Raisin Administrative Committee

Marketing Policy & Industry Statistics 2011

RAISIN ADMINISTRATIVE COMMITTEE

Executive Committee

From left: Bob Epperson (Treasurer), Monte Schutz (Vice-Chairperson), Chris Gunlund (Chairperson) and Jon Marthedal (Secretary)

Raisin Administrative Committee

Marketing Policy & Industry Statistics
2011 – 2012 Marketing Season

As Presented to the RAC on October 11, 2011 and
Approved by the RAC on January 24, 2012 and Submitted to the Secretary.

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From Federal Marketing Order 989.54(e) Factors. When computing preliminary and interim percentages, or determining final percentages for recommendation to the Secretary, the Committee shall give consideration to the following factors:

(1) THE ESTIMATED TONNAGE HELD AT THE BEGINNING OF THE CROP YEAR.

(A) Tonnage held by producers.

1,790 tons were being held on Memorandum Storage as of July 31, 2011.

(B) Tonnage held by handlers.

Packer inventory of raisins as of July 31, 2011, with comparative tonnages for July 31, 2010 was as follows:

	*PACKER INVENTORY * as of 07/31/10 Held Locally*	*PACKER INVENTORY * as of 07/31/11 Held Locally*
Natural Seedless	**83,143**	**110,206**
Dipped Seedless	**2,411**	**1,420**
Golden Seedless	**2,710**	**3,969**
Zante Currant	**1,024**	**1,993**
Sultana	**23**	**31**
Muscat	**15**	**22**
Monukka	**138**	**168**
Other Seedless	**3,369**	**3,888**
Other Seedless Sulfured	**494**	**682**
TOTAL	**93,327**	**122,379**

** Includes packed and unpacked in sweatbox tons*

20 Year Natural Seedless Carry-in Inventory (Free Tonnage & Reserve)

1992-93	163,747
1993-94	170,351
1994-95	153,470
1995-96	202,854
1996-97	137,679
1997-98	93,071
1998-99	164,657
1999-00	101,946
2000-01	138,503
2001-02	269,319
2002-03	236,860
2003-04	262,250
2004-05	196,361

2005-06	141,049
2006-07	160,930
2007-08	126,294
2008-09	106,896
2009-10	138,978
2010-11	83,214
2011-12	110,208
20 Year Average	***157,932***

(C) Estimated tonnage held by Committee as of August 1, 2011.

The Committee held 2 tons of Natural Seedless reserve pool raisins, of which all were committed.

(2) THE EXPECTED GENERAL QUALITY AND ANY MODIFICATIONS OF THE MINIMUM GRADE STANDARDS.

(A) Early estimates have deliveries down 15% from last year.

Dehydrators reported beginning their dehydrating activities one to two weeks later than normal due to a later crop harvest this year.

(B) During the 2010-11 crop year, incoming substandard and quality standards were maintained at the standard level. Substandard dockage has a maximum limit of 17% and B or Better maturity dockage allowance has a minimum limit of 35%.

(C) Although raisins produced from grapes grown outside of the State of California are not subject to volume regulations or grade and condition standards established under the marketing order, the surveillance and reporting provisions for any such raisins received by raisin handlers will continue for the 2011-2012 crop year. Arizona declared fruit must be validated as produced in Arizona or will be subjected to all requirements of California grown fruit.

(3) THE ESTIMATED TONNAGE OF STANDARD AND OFF-GRADE RAISINS WHICH WILL BE PRODUCED.

(A) The Committee met on August 15, 2011 and recognized the computed Trade Demand for Natural (sun-dried) Seedless and all other varietal types (see chart on page 8). The Committee voted to not establish volume regulations thereby declaring Natural (sun-dried) Seedless and all other varietals 100% Free. This resulted in no trade demands or volume regulations for the 2011/12 crop year.

Variety	Trade Demand	Estimated Production	Preliminary Percentages* Free	Reserve
Natural Seedless + **	NONE		100%	0%
Dipped Seedless**	NONE		100%	0%
Golden Seedless**	NONE		100%	0%
Zante Currant**	NONE		100%	0%
Sultana**	NONE		100%	0%
Muscat**	NONE		100%	0%
Monukka**	NONE		100%	0%
Other Seedless**	NONE		100%	0%
Other Seedless Sulf.**	NONE		100%	0%

+ Beginning with the 2003-04 Crop Year, the Natural Seedless varietal type was modified through informal rule making to include Oleate Seedless (68 FR 42943: July 21, 2003).

** The Committee computed but did not accept a Trade Demand for all varietals of raisins resulting in them being unregulated for the crop year 2011-12.

The 2011 August 1 grape estimate and the 2010 and 2009 final grape crops (in green tons) are as follows:

Varietal Type	***August 1 2011***	Final 2010	2009
Wine	3,400,000	3,500,000	3,743,000
Table	1,000,000	900,000	874,000
Raisin	2,050,000	2,079,000	1,927,000
Total	6,450,000	6,479,000	6,544,000

Source: USDA California Fruit & Nut Review, August 2011

(B) Estimate of Tunnel Dehydrated Raisin Production.

Production of Golden Seedless raisins in the 2010-2011 crop year was 21,827 swb tons. The carry-over from that year was 3,969 tons. Dipped Seedless production in 2010-2011 was 4,440 tons with a carry-over of 1,420 tons. The Committee will determine a 2011-12 crop estimate for Golden Seedless and Dipped Seedless raisins.

(C) Estimated Tonnage of Off Grade Raisins to be Produced.

Cooler than normal temperatures resulted in a delay of one to two weeks in the harvest of 2011-12 crop

(4) THE ESTIMATED TRADE DEMAND FOR RAISINS IN FREE TONNAGE OUTLETS.

(A) The tonnage of raisins marketed in recent crop years in domestic and Canadian markets, including government purchases, on a packed tonnage basis is shown in the following table:

Domestic & Canadian Markets Packed Tons					
Varietal Type	2006-07	2007-08	2008-09	2009-10	***2010-11***
Natural Seedless	188,944	193,609	191,929	186,176	180,344
Dipped Seedless	4,673	3,651	3,480	3,629	4,803
Golden Seedless	12,384	11,263	11,539	11,699	12,614
Zante Currants	1,244	1,535	1,536	1,382	1,090
Sultanas	181	42	56	52	37
Muscats	4	5	2	0	2
Monukkas	208	269	347	126	101
Other Seedless	3,135	4,944	4,363	5,385	7,237
Other Seedless Sulf.	555	491	406	422	396
Total	211,328	215,809	213,658	208,871	206,624
Five-Yr. Average					211,258

(B) Free tonnage marketed in foreign markets during the past five years:

Export Markets Packed Tons					
Varietal Type	2006-07	2007-08	2008-09	2009-10	***2010-11***
Natural Seedless	101,684	142,541	125,789	152,246	129,198
Dipped Seedless	0	0	0	19	30
Golden Seedless	3,037	4,823	5,217	4,858	5,848
Zante Currants	875	2,881	1,771	781	1,003
Sultanas	0	0	0	0	0
Muscats	0	0	0	0	0
Monukkas	0	1	1	0	0
Other Seedless	319	771	760	1097	1,144
Other Seedless Sulf.	0	0	0	21	144
Total	105,915	151,017	133,538	159,022	137,367
Five-Yr. Average					137,372

(5) AN ESTIMATED DESIRABLE CARRYOUT AT THE END OF THE CROP YEAR FOR FREE TONNAGE AND, IF APPLICABLE, FOR RESERVE TONNAGE.

Free Tonnage – The Committee's unanimous recommendation on February 23, 2011 was approved by USDA to change the desirable carryout from 60,000 tons to 85,000 tons, for Natural (sun-dried) Seedless raisins. The desirable carry-out calculation for other varietals remained at a rolling average of 2.5-months of prior year's shipments over the past five years, dropping the high and low figure. (The rule was published in the Federal Register on July 18, 2011.)

(6) THE ESTIMATED MARKET REQUIREMENTS FOR RAISINS OUTSIDE FREE TONNAGE OUTLETS, CONSIDERING THE ESTIMATED WORLD RAISIN SUPPLY AND DEMAND SITUATION.

