



Arizona / California Combined Crop Analysis

2013 Desert Durum[®] Crop Quality Report





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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 grown 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.

Total DESERT DURUM® acreage harvested in Arizona and southern California for the 2013 harvest season was considerably lower than in 2012. Grain yields were generally normal. The new crop grain again exhibited consistently large kernel size and low moisture, traits that contribute to achieving high extraction rates. Overall, grain quality characteristics met expectations. In summary, the 2013 DESERT DURUM® crop will deliver the valuable milling, semolina, and pasta quality traits that customers have learned to expect and appreciate.

The milling, semolina, and pasta analyses used to produce this report were conducted at the California Wheat Commission’s wheat quality laboratory.

DESERT DURUM® PRODUCTION			
Year	METRIC TONS		
	Arizona	California	Total
2013	183,000	132,000*	315,000
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

* Final data available February 2014 from USDA

MILLING, SEMOLINA, AND PASTA CHARACTERISTICS OF DESERT DURUM® VARIETIES																						
WHEAT	Desert King		Duraking		Havasu		Kronos		Ocotillo		Orita		Platinum		Saragolla		Sky		WB-Mead		WB-Mohave	Westmore
	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012
Protein																						
Dry (%)	14.2	14.7	14.6	15.1	15.1	15.4	15.3	15.4	16.1	16.2	15.1	15.7	13.8	13.6	13.8	14.5	15.4	12.4	16.3	15.4	15.6	16.2
As Is (%)	13.3	13.8	13.6	14.1	14.2	14.4	14.5	14.5	14.4	15.2	14.2	14.8	12.9	12.7	12.8	13.5	14.4	11.8	15.3	14.5	14.7	15.2
(12% mb)	12.5	13.0	12.8	13.3	13.3	13.5	13.5	13.6	14.1	14.3	13.3	13.8	12.1	12.0	12.1	12.8	13.5	10.9	14.4	13.6	13.7	14.2
Moisture (%)	6.6	6.5	6.7	6.6	6.3	6.4	5.8	6.4	10.3	6.4	5.9	6.1	6.3	7.0	6.8	7.2	6.0	4.8	6.0	6.4	5.6	6.2
1000 Kernel Weight (g)	43.1	44.2	43.3	45.9	47.7	44.1	51.3	49.3	45.3	41.7	49.2	48.8	41.2	45.5	44.5	45.1	40.5	50.5	44.8	48.8	37.2	36.1
Kernel Size Distribution																						
Large (%)	87	88	83	90	90	87	94	92	87	81	91	91	84	87	87	91	82	94	87	91	74	68
Medium (%)	13	12	17	10	10	13	6	8	13	19	9	9	16	13	12	9	18	6	13	9	25	31
Small (%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
MILLING AND SEMOLINA																						
Total Extraction (%)	77.1	74.6	78.2	76.4	77.6	75.9	78.3	75.3	80.9	75.3	77.4	75.8	77.5	78.8	74.5	78.8	76.9	78.3	76.1	79.3	77.1	73.9
Semolina Extraction (%)	62.2	62.8	63.6	63.4	61.6	61.9	62.2	61.5	63.1	60.8	62.3	62.5	63.0	64.3	62.5	62.3	61.4	64.5	63.5	62.6	60.9	60.0
Wheat Ash (As Is % mb)	1.92	2.18	1.99	1.97	1.91	1.94	2.00	1.84	2.01	1.89	1.92	1.93	2.03	1.89	1.99	1.95	1.71	2.29	1.89	1.88	1.98	1.80
Semolina Ash (As Is % mb)	0.94	0.75	0.99	0.86	1.17	0.97	0.93	0.91	1.14	0.95	0.89	0.91	0.95	1.13	0.96	0.98	1.00	0.89	0.89	0.94	0.89	0.90
Semolina Protein (As Is % mb)	11.5	11.7	11.5	12.1	9.5	12.4	12.5	12.4	13.2	13.3	12.4	12.7	11.3	11.0	11.1	11.8	12.5	10.2	13.1	12.7	12.8	13.2
Falling Number (sec)	553	581	597	590	742	781	883	650	617	648	702	710	706	543	566	763	643	758	656	899	799	628
Specks (no/10 sq in)	25	8	23	9	16	4	31	3	23	2	13	3	22	32	5	14	1	24	4	18	25	1
Wet Gluten (%) (14% mb)	32.3	29.6	33.4	31.9	34.3	31.4	35.3	32.0	36.8	34.1	36.5	33.6	32.8	28.9	28.1	35.1	31.7	30.1	34.5	36.8	37.7	34.5
Dry Gluten (%) (As Is % mb)	12.5	10.3	12.8	11.0	13.0	11.1	12.6	11.5	12.6	11.7	13.8	11.8	13.9	10.7	9.6	13.9	11.1	10.9	12.1	14.4	14.4	12.2
Alveograph																						
W	181.5	146.4	174.6	113.8	291.5	249.9	199.9	205.3	107.3	124.3	172.8	188.8	260.9	166.1	199.2	256.4	246.7	164.2	185.1	266.2	252.3	225.0
P/L	1.19	1.02	1.97	1.40	2.03	1.95	2.15	1.93	0.70	0.64	1.33	1.55	1.89	2.42	2.24	1.89	1.78	1.70	1.53	2.30	2.46	2.30
Color 'b' value	25.1	24.4	22.9	22.3	26.0	25.9	24.9	25.1	23.3	24.8	25.2	25.6	26.1	24.0	23.7	25.4	25.2	25.8	26.6	26.1	26.9	27.3
PASTA																						
Color																						
Score	8.1	7.6	5.5	5.5	8.6	8.6	8.2	8.3	6.0	8.0	8.6	8.2	8.5	7.5	7.6	7.5	7.9	8.0	8.2	8.5	8.8	8.4
'b' value	37.9	38.4	33.0	34.0	40.4	40.2	39.0	39.5	35.9	38.4	39.3	39.0	39.5	36.3	37.4	36.6	38.4	39.2	40.1	40.1	41.1	40.0
Cooked Weight (g)	31.1	30.0	31.4	29.1	29.4	29.9	29.5	30.1	29.2	29.5	31.0	29.9	29.6	30.3	29.1	29.7	29.9	29.4	29.5	28.8	29.4	30.0
Cooking Loss (%)	8.3	7.7	7.3	7.7	6.4	7.5	7.0	7.4	7.2	7.1	6.6	7.0	7.3	8.8	7.6	6.7	7.4	7.6	7.6	6.6	7.0	7.5
Firmness (g/cm)	7.2	7.7	7.0	6.8	7.7	7.6	7.5	7.5	8.4	8.2	8.2	7.7	7.0	7.3	7.8	7.6	7.8	6.9	7.4	7.7	7.7	7.4

