.7	28.1	34.5	29.4	34.5	32.0	
Dry Gluten (%) (As Is % mb)	10.3	10.7	11.0	9.8	11.1	15.9	11.5	12.0	10.6	11.7	12.7	11.8	11.9	11.2	9.6	9.6	9.8	11.1	10.4	12.1	10.6	12.2	11.9	
Alveograph																								
W	146.4	129.2	113.8	111.8	249.9	230.8	205.3	181.5	148.1	124.3	77.9	188.8	142.3	148.5	96.8	199.2	159.5	246.7	168.1	185.1	163.6	225.0	181.3	
P/L	1.02	1.03	1.40	1.57	1.95	1.49	1.93	1.38	1.11	0.64	0.45	1.55	0.93	1.09	1.20	2.24	0.91	1.78	1.74	1.53	1.46	2.30	1.73	
Color 'b' value	24.4	22.9	22.3	22.4	25.9	26.5	25.1	25.8	24.4	24.8	24.3	25.6	25.1	24.7	24.6	23.7	23.7	25.2	26.2	26.6	28.0	27.3	27.5	
PASTA																								
Color ²																								
Score	7.6	6.5	5.5	6.0	8.6	9.3	8.3	8.9	6.8	8.0	8.5	8.2	8.3	7.2	7.5	7.6	8.0	7.9	9.5	8.2	8.7	8.4	8.7	
'b' value	38.4	35.8	34.0	34.4	40.2	42.0	39.5	41.5	35.5	38.4	40.6	39.0	38.9	37.8	37.3	37.4	38.5	38.4	42.3	40.1	40.4	40.0	41.0	
Cooked Weight (g)	30.0	29.4	29.1	30.3	29.9	30.1	30.1	30.7	26.7	29.5	29.7	29.9	28.5	31.4	30.3	29.1	30.4	29.9	30.8	29.5	30.9	30.0	29.7	
Cooking Loss (%)	7.7	6.7	7.7	8.1	7.5	7.5	7.4	7.3	6.8	7.1	7.5	7.0	6.6	7.8	7.8	7.6	8.8	7.4	7.2	7.6	8.1	7.5	7.3	
Firmness (g/cm)	7.7	7.7	6.8	7.2	7.6	7.9	7.5	7.5	7.9	8.2	7.8	7.7	7.5	7.3	7.5	7.8	7.0	7.8	7.8	7.4	7.1	7.4	8.0	

¹ Limited samples available for analysis; please contact the California Wheat Commission for more information. ² Pasta and semolina color—Minolta Chromameter Model CR-200. Note: Data represent weighted means calculated to characterize the Arizona/California southwestern desert crop. Weather, soils, and cultural practices can influence the quality of all varieties between years and of particular lots of any one variety. Wheat and semolina protein—Leco Combustion Nitrogen Analyzer Model TruSpec. Manual adjustments to test mill may make year-to-year extraction results incomparable.



AVERAGE GRADE RESULTS

	Harvest Data			Export Cargo Data		
	2012	2011	2010	11/12	10/11	09/10
Protein (%) (12% MB)	13.4	13.3	13.0	13.0	12.7	13.0
Graded No. 1 (%)	Over 90% of samples graded No.1			100	96	92
HVAC (%)	97.1	97.2	96.1	95.1	95.1	91.9
Moisture (%)	6.1	6.6	7.0	7.1	7.2	7.5
Test Weight: lb/bu	62.1	62.5	63.2	62.5	62.6	62.2
kg/hl	80.9	81.4	82.3	81.3	81.5	81.0
Damage (%)	0.2	0.3	0.4	0.4	0.4	0.5
Foreign Material* (%)	0.1	0.0	0.1	0.1	0.1	0.2
Shrunken/Broken* (%)	0.6	0.5	0.4	0.9	0.7	0.7
Total Defects (%)	0.9	0.8	0.9	1.4	1.2	1.4
Dockage* (%)	0.4	0.4	0.3	0.5	0.5	0.7
Total Screenings* (%)	1.1	0.9	0.8	1.5	1.3	1.6
Moisture (%)	6.1	6.6	7.0	7.1	7.2	7.5
Net Wheat ¹ (%)	92.9	92.6	92.3	91.5	91.5	91.0
CTW ² (%)	110.6	110.2	109.9	108.9	108.9	108.4
MWVI ³	90.4	90.8	91.0	91.8	91.8	92.2

*Total Screenings are those factors represented on the grade certificate that are cleaned out in the flour mill. Note: Samples were either official samples collected by a licensee of FGIS or submitted by handlers to a licensee for grading. Desert Durum® cargo data represent information obtained from official export inspection certificates. Test weight conversions from lb/bu to kg/hl is according to FGIS-PN-97-5, $\{(1.292 \times \text{lb/bu}) + 0.630\}$. ¹ Net Wheat = $(100\% - (\text{FM} + \text{SHBN} + \text{Dockage})) \times (100\% - \text{Moisture}) / 100\%$. ² Clean Tempered Wheat (CTW%) = $(100\% - (\text{FM} + \text{SHBN} + \text{Dockage})) \times (100\% - \text{Moisture}) / (100\% - 16\%(\text{temper moisture}))$. ³ Millable Wheat Value Index (MWVI) = $100\% / \text{ctw}$.

2012 DESERT DURUM®: AVERAGE GRADE RESULTS BY VARIETY

	Desert King	Duraking*	Havasu	Kronos	Maestrale	Ocotillo*	Orita	RSI-59*	Saragolla	Sky*	WB-Mead	Westmore
Protein (%) (12% mb)	12.7	12.4	13.4	13.3	12.5	14.1	13.6	12.8	12.0	13.3	13.7	13.8
Graded No. 1 (%)	Over 90% of samples graded No.1											
HVAC (%)	97.6	97.0	98.6	96.0	98.0	96.0	97.2	97.4	91.3	97.4	96.3	98.0
Moisture (%)	6.4	7.0	6.5	6.2	6.7	6.1	5.6	6.8	7.1	6.1	5.7	6.2
Test Weight: lb/bu	62.4	63.4	62.5	61.8	62.9	61.0	61.9	62.5	63.8	61.4	62.4	61.5
kg/hl	81.3	82.5	81.4	80.5	81.9	79.4	80.6	81.3	83.0	80.0	81.2	80.1
Damage (%)	0.1	0.0	0.2	0.2	0.0	0.4	0.3	0.0	0.0	0.1	0.2	0.4
Foreign Material (%)	0.1	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.0
Shrunken/Broken (%)	0.9	0.3	0.6	0.4	1.1	0.3	0.5	1.0	1.1	0.3	0.5	1.0
Total Defects (%)	1.0	0.3	0.9	0.7	1.2	0.7	0.9	1.1	1.2	0.5	0.8	1.4
Dockage	0.8	0.4	0.4	0.2	0.5	0.3	0.4	0.6	0.8	0.3	0.2	0.2

*Note: Limited samples available for analysis. Samples were either official samples collected by a licensee of FGIS or submitted by handlers to a licensee for grading. Test weight conversions from lb/bu to kg/hl according to FGIS-PN97-5, $\{(1.292 \times \text{lb/bu}) + 0.630\}$.



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