The export and the domestic demand is supplied from free tonnage raisins. The export of California Natural Seedless raisins decreased by 23,048 packed tons to 129,198 packed tons during 2010-2011 from 152,246 packed tons in 2009-10.

The following table shows the shipments of raisins on a packed weight basis for the 2010-2011 crop year.

Countries of Destination	Natural Seedless	Golden Seedless	Other
Belgium	1,263	17	0
Denmark	4,834	0	0
South Ireland	815	0	0
Finland	1,708	0	0
France	605	0	0
Germany	13,240	0	11
Hong Kong	1,679	149	21
Japan	17,412	0	949
Korea	4,020	0	16
Netherlands	2,926	30	0
Norway	3,397	0	0
Singapore	1,841	360	49
Sweden	5,350	0	9
Switzerland	284	0	0
Taiwan	4,611	368	114
United Kingdom	18,592	154	23
Latin America	8,758	10	218
All Other Markets	37,863	4,760	911
TOTAL	129,198	5,848	2,321

The RAC will be sending a delegation to the International Conference of Dried Grape Producing Countries and will return with up to date statistics.

(7) CURRENT PRICES BEING RECEIVED AND THE PROBABLE GENERAL LEVEL OF PRICES TO BE RECEIVED FOR RAISINS BY PRODUCERS AND HANDLERS.

(A) Negotiations between packers and the RBA are being held pursuant to the terms of their contract.

Probable Prices to be Received by Producers for the 2011-2012 Crop

Natural Seedless	$ 1,700.00	*Per Ton*
Dipped Seedless	$	*Per Ton*
Golden Seedless	$	*Per Ton*
Zante Currants	$ 2,100.00	*Per Ton*
Sultanas	$	*Per Ton*
Muscats	$	*Per Ton*
Monukkas	$	*Per Ton*
Other Seedless	$	*Per Ton*
Other Seedless Sulf.	$	*Per Ton*

(B) Current Prices Being Quoted by Handlers as of September, FOB

Natural Seedless	$	*Per Ton*
Dipped Seedless	$	*Per Ton*
Golden Seedless	$	*Per Ton*
Zante Currants	$	*Per Ton*
Other Seedless	$	*Per Ton*

(8) THE TREND AND LEVEL OF CONSUMER INCOME.

Neither recession nor boom, but a disappointing middling growth outlook demands that investors and decision makers choose economic policies carefully. Hiring will be cautious, orders will be slow. Profit growth will be constrained. Our outlook remains for moderate, subpar growth accompanied by modest inflation pressures and no change in the Federal Reserve policy on the federal funds rate. For the next six months we anticipate growth will reflect modest gains in consumer spending, equipment & software spending and modest improvement in commercial and residential construction (remodeling). There is no one driving factor - just a lot of little gains.

Source: Wells Fargo Economic Group Outlook; September 7, 2011

Historically, California raisins maintain good market demand even in weaker economic times.

(9) **ANY OTHER PERTINENT FACTORS BEARING ON THE MARKETING OF SUCH RAISINS INCLUDING THE ESTIMATED SUPPLY AND DEMAND FOR OTHER VARIETAL TYPES AND REGULATIONS APPLICABLE THERETO.**

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Trade Demand

Raisin Administrative Committee

2011-2012

		Natural Seedless	Dipped Seedless	Golden Seedless	Zante Currants	Sultanas	Muscats	Monukkas	Other Seedless	Other Sulf. Seedless
	Base Shipments (Packed Tons)	309,542	4,833	18,462	2,093	37	2	102	8,382	540
./.	Shrink Factor (5 yr avg)	0.94854	0.88394	0.90540	0.86020	0.63977	(1.27456)	0.87591	0.82016	0.92574
	Shrink %	5.146	11.606	9.460	13.980	36.023	227.456	12.409	17.984	7.426
=	Base Tonnage (Sweatbox Tons)	326,335	5,468	20,391	2,433	58	(2)	116	10,220	583
x	90% Formula	90%	90%	90%	90%	90%	90%	90%	90%	90%
=	Adjusted Base	293,702	4,922	18,352	2,190	52	(1)	105	9,198	525
	Physical Inventory 07/31/11	110,206	1,420	3,969	1,993	31	22	168	3,888	682
-	Desirable Inventory	85,000	974	4,039	715	0	(1)	23	1,352	71
=	± Inventory Adjustment	(25,206)	(446)	70	(1,278)	(31)	(23)	(145)	(2,536)	(611)
=	Computed Trade Demand	268,496	4,476	18,422	912	21	(24)	(40)	6,662	(86)
	2011/12 Final Trade Demand	**NO TRADE DEMAND ESTABLISHED**								

NOTE: Prior Years' Practice sets 500 minimum

RAC - 10/6/2011

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General Information: Shrink

In the processing of raisins, a shrinkage occurs. Annually, the "shrinkage" varies due to growing conditions. Shrinkage is computed by determining the disappearance between the total available natural condition supply and the quantity reported as processed. This "Shrinkage" or loss is reflected as a conversion factor throughout this report to account for the difference between natural condition "sweatbox" and processed "packed" weights.

The table on this page shows the annual conversion factors used to convert packed tonnage figures to a sweatbox basis.

Conversion Factors are applied to reported packed weight to determine the sweatbox equivalent. Packed tons are divided by the conversion factor to obtain the equivalent sweatbox weight.

Conversion of sweatbox weight to a packed weight basis is accomplished by multiplying the sweatbox weight by the conversion factor.

	06-07	07-08	08-09	09-10	10-11
Natural Seedless	0.927	0.962	0.956	0.955	0.943
Dipped Seedless	0.830	0.782	1.090	0.827	0.890
Golden Seedless	0.917	0.893	0.895	0.926	0.897
Zante Currants	0.840	0.894	0.860	0.873	0.834
Sultanas	0.708	0.490	0.728	0.626	0.647
Muscats	1.020	0.572	0.124	-9.089	1.000
Monukkas	0.911	0.796	0.922	0.821	0.930
Other Seedless	0.758	0.962	0.807	0.802	0.772
Other Seedless Sulf.	0.500	0.750	1.599	0.913	0.867

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Part V – Misc. California Raisin Research Projects

Part VI – Members, Alternates and Staff

Table 1

California Bearing Grape Acreage
By Varietal Type, Production and Yield Per Acre

Year		BEARING ACREAGE Total	Wine	Table	Raisins		Fresh Grape Production (tons)	Yield Per Acre (tons)
2002	*	825,000	491,000	88,000	246,000	*	6,721,000	8.15
2003	*	819,000	479,000	85,000	255,000	*	5,790,000	7.07
2004		800,000	473,000	83,000	244,000		5,700,000	7.13
2005		800,000	477,000	83,000	240,000		6,978,000	8.72
2006		797,000	480,000	83,000	234,000		5,726,000	7.18
2007		789,000	480,000	82,000	227,000		6,230,000	7.90
2008		786,000	482,000	83,000	221,000		6,532,000	8.31
2009		789,000	489,000	84,000	216,000		6,548,000	8.30
2010		789,000	489,000	84,000	209,076		6,544,000	8.29
2011		792,000	497,000	85,000	210,000		6,700,000	8.46
TEN YEAR AVERAGE								
		802,800	483,700	84,000	234,408		6,346,900	
		(4,200)			(4,200)			
	++	798,600	483,700	84,000	230,208		6,346,900	7.95

*** Note:**

In 2002	27,000	acres had no production - diversion program
In 2003	15,000	acres had no production - diversion program

+ = Preliminary
++ = Ten year average is adjusted for diversion acreage.

Source: Agricultural Statistics Board NASS, USDA - September 2011

The total production of grapes in California continues to be influenced more by the change in production per acre than by any change in bearing acreage. The ten year average grape production per acre was 5.2 tons - 1940-49; 6.2 tons - 1950-59; 7.1 tons - 1960-69; 7.0 tons - 1970-79; 7.92 tons - 1980-89 and 8.02 tons for the ten years 1990-99. The increased production per acre has been significant in the increase in total grape production. The 10 year average bearing acreage for 1940-49 was 501,785 acres, the 10 year average for 1980-89 was 643,329 acres and 673,270 acres for the ten years 1990-99.