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. Pasta and semolina color—Minolta Chromameter Model CR-200. Manual adjustments to test mill may make year-to-year extraction results incomparable.



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AVERAGE GRADE RESULTS

	Harvest Data			Export Cargo Data		
	2013	2012	2011	12/13	11/12	10/11
Protein (%) (12% MB)	13.4	13.4	13.3	13.2	13.0	12.7
Graded No. 1 (%)	Over 90% of samples graded No.1			100	100	96
HVAC (%)	97.1	97.1	97.2	95.9	95.1	95.1
Moisture (%)	6.8	6.1	6.6	6.5	7.1	7.2
Test Weight: lb/bu	62.5	62.1	62.5	62	62.5	62.6
kg/hl	81.3	80.9	81.4	80.7	81.3	81.5
Damage (%)	0.2	0.2	0.3	0.4	0.4	0.4
Foreign Material* (%)	0.1	0.1	0.0	0.1	0.1	0.1
Shrunken/Broken* (%)	0.6	0.6	0.5	1.0	0.9	0.7
Total Defects (%)	0.8	0.9	0.8	1.5	1.4	1.2
Dockage* (%)	0.5	0.4	0.4	0.5	0.5	0.5
Total Screenings* (%)	1.2	1.1	0.9	1.6	1.5	1.3
Moisture (%)	6.8	6.1	6.6	6.5	7.1	7.2
Net Wheat (%)	92.1	92.9	92.6	91.9	91.5	91.5
CTW (%)	109.7	110.6	110.2	109.4	108.9	108.9
MWVI	91.2	90.4	90.8	91.4	91.8	91.8

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

2013 DESERT DURUM®: AVERAGE GRADE RESULTS BY VARIETY

	Desert King	Duraking	Havasu	Kronos	Ocotillo	Orita	Platinum	Saragolla	Sky	WB-Mead	WB-Mohave	Westmore
Protein (%) (12% mb)	12.6	12.9	13.6	13.7	13.4	13.4	12.7	12.2	12.8	11.3	14.1	14.0
Graded No. 1 (%)	Over 90% of samples graded No.1											
HVAC (%)	97.8	96.0	97.4	96.0	97.0	97.8	95.0	92.0	96.0	95.0	98.0	97.2
Moisture (%)	6.7	7.8	7.0	6.8	6.5	6.2	7.4	7.5	6.8	6.2	7.2	6.8
Test Weight: lb/bu	62.0	62.3	63.2	62.2	63.6	62.6	63.4	63.6	63.4	63.6	62.6	61.6
kg/hl	80.8	81.1	82.3	81.0	82.8	81.5	82.5	82.8	82.5	82.8	81.5	80.2
Damage (%)	0.0	0.0	0.2	0.4	0.0	0.0	0.8	0.0	0.0	0.0	0.7	0.0
Foreign Material (%)	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0
Shrunken/Broken (%)	0.7	0.3	0.6	0.2	0.4	0.7	0.4	0.7	0.1	0.5	0.6	0.9
Total Defects (%)	0.8	0.3	0.9	0.6	0.4	0.8	1.2	0.8	0.1	0.5	1.4	0.9
Dockage	0.7	0.9	0.4	0.3	0.0	0.4	0.3	1.1	0.1	0.4	0.5	0.3

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, $\{(1.292 \times \text{lb/bu}) + 0.630\}$.



California Wheat Commission
1240 Commerce Avenue, Suite A
Woodland, CA 95776-5923

Phone: 530.661.1292
Fax: 530.661.1332
Web: californiawheat.org

Arizona Grain Research and Promotion Council
Arizona Department of Agriculture
1688 West Adams Street
Phoenix, AZ 85007

Phone: 602.542.3262
Fax: 602.364.0830