Table 1A

California Non-Bearing Grape Acreage
By Varietal Type

	NON-BEARING ACREAGE			
Year	Total	Wine	Table	Raisins
2001	107,000	90,000	10,000	7,000
2002	85,000	70,000	9,000	6,000
2003	43,884	34,913	5,905	3,066
2004	36,069	26,639	6,626	2,804
2005	38,281	25,856	7,531	4,894
2006	39,977	27,280	8,268	4,429
2007	59,000	43,000	10,000	6,000
2008	58,000	44,000	10,000	4,000
2009	54,000	42,000	9,000	3,000
2010	50,000	38,000	9,000	3,000
TEN YEAR AVERAGE	57,121	44,169	8,533	4,419

Source: Agricultural Statistics Board NASS, USDA - March 2011

Table 2

California Total Annual Grape Production
By Varietal Type and Utilization
2006-2010
(Fresh Tons)

Varietal Type	2006-2007 Crop		2007-2008 Crop		2008-2009 Crop		*2009-2010 Crop*		*2010-2011 Crop*	
	Tons	%	*Tons*	%	Tons	%	*Tons*	%	*Tons*	%
Raisins										
Dried	1,422,000	76.41	1,593,000	74.06	1,838,000	72.94	1,463,000	75.92	1,665,000	80.09
Crushed	267,000	14.35	364,000	16.92	494,000	19.60	307,000	15.93	274,000	13.18
Canned	21,000	1.13	21,000	0.98	25,000	0.99	20,000	1.04	25,000	1.20
Fresh Sales	151,000	8.11	173,000	8.04	163,000	6.47	137,000	7.11	115,000	5.53
Total Production	1,861,000	32.28	2,151,000	34.53	2,520,000	38.49	1,927,000	29.45	2,079,000	30.96
Wine										
Crushed	3,136,000	98.74	3,247,000	98.78	3,015,000	98.69	3,703,000	98.93	3,589,000	98.90
Fresh Sales	40,000	1.26	40,000	1.22	40,000	1.31	40,000	1.07	40,000	1.10
Total Production	3,176,000	55.08	3,287,000	52.77	3,055,000	46.66	3,743,000	57.20	3,629,000	54.04
Table										
Dried	29,000	3.98	28,000	3.54	35,000	3.60	34,000	3.89	55,000	5.46
Crushed	86,000	11.80	63,000	7.96	165,000	16.96	85,000	9.73	124,000	12.30
Fresh Sales	614,000	84.22	700,000	88.50	773,000	79.45	755,000	86.38	829,000	82.24
Total Production	729,000	12.64	791,000	12.70	973,000	14.86	874,000	13.36	1,008,000	15.01
Total Grape										
Dried	1,451,000	25.16	1,621,000	26.02	1,873,000	28.60	1,497,000	22.88	1,720,000	25.61
Crushed	3,489,000	60.51	3,674,000	58.98	3,674,000	56.11	4,095,000	62.58	3,987,000	59.37
Canned	21,000	0.36	21,000	0.34	25,000	0.38	20,000	0.31	25,000	0.37
Fresh Sales	805,000	13.96	913,000	14.66	976,000	14.91	932,000	14.24	984,000	14.65
Total Production	5,766,000	100.00	6,229,000	100.00	6,548,000	100.00	6,544,000	100.00	6,716,000	100.00

Percentages in Relation to Total Annual Production and Type of Production

Source: Agricultural Statistics Board NASS, USDA, Noncitrus Fruits and Nuts - July 2011. Percentages computed by the RAC.

Table 3

Raisin Deliveries By Varietal Types
2001-2010
(Sweatbox Tons)

Varietal Type	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	*2010-11*
Natural Seedless	377,328 *(a)*	388,010 *(b)*	296,864 (c)	265,262	319,126	282,999	329,288	364,268	298,532	354,878
Dipped Seedless	1,750	8,907	11,933	5,839	8,044	2,456	3,225	4,845	3,827	4,440
Oleate Seedless *	6,495	18,385	0	0	0	0	0	0	0	0
Golden Seedless	20,624	19,119	15,650	19,353	15,474	13,833	17,626	19,782	17,008	21,827
Zante Currants	4,213	4,385	3,029	3,495	3,800	2,968	3,347	2,912	2,708	3,468
Sultanas	142	86	84	34	75	216	93	67	63	66
Muscat	39	34	20	0	2	7	3	5	8	5
Monukka	559	620	336	235	156	364	280	287	155	140
Other Seedless	5,193	3,468	2,593	2,649	8,353	5,170	5,231	6,529	7,304	11,351
Other Seedless, Sulf.	0	365	1,309	374	412	963	687	521	413	808
TOTALS	416,343	443,379	331,818	297,241	355,442	308,976	359,780	399,217	330,018	396,983

(a) Includes 89,076 tons of Raisin Diversion Tonnage
(b) Includes 50,840 tons of Raisin Diversion Tonnage
(c) Includes 15,299 tons of Raisin Diversion Tonnage

*** Oleates are included in Natural Seedless tonnage starting in 2003-2004**

RAC - September 2011

Table 4

Free Tonnage Shipments By Country of Destination
Natural Seedless Raisins
August 1 - July 31
(Packed Tons)

Country of Destination	2009-2010	*2010-2011*	Percent Gain/Loss (2009-2010=100%)
European Countries			
Austria	91	148	62.20%
Belgium	2,117	1,263	-40.33%
Denmark	5,828	4,834	-17.05%
So. Ireland	936	815	-12.92%
Finland	1,808	1,708	-5.50%
France	917	605	-34.01%
Germany	18,057	13,240	-26.68%
Israel	516	811	57.03%
Italy	130	66	-49.44%
Netherlands	3,412	2,926	-14.26%
Norway	3,575	3,397	-4.97%
Spain	908	730	-19.67%
Sweden	6,722	5,350	-20.41%
Switzerland	138	284	105.10%
United Kingdom	31,578	18,592	-41.12%
Total European Countries	76,733	54,769	-28.62%
Latin American Republics			
Brazil	521	413	-20.61%
Colombia	272	234	-14.05%
Costa Rica	424	206	-51.41%
Dominican Republic	732	773	5.49%
Ecuador	43	16	-62.49%
Mexico	3,931	5,050	28.46%
Panama	576	596	3.39%
Puerto Rico	0	0	0.00%
Venzuela	633	363	-42.66%
Others	719	1,107	54.09%
Total Latin American Republics	7,851	8,758	11.55%
Other Countries			
Australia	7,051	7,543	6.97%
China	10,073	12,262	21.74%
Hong Kong	1,612	1,679	4.20%
Iceland	310	292	-5.98%
Indonesia	1,185	1,634	37.85%
Japan	21,133	17,412	-17.61%
Korea	3,929	4,020	2.31%
Malaysia	3,832	3,367	-12.14%
New Zealand	1,617	1,950	20.59%
USSR - Russia	98	290	196.19%
Philippines	1,881	2,446	30.04%
Singapore	1,419	1,841	29.77%
Taiwan	5,187	4,611	-11.11%
Thailand	2,078	1,730	-16.75%
Others	6,257	4,594	-26.57%
Total Other Countries	67,662	65,671	-2.94%
GRAND TOTAL	152,246	129,198	-15.14%

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Table 4 ZC

Free Tonnage Shipments By Country of Destination
Zante Currant Raisins
August 1 - July 31
(Packed Tons)

Country of Destination	2009-2010	*2010-2011*	Percent Gain/Loss (2009-2010=100%)
European Countries			
Austria	0	0	0.00%
Belgium	0	0	0.00%
Denmark	0	0	0.00%
So. Ireland	0	0	0.00%
Finland	0	0	0.00%
France	0	0	0.00%
Germany	0	0	0.00%
Israel	32	13	-59.34%
Italy	0	0	0.00%
Netherlands	4	0	-100.00%
Norway	0	0	0.00%
Spain	0	0	0.00%
Sweden	8	9	6.68%
Switzerland	0	0	0.00%
United Kingdom	29	0	-100.00%
Total European Countries	74	22	-70.32%
Latin American Republics			
Brazil	13	30	125.25%
Colombia	0	0	0.00%
Costa Rica	0	0	0.00%
Dominican Republic	0	0	0.00%
Ecuador	0	0	0.00%
Mexico	0	0	0.00%
Panama	0	0	0.00%
Puerto Rico	0	0	0.00%
Venzuela	0	0	0.00%
Others	18	2	-88.43%
Total Latin American Republics	31	32	1.64%
Other Countries			
Australia	44	5	-88.80%
China	147	328	122.53%
Hong Kong	1	21	2000.00%
Iceland	0	0	0.00%
Indonesia	22	85	287.60%
Japan	395	389	-1.39%
Korea	0	16	100.00%
Malaysia	34	36	4.39%
New Zealand	1	0	-100.00%
USSR - Russia	0	0	0.00%
Philippines	0	5	100.00%
Singapore	19	46	139.20%
Taiwan	13	18	41.18%
Thailand	0	0	0.00%
Others	0	0	0.00%
Total Other Countries	676	949	40.39%
GRAND TOTAL	781	1,003	28.39%

RAC - September 2011

Table 4A

Free Tonnage Export Shipments

(Excluding Canada)

Natural Seedless Raisins

2006 - 2010

(Packed Tons)

	2006-07	2007-2008	2008-2009	2009-2010	*2010-2011*
August	10,257	11,109	13,778	15,767	15,156
September	9,747	10,358	14,897	19,494	10,434
October	10,279	10,127	13,869	10,429	4,828
November	8,411	10,442	5,456	8,087	8,428
December	8,678	10,851	8,335	11,816	10,275
January	7,180	12,667	9,877	12,668	11,313
February	6,278	10,416	6,502	11,088	9,317
March	7,391	10,262	8,441	12,435	11,661
April	7,300	12,433	11,123	12,346	11,706
May	8,127	14,109	8,882	13,664	11,425
June	8,786	14,745	12,244	11,666	12,030
July	9,250	15,022	12,385	12,786	12,625
TOTAL YEAR	101,684	142,541	125,789	152,246	129,198

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Table 4B

Free Tonnage Export Shipments

(Excluding Canada)

Zante Currant Raisins

2006 - 2010

(Packed Tons)

	2006-07	2007-2008	2008-2009	2009-2010	*2010-2011*
August	54	130	208	112	121
September	82	117	291	39	96
October	151	204	214	154	30
November	81	150	270	70	109
December	55	327	58	73	67
January	84	151	40	42	91
February	92	460	234	49	51
March	40	188	45	48	35
April	53	250	162	50	106
May	60	309	96	42	108
June	40	317	63	45	58
July	83	278	90	57	131
TOTAL YEAR	875	2,881	1,771	781	1,003

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Table 5

Free Tonnage Shipments To Domestic And Canadian Markets

(Including Government)

Natural Seedless Raisins

2006 - 2010

(Packed Tons)

	2006-2007		2007-2008		2008-2009		2009-2010		*2010-2011*	
	Tons	**%**	**Tons**	**%**	**Tons**	**%**	**Tons**	**%**	***Tons***	***%***
August										
Packed	6,762	40	6,713	38	5,479	35	5,701	39	5,673	37
Bulk	10,229	60	11,092	62	10,274	65	8,737	61	9,609	63
TOTAL	**16,991**	100	**17,805**	100	**15,753**	100	**14,438**	100	**15,282**	100
September										
Packed	6,455	40	5,318	36	5,887	37	6,823	39	6,677	39
Bulk	9,759	60	9,618	64	9,844	63	10,591	61	10,420	61
TOTAL	**16,214**	100	**14,936**	100	**15,731**	100	**17,414**	100	**17,097**	100
October										
Packed	7,748	41	7,699	41	7,035	38	6,937	41	6,478	38
Bulk	11,194	59	11,219	59	11,614	62	10,012	59	10,727	62
TOTAL	**18,942**	100	**18,918**	100	**18,649**	100	**16,949**	100	**17,205**	100
November										
Packed	6,926	43	7,388	44	6,208	39	7,944	45	6,509	41
Bulk	9,140	57	9,438	56	9,661	61	9,869	55	9,543	59
TOTAL	**16,066**	100	**16,826**	100	**15,869**	100	**17,813**	100	**16,052**	100
December										
Packed	5,162	38	5,485	42	6,602	44	6,235	42	6,253	39
Bulk	8,523	62	7,632	58	8,437	56	8,755	58	9,971	61
TOTAL	**13,685**	100	**13,117**	100	**15,039**	100	**14,990**	100	**16,224**	100
January										
Packed	5,041	33	6,433	37	5,328	33	5,774	40	5,936	39
Bulk	10,095	67	10,722	63	10,716	67	8,814	60	9,295	61
TOTAL	**15,136**	100	**17,155**	100	**16,044**	100	**14,588**	100	**15,231**	100
February										
Packed	5,464	37	6,256	38	5,914	41	4,021	29	5,264	38
Bulk	9,125	63	10,368	62	8,473	59	9,818	71	8,687	62
TOTAL	**14,589**	100	**16,624**	100	**14,387**	100	**13,839**	100	**13,951**	100
March										
Packed	6,510	39	6,114	38	5,854	35	6,472	37	6,464	38
Bulk	10,343	61	9,983	62	11,017	65	10,807	63	10,502	62
TOTAL	**16,853**	100	**16,097**	100	**16,871**	100	**17,279**	100	**16,966**	100
April										
Packed	5,376	34	5,971	37	5,687	36	5,862	36	5,452	39
Bulk	10,383	66	9,965	63	10,225	64	10,235	64	8,654	61
TOTAL	**15,759**	100	**15,936**	100	**15,912**	100	**16,097**	100	**14,106**	100
May										
Packed	5,895	36	5,448	36	5,558	36	4,673	34	4,867	37
Bulk	10,553	64	9,718	64	9,837	64	9,197	66	8,169	63
TOTAL	**16,448**	100	**15,166**	100	**15,395**	100	**13,870**	100	**13,036**	100
June										
Packed	4,140	33	4,973	36	5,775	34	4,691	32	4,858	37
Bulk	8,311	67	8,967	64	11,070	66	10,081	68	8,299	63
TOTAL	**12,451**	100	**13,940**	100	**16,845**	100	**14,772**	100	**13,157**	100
July										
Packed	5,468	35	6,036	35	5,731	37	5,092	36	4,995	41
Bulk	10,342	65	11,053	65	9,703	63	9,035	64	7,042	59
TOTAL	**15,810**	100	**17,089**	100	**15,434**	100	**14,127**	100	**12,037**	100
TOTAL YEAR										
Packed	70,947	38	73,834	38	71,058	37	70,225	38	69,426	38
Bulk	117,997	62	119,775	62	120,871	63	115,951	62	110,918	62
TOTAL	**188,944**	100	**193,609**	100	**191,929**	100	**186,176**	100	**180,344**	100

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Table 6

Free Tonnage Shipments To All Market Outlets
2003 - 2010
(Sweatbox Tons)

Variety	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	*2010-11*
Natural Seedless								
Domestic & Canada	191,376	205,002	195,822	203,889	201,355	200,775	194,879	191,211
Export Free	112,860	112,996	102,632	109,727	148,243	131,587	159,363	136,982
Total	**304,236**	**317,998**	**298,454**	**313,616**	**349,598**	**332,361**	**354,242**	**328,193**
Dipped Seedless								
Domestic & Canada	14,408	6,584	5,527	5,628	4,668	3,192	4,389	5,397
Export Free	27	0	8	0	0	0	23	34
Total	**14,435**	**6,584**	**5,534**	**5,628**	**4,668**	**3,192**	**4,412**	**5,431**
Golden Seedless								
Domestic & Canada	12,851	12,319	12,897	13,505	12,620	12,899	12,632	14,066
Export Free	5,335	4,128	4,218	3,312	5,404	5,832	5,245	6,521
Total	**18,186**	**16,447**	**17,115**	**16,817**	**18,024**	**18,731**	**17,877**	**20,587**
Zante Currants								
Domestic & Canada	1,856	1,920	1,648	1,481	1,717	1,786	1,583	1,307
Export Free	1,370	883	931	1,041	3,222	2,060	895	1,205
Total	**3,226**	**2,803**	**2,579**	**2,522**	**4,939**	**3,846**	**2,478**	**2,512**
Sultanas								
Domestic & Canada	63	25	32	255	85	78	83	57
Total	**63**	**25**	**32**	**255**	**85**	**78**	**83**	**57**
Muscats								
Domestic & Canada	4	12	6	4	9	14	0	2
Export Free	0	0	0	0	0	0	0	0
Total	**4**	**12**	**6**	**4**	**9**	**14**	**0**	**2**
Monukka Type								
Domestic & Canada	503	424	137	228	338	376	153	109
Export Free	0	0	1	0	1	1	0	0
Total	**503**	**424**	**138**	**228**	**339**	**377**	**153**	**109**
Other Seedless								
Domestic & Canada	3,676	1,808	5,023	4,135	5,141	5,408	6,716	9,374
Export Free	1,334	880	375	421	802	942	1,367	1,482
Total	**5,010**	**2,688**	**5,398**	**4,556**	**5,943**	**6,350**	**8,083**	**10,856**
Other Seedless Sulfured								
Domestic & Canada	698	243	693	1,110	655	254	462	456
Export Free	0	0	0	0	0	0	23	166
Total	**698**	**243**	**693**	**1,110**	**655**	**254**	485	**622**
TOTAL ALL VARIETIES	**346,361**	**347,224**	**329,950**	**344,736**	**384,260**	**365,203**	**387,813**	**368,369**
Government Reserve - Nat'ls	**19,270**	**165**	**0**	**982**	**0**	**0**	0	**0**
Government Reserve - Zantes	**0**	**0**	**0**	**0**	**0**	**0**	0	**0**

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Table 6A

Free Tonnage Shipments To All Market Outlets
2003 - 2010
(Packed Tons)

Variety	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	*2010-11*
Natural Seedless								
Domestic & Canada	180,085	193,680	186,358	188,944	193,609	191,929	186,176	180,344
Export Free	106,201	106,755	97,672	101,684	142,541	125,789	152,246	129,198
Total	**286,286**	**300,435**	**284,030**	**290,628**	**336,150**	**317,718**	**338,422**	**309,542**
Dipped Seedless								
Domestic & Canada	10,316	5,337	5,111	4,673	3,651	3,480	3,629	4,803
Export Free	19	0	8	0	0	0	19	30
Total	**10,335**	**5,337**	**5,119**	**4,673**	**3,651**	**3,480**	**3,648**	**4,833**
Golden Seedless								
Domestic & Canada	11,604	11,242	11,084	12,384	11,263	11,539	11,699	12,614
Export Free	4,818	3,767	3,625	3,037	4,823	5,217	4,858	5,848
Total	**16,422**	**15,009**	**14,709**	**15,421**	**16,086**	**16,756**	**16,557**	**18,462**
Zante Currants								
Domestic & Canada	1,663	1,692	1,403	1,244	1,535	1,536	1,382	1,090
Export Free	1,227	778	792	875	2,881	1,771	781	1,003
Total	**2,890**	**2,470**	**2,195**	**2,119**	**4,416**	**3,307**	**2,163**	**2,093**
Sultanas								
Domestic & Canada	18	7	32	181	42	56	52	37
Total	**18**	**7**	**32**	**181**	**42**	**56**	**52**	**37**
Muscats								
Domestic & Canada	3	10	6	4	5	2	0	2
Export Free	0	0	0	0	0	0	0	0
Total	**3**	**10**	**6**	**4**	**5**	**2**	**0**	**2**
Monukka Type								
Domestic & Canada	400	400	124	208	269	347	126	101
Export Free	0	0	1	0	1	1	0	0
Total	**400**	**400**	**125**	**208**	**270**	**348**	**126**	**101**
Other Seedless								
Domestic & Canada	2,603	1,303	4,573	3,135	4,944	4,363	5,386	7,237
Export Free	944	634	342	319	771	760	1,096	1,144
Total	**3,547**	**1,937**	**4,915**	**3,454**	**5,715**	**5,123**	**6,482**	**8,381**
Other Seedless Sulfured								
Domestic & Canada	399	167	495	555	491	406	422	396
Export Free	0	0	0	0	0	0	21	144
Total	**399**	**167**	**495**	**555**	**491**	**406**	**443**	**540**
TOTAL ALL VARIETIES	**320,300**	**325,772**	**311,626**	**317,243**	**366,826**	**347,196**	**367,893**	**343,991**
Government Reserve - Nat'ls	**18,078**	**154**	**0**	**923**	**0**	**0**	**0**	**0**
Government Reserve - Zantes	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

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Table 7

Free Tonnage Shipments To Domestic And Canadian Markets
(Including Government)
Natural Seedless Raisins
1995 - 2010
(Packed Tons)

Crop Year	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Total
1995-96	18,066	19,788	19,187	20,227	13,823	14,226	14,026	14,317	15,534	14,888	7,517	14,014	185,613
1996-97	16,574	17,574	20,307	16,285	14,092	12,378	13,899	15,420	14,589	14,005	11,885	17,684	184,692
1997-98	16,646	16,654	18,624	15,110	14,508	13,829	11,207	15,126	13,478	12,287	13,586	13,917	174,972
*1998-99	15,620	14,734	19,730	15,400	13,686	14,019	13,751	16,118	11,302	10,850	12,897	11,569	169,676
1999-2000	14,081	13,757	17,721	15,389	12,668	10,260	11,082	14,355	12,299	12,963	13,975	7,775	156,325
2000-01	11,303 **	9,391 **	13,002 **	11,793 **	23,696	20,097	14,028	14,611	15,275	13,249	13,324	14,348	174,117
2001-02	17,192	13,049	18,783	15,541	11,745	15,457	12,655	13,878	14,187	13,815	12,253	16,065	174,620
2002-03	16,163	16,661	17,326	15,181	13,496	14,971	12,147	15,556	14,059	13,661	12,835	14,998	177,054
2003-04	13,761	17,209	18,345	14,976	14,326	14,663	14,965	16,557	14,086	12,819	13,742	14,636	180,085
*2004-05	17,930	17,431	17,644	16,638	16,166	15,088	14,385	17,298	17,717	14,014	15,525	13,844	193,680
2005-06	18,773	17,176	17,600	17,322	14,255	14,502	14,440	17,066	14,914	13,331	16,065	10,914	186,358
2006-07	16,991	16,214	18,942	16,066	13,685	15,136	14,589	16,853	15,759	16,448	12,451	15,810	188,944
2007-08	17,805	14,936	18,918	16,826	13,117	17,155	16,624	16,097	15,936	15,166	13,940	17,089	193,609
2008-09	15,753	15,731	18,649	15,869	15,039	16,044	14,387	16,871	15,912	15,395	16,845	15,436	191,929
2009-10	14,438	17,414	16,949	17,813	14,990	14,588	13,839	17,279	16,097	13,870	14,772	14,127	186,176
2010-11	15,282	17,097	17,205	16,052	16,224	15,231	13,951	16,966	14,106	13,036	13,157	12,037	180,344
TEN YEAR AVERAGE	16,409	16,292	18,036	16,228	14,304	15,283	14,198	16,442	15,277	14,156	14,159	14,496	185,280

* No Pool Established

** Months shipments under reported and tonnage recorded Dec/Jan.

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Table 8

Free Tonnage Made Available For Disposition In Commercial Trade Channels
Natural Seedless Raisins
2001 - 2010
(Sweatbox Tons)

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	*2010-11*
Natural Seedless Total Deliveries	377,328 (a)	388,010 (a)	296,864 (a)	265,262	319,126	282,999	329,288	364,268	298,532	354,878
Free Tonnage Purchased	237,716	205,668	207,818	265,262	263,287	254,703	279,895	316,913	253,752	354,878
Reserve Tonnage Purchased (b)	76,827	76,146	61,186	72,789	31,975	52,689	69,604	35,844	56,798	64
Total Tonnage Purchased	314,543	281,814	269,004	338,051	295,262	307,392	349,499	352,757	310,550	354,942
Packers' August 1 Carryin (c)	116,131	132,135	129,345	95,003	114,792	111,444	105,430	106,249	126,824	83,143
Total Disposable Tonnage	430,674	413,949	398,349	433,054	410,054	418,836	454,929	459,006	437,374	438,085
Commercial Shipments	298,633	297,640	304,236	317,998	298,454	313,616	349,598	332,362	354,242	328,193
July 31 Carryout (calculated)	132,041	116,309	94,113	115,056	111,600	105,220	105,331	126,645	83,132	109,892

(a) Includes Diversion Tonnage
(b) Export and 10+10
(c) Packers' Carryin Inventory Report

Table 9

SUPPLY AND DISPOSITION
NATURAL SEEDLESS RAISINS
2001-2010
(Sweatbox Tons)

	2001-02	2002-03	2003-04	2004-05	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	*2010-2011*
Total Disposable Free Tonnage	430,674	413,949	398,349	433,054	410,054	418,836	454,929	459,006	437,374	438,085
Disposition										
Domestic & Canada	186,361	189,160	191,376	205,002	195,822	203,889	201,355	200,775	194,879	191,211
Export Free	112,272	108,480	112,860	112,996	102,632	109,727	148,243	131,587	159,363	136,982
Total Disposition	298,633	297,640	304,236	317,998	298,454	313,616	349,598	332,362	354,242	328,193
Carryout (Calculated)	132,041	116,309	94,113	115,056	111,600	105,220	105,331	126,644	83,132	109,892
Reserve Tonnage										
Total Available Supply	292,799	287,067	221,951	101,358	82,096	77,783	70,257	48,002	56,934	71
Released for Export*	72,827	19,349	0	0	0	0	0	25,438	11,604	0
Other Disposition	219,972	267,718	221,951	101,358	82,096	77,783	70,257	22,564	45,330	71
Exports										
Free Tonnage	112,272	108,480	112,860	112,996	102,632	109,727	148,243	131,587	159,363	136,982
Reserve Shipments	0	0	0	0	0	0	0	0	0	0
Total Exports	112,272	108,480	112,860	112,996	102,632	109,727	148,243	131,587	159,363	136,982

* Raisin-Back

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Table 10

Supply And Disposition Of Reserve Pool Tonnage
Natural Seedless Raisins
2003-2010
(Sweatbox Tons)

	2003-2004 Crop Year	2004-2005 Crop Year	2005-2006 Crop Year	2006-2007 Crop Year	2007-2008 Crop Year	2008-2009 Crop Year	2009-2010 Crop Year	*2010-2011 Crop Year*
SUPPLY								
Reserve Tonnage	89,046	0	55,839	28,297	49,393	47,355	44,780	0
Carry In From Previous Year	132,905	101,358	26,257	49,486	20,864	647	12,154	71
Total Reserve Supply	221,951	101,358	82,096	77,783	70,257	48,002	56,934	71
DISPOSITION								
10 & 10**	61,186	72,789	31,975	52,689	69,604	10,406	45,194	64
Export*	0	0	0	0	0	25,438	11,604	0
Raisin Diversion Program	15,299	0	0	0	0	0	0	0
Government	19,270	165	0	982	0	0	0	0
Non-Normal Outlets	23,000	0	0	0	0	0	0	0
Distillation	0	0	0	0	0	0	0	0
Donations	1,838	1,853	635	1,139	6	4	15	3
Miscellaneous	0	294	0	2,109	0	0	50	2
Carry Out To Subsequent Year	101,358	26,257	49,486	20,864	647	12,154	71	2
Total Disposition	221,951	101,358	82,096	77,783	70,257	48,002	56,934	71

** Includes all Reserve for Free Usage Sales

* Raisin-Back

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Table 11

Supply And Disposition Of Reserve Pool Tonnage
Natural Seedless Raisins
2010-2011 Crop Year
(Sweatbox Tons)

SUPPLY		
Reserve Tonnage	**0**	
(based on total deliveries of: 354,878)		
Carry In From Previous Crop Year	**71**	
Total Reserve Supply		**71**
DISPOSITION		
10 & 10	**64**	
67(j)	**0**	
Export	**0**	
Raisin Diversion Program	**0**	
Government/Food Aid	**0**	
Non-Normal Outlets	**0**	
Exemption/Loss	**2**	
Donations	**3**	
Total Disposition		**69**
Carry Out To Subsequent Crop Year		**2**

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Table 12

Reserve Pool Percentages
Natural Seedless Raisins
1996-2010

Crop Year	Preliminary Percentages Free	Preliminary Percentages Reserve	Secretary Established Free	Secretary Established Reserve	Date Established	Basis for Pool Payments Free	Basis for Pool Payments Reserve
1996-97	73	27	86	14	07/16/97	86	14
1997-98	61	39	66	34	07/01/98	66	34
1998-99	85	15	100	0	01/15/99	100	0
1999-2000	73	27	85	15	06/23/00	85	15
2000-01	35	65	53	47	08/01/01	53	47
2001-02	56	44	63	37	07/19/02	63	37
2002-03	41	59	53	47	04/03/03	53	47
2003-04	65	35	70	30	08/10/04	70	30
2004-05	100	0	100	0	10/05/04	100	0
2005-06	74	26	82.5	17.5	05/23/06	82.5	17.5
2006-07	89.75	10.25	90	10	04/10/07	90	10
2007-08	84.75	15.25	85	15	02/20/08	85	15
2008-09	86.75	13.25	87	13	03/10/09	87	13
2009-10	84.75	15.25	85	15	06/25/10	85	15
2010-11	100	0	100	0	07/19/11	100	0

RAC - August 2010

Table 13

Comparison Of Packer Acquisitions By Week
Natural Seedless Raisins
2006-2010
(Sweatbox Tons)

Week of Delivery	2006-2007	2007-2008	2008-2009	2009-2010	*2010-2011*
1	672		9,858	0	7,041
2	5,442		63	0	1,362
3	105	60	0	0	1,350
4	820	0	5	47	752
Comparative 4 Week Total	7,039	60	9,926	47	10,505
5	173	101	604	90	1,376
6	613	932	873	2,506	1,053
7	3,760	2,993	3,769	5,368	1,423
8	13,251	8,280	9,837	9,815	4,459
9	22,229	13,266	13,417	22,195	10,394
Comparative 5 Week Total	40,026	25,572	28,500	39,974	18,705
10	23,167	22,181	18,962	38,094	22,669
11	32,391	24,766	24,319	29,239	30,781
12	25,798	32,053	42,918	32,437	33,332
13	26,524	32,825	28,560	29,838	27,798
Comparative 4 Week Total	107,880	111,825	114,759	129,608	114,580
14	21,549	28,623	30,100	24,054	34,013
15	20,755	26,154	25,770	25,535	28,483
16	16,196	21,650	23,219	12,521	23,320
17	10,301	10,763	8,962	7,559	8,681
Comparative 4 Week Total	68,801	87,190	88,051	69,669	94,497
18	11,070	17,524	14,541	7,373	12,488
19	8,987	11,373	11,542	5,401	10,716
20	4,465	11,561	8,675	5,654	14,013
21	2,453	5,375	1,966	2,002	6,419
22	2,977	2,895	4,370	1,773	5,402
Comparative 5 Week Total	29,952	48,728	41,094	22,203	49,038
23	1,502	4,301	7,905	5,001	4,888
24	2,175	7,818	11,856	4,455	4,461
25	1,484	3,048	3,110	1,800	3,691
26	2,179	3,970	4,633	2,015	4,027
Comparative 4 Week Total	7,340	19,137	27,504	13,271	17,067
27	1,438	3,052	3,666	2,534	2,436
28	1,189	3,322	5,166	2,500	3,384
29	(145)	3,618	2,131	2,594	3,237
30	1,726	2,282	2,473	1,191	4,784
Comparative 4 Week Total	4,208	12,274	13,436	8,819	13,841

Table 13

Comparison Of Packer Acquisitions By Week
Natural Seedless Raisins
2006-2010
(Sweatbox Tons)

Week of Delivery	2006-2007	2007-2008	2008-2009	2009-2010	*2010-2011*
31	1,626	2,700	6,046	1,716	3,695
32	767	1,587	2,126	1,833	2,219
33	1,116	2,170	1,378	2,257	3,062
34	1,346	823	8,329	1,813	2,428
Comparative 4 Week Total	4,855	7,280	17,879	7,619	11,404
35	486	561	988	1,373	1,843
36	476	1,407	203	419	2,033
37	589	1,785	735	769	1,348
38	940	1,712	2,141	913	1,495
39	1,011	388	1,605	307	1,081
Comparative 5 Week Total	3,502	5,853	5,672	3,781	7,800
40	613	1,927	1,530	258	1,826
41	143	1,510	769	1,201	1,549
42	802	1,101	946	743	1,238
43	756	986	1,129	275	1,536
Comparative 4 Week Total	2,314	5,524	4,374	2,477	6,149
44	175	566	463	230	1,058
45	2,068	993	300	634	1,223
46	1,204	495	376	(25)	428
47	1,616	791	478	48	439
Comparative 4 Week Total	5,063	2,845	1,617	887	3,148
48	776	665	943	143	1,776
49	437	387	1,736	0	3,358
50	119	613	1,845	2	1,445
51	505	558	3,114	5	1,353
52	182	778	3,818	27	212
Comparative 5 Week Total	2,019	3,001	11,456	177	8,144
YEARLY TOTAL	282,999	329,288	364,268	298,532	354,878

RAC - September 2011

Table 14

Free Tonnage Supply And Demand Situation
Natural Seedless Raisins
1996-2010
(Sweatbox Tons)

	SUPPLY						SHIPMENTS			
Crop Year	Acquired	Percent Free	Free Tonnage	Carryin	Purchased From Reserve	Total Free Supply	Canada and Domestic	Export (Free)	Total Disposition	Computed Carryout
1996-97	272,063	86.0	233,974	113,697	59,485	407,156	198,167	117,719	315,886	91,270
1997-98	382,448	66.0	252,416	92,769	63,104	408,289	185,745	124,349	310,094	98,195
1998-99	240,469	100.0	240,469	98,291	59,844	398,604	181,666	115,234	296,900	101,704
1999-2000	299,910	85.0	254,923	101,946	3,586	360,455	166,127	97,342	263,469	96,986
2000-01	432,616	53.0	229,287	97,109	84,867	411,263	185,429	109,598	295,027	116,236
2001-02	377,328	63.0	237,716	116,131	76,827	430,674	186,361	112,272	298,633	132,041
2002-03	388,010	53.0	205,668 **	132,135	76,146	413,949	189,160	108,480	297,640	116,309
2003-04	296,864	70.0	207,818 **	129,345	61,186	398,349	191,376	112,860	304,236	94,113
2004-05	265,262	100.0	265,262	95,003	72,789	433,054	205,002	112,996	317,998	115,056
2005-06	319,126	82.5	263,287 **	114,792	31,975	410,054	195,822	102,632	298,454	111,600
2006-07	282,999	90.0	254,703 **	111,444	52,689	418,836	203,889 ***	109,727	313,616	105,220
2007-08	329,288	85.0	279,895	105,430	69,604	454,929	201,355 ***	148,243	349,598	105,331
2008-09	364,268	87.0	316,913	106,249	35,844	459,006	200,775 ***	131,587	332,362	126,644
2009-10	298,532	85.0	253,752	126,824	56,798	437,374	194,879 ***	159,363	354,242	83,132
2010-11	354,878	100.0	354,878	83,143	64	438,085	191,211 ***	136,982	328,193	109,892
TEN YEAR AVERAGE										
	327,655	80.6 *	263,989	112,050	53,392	429,431	195,983	123,514	319,497	109,934

* Percentage is a weighted average
** Adjusted for exempt tonnage
***Includes Government Free

RAC - September 2011

Table 15

Calculated Free Tonnage Disappearance
Natural Seedless Raisins
2001-2010
(Sweatbox Tons)

Crop Year	Reported Beginning Physical Inventory	Free Tonnage	Reported Ending Physical Inventory	Free Tonnage Disappearance	Handler Reported Shipments (Packed Tons)	Calculated Shrink (a)
2001-02	116,131	314,543	132,135	298,539	279,819	6.27%
2002-03	132,135	281,814	116,465	297,484	278,591	6.35%
2003-04	129,345	269,004	95,003	303,346	286,286	5.62%
2004-05	95,003	338,051	114,792	318,262	300,435	5.60%
2005-06	114,792	295,262	111,444	298,610	284,030	4.88%
2006-07	111,444	307,392	105,430	313,406	290,628	7.27%
2007-08	105,430	349,499	106,249	348,680	336,150	3.59%
2008-09	106,249	352,757	126,824	332,182	317,718	4.35%
2009-10	126,824	310,550	83,143	354,232	338,422	4.46%
2010-11	83,143	354,942	110,206	327,878	309,542	5.59%

(a) The calculated shrinkage was determined by dividing Handler Reported Shipments by Free Tonnage Disappearance and deducting the result from 100%.

RAC - September 2011

Table 16

Natural Seedless Raisins Diversion Program
Historical Data
2000-2010

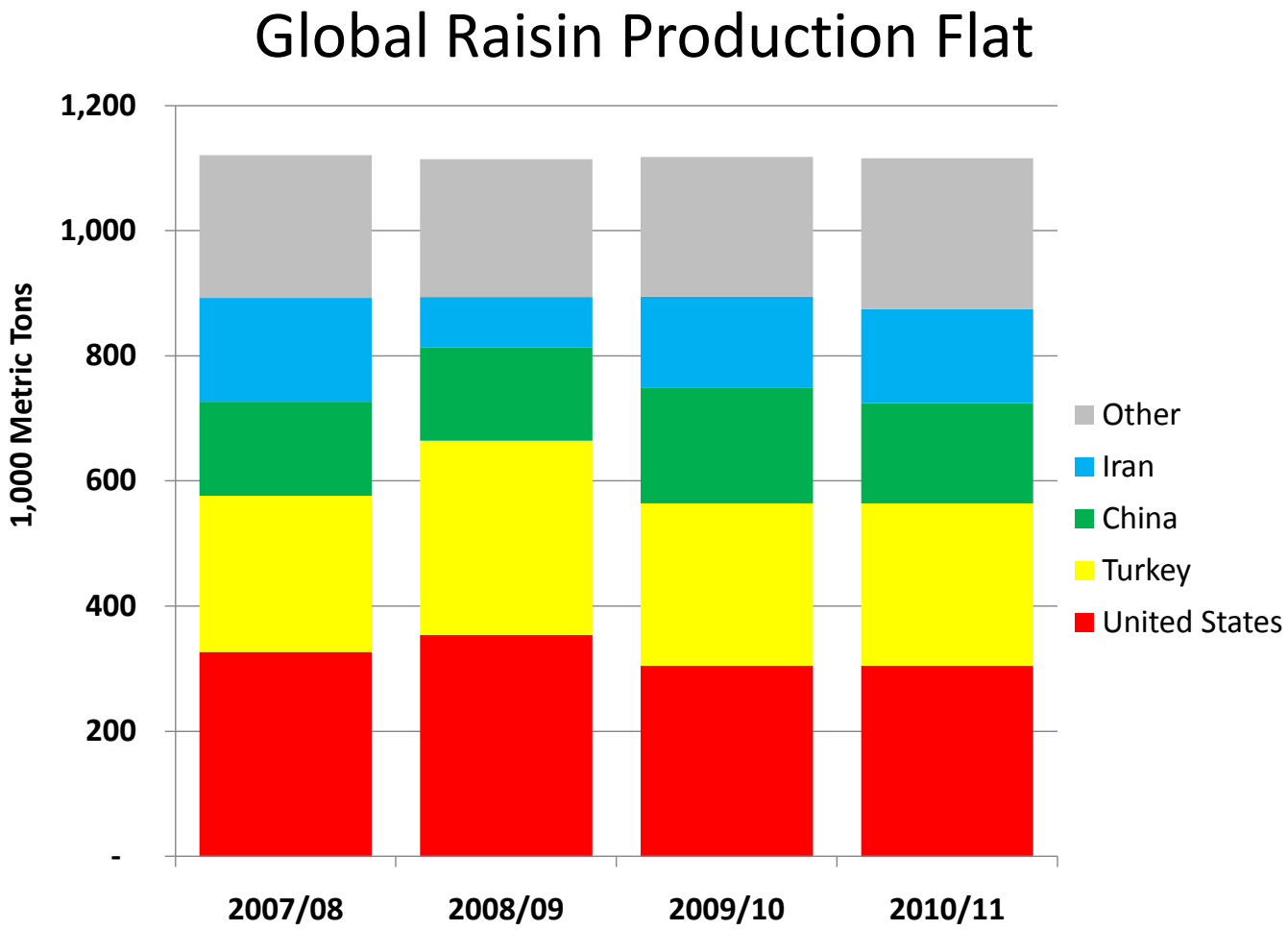
RDP Year	Number of Certificates Issued	Number of Acres	Number of Pounds	Average Tons/Acre
Combined--Diverted and Removed:				
2010	0	0	0	0
2009	0	0	0	0
2008	0	0	0	0
2007	0	0	0	0
2006	0	0	0	0
2005	0	0	0	0
2004	0	0	0	0
2003	236	8,198.20	30,598,695	1.87
2002	775	26,739.20	101,680,000	1.90
2001	932	38,111.00	178,152,627	2.34
2000	0	0	0	0
		73,048.40	310,431,322	2.12
Diverted:				
2010	0	0	0	0
2009	0	0	0	0
2008	0	0	0	0
2007	0	0	0	0
2006	0	0	0	0
2005	0	0	0	0
2004	0	0	0	0
2003	0	0	0	0
2002	573	20,907.00	79,150,000	1.89
2001	815	35,494.00	166,741,306	2.35
2000	0	0	0	0.00
		56,401.00	245,891,306	2.18
Removed:				
2010	0	0	0	0
2009	0	0	0	0
2008	0	0	0	0
2007	0	0	0	0
2006	0	0	0	0
2005	0	0	0	0
2004	0	0	0	0
2003	236	8,198.20	30,598,695	1.87
2002	202	5,832.20	22,530,000	1.93
2001	117	2,617.00	11,411,321	2.18
2000	0	0	0	0.00
		16,647.40	64,540,016	1.94

United States Department of Agriculture

Foreign Agricultural Service

Circular Series
May 2011

Raisins: World Markets and Trade



Global raisin production for 2010/11 is estimated at 1.1 million metric tons (MT), unchanged from the previous year, primarily due to flat returns in the United States and Turkey. Although China is expected to decline nearly 15 percent, a moderate recovery in Iran as well as several other countries is estimated to offset the loss.

2010/11 Changes

Production

- **China** is boosted 40,000 MT to 160,000 due to an upward revision of grape supplies used for raisin production.
- **Iran** is raised 25,000 MT to 150,000 as production returns to normal levels.
- **United States** is up 24,000 MT to 304,000 due to a slight change in the fresh to dried conversion rate. Also, a change in methodology was applied to the dataset back to 1979 to include raisins made from table grapes to account for total raisin production.
- **Turkey** is increased 20,000 MT to 260,000 due to better availability of data.

Consumption

- **Iraq, Kazakhstan** and the **United Arab Emirates** are now included due to new information, adding 39,000 MT to the total.
- **China** is boosted 31,500 MT to 129,500 due to higher domestic supplies.
- **EU-27** is up 24,000 MT to 340,000 on higher exportable supplies from Iran.
- **United States** is raised 13,100 MT to 218,100 on production gains.
- **Russia** is lowered 8,000 MT to 60,000 as demand slips from last year's record.

Exports

- **Iran** is raised 25,000 MT to 125,000 due to larger exportable supplies.
- **United States** is up 20,000 MT to 130,000 due to greater exportable supplies.
- **Turkey** is increased 15,000 MT to 220,000 due to higher than anticipated shipments.

2009/10 Changes

Selected Producers

- **Iran** is raised 45,000 MT to 145,000 following a better-than-expected recovery from the previous year's frost/drought damage.
- **China** is raised 35,000 MT to 185,000 as production returns to normal levels.

Please note that the U.S. ending stocks dataset was revised back to 1965 due to a change in methodology to better reflect inventory levels.

For further information, please contact Tony Halstead at 202-690-2313, or send an email to Tony.Halstead@fas.usda.gov

PSD Online

Users can find the release schedule and generate the full USDA Production, Supply and Distribution (PSD) dataset for reporting countries by accessing the following link:
http://www.fas.usda.gov/psdonline/psdHome.aspx

Raisin Production, Consumption and Ending Stocks

Metric Tons (Dry Weight Basis)

	2006/07	2007/08	2008/09	2009/10	Sep 2010/11	May 2010/11
Production						
United States	280,774	326,587	354,074	304,361	280,000	304,000
Turkey	280,000	250,000	310,000	260,000	240,000	260,000
China	125,000	150,000	150,000	185,000	120,000	160,000
Iran	147,000	166,000	80,000	145,000	125,000	150,000
Chile	61,500	67,350	80,000	65,000	75,000	75,000
South Africa	41,800	40,200	28,000	43,000	45,000	45,000
Uzbekistan	30,000	37,000	25,700	26,000	30,000	30,000
Afghanistan	20,000	25,000	26,000	28,000	32,000	29,000
Argentina	33,000	28,000	26,000	27,000	37,000	29,000
Australia	15,000	12,000	16,000	14,000	15,000	15,000
Other	28,500	18,500	18,500	20,300	18,500	18,500
Total	1,062,574	1,120,637	1,114,274	1,117,661	1,017,500	1,115,500
Domestic Consumption						
EU-27	343,000	352,450	327,400	341,500	316,000	340,000
United States	229,178	214,063	199,305	203,408	205,000	218,100
China	113,500	131,500	133,500	150,300	98,000	129,500
Russia	70,325	70,500	64,500	71,700	68,000	60,000
Turkey	40,024	72,676	50,477	47,047	40,000	42,200
Canada	32,800	32,500	31,300	29,300	27,000	35,000
Australia	36,775	34,700	38,100	36,900	37,000	32,000
Japan	31,850	32,300	27,300	29,700	27,000	31,000
Iran	27,000	28,000	15,000	25,000	25,000	25,000
Brazil	19,175	22,700	19,500	27,000	25,000	22,000
United Arab Emirates	10,000	12,300	6,300	16,900	nr	20,000
Ukraine	19,725	20,100	16,000	17,600	16,500	16,500
Mexico	20,800	18,400	21,200	22,300	21,000	15,500
Iraq	6,000	6,000	14,400	15,900	nr	15,000
India	6,900	8,900	9,200	9,300	9,000	9,500
Other	91,300	90,025	90,100	93,470	86,400	95,500
Total	1,098,352	1,147,114	1,063,582	1,137,325	1,000,900	1,106,800
Ending Stocks						
United States	114,379	96,143	125,917	75,500	40,000	54,400
Turkey	43,100	19,124	5,947	4,700	4,747	4,500
South Africa	3,000	1,000	1,000	500	300	500
Chile	1,170	520	220	100	100	100
Other	0	0	0	0	0	0
Total	161,649	116,787	133,084	80,800	45,147	59,500

Raisin marketing year for producer countries begins in August for northern hemisphere countries and January for southern hemisphere countries.
Raisin marketing year for non-producer countries begins in August.
Intra-EU trade excluded from EU-27 data.
The notation 'nr' indicates 'no record' in the previous report and is the result of these countries being added to the database.

Raisin Exports and Imports

Metric Tons (Dry Weight Basis)

	2006/07	2007/08	2008/09	2009/10	Sep 2010/11	May 2010/11
Exports						
Turkey	263,800	205,900	274,900	217,200	205,000	220,000
United States	112,220	152,385	144,295	172,470	110,000	130,000
Iran	120,000	138,000	65,000	120,000	100,000	125,000
Chile	61,300	65,600	78,300	63,600	73,000	73,000
China	23,800	32,100	27,800	48,000	35,000	45,000
South Africa	33,800	38,800	23,400	40,200	40,500	40,000
Afghanistan	15,500	21,000	21,900	24,100	28,000	25,000
Argentina	29,200	23,950	22,200	23,400	29,000	25,000
Uzbekistan	24,000	29,700	21,100	21,700	25,000	25,000
EU-27	8,600	7,450	7,600	9,000	9,000	10,000
Other	7,700	7,350	7,300	5,700	5,500	7,000
Total	699,920	722,235	693,795	745,370	660,000	725,000
Imports						
EU-27	331,600	349,900	325,000	338,500	315,000	340,000
Russia	70,325	70,500	64,500	71,700	68,000	60,000
Canada	32,800	32,500	31,300	29,300	27,000	35,000
Japan	31,850	32,300	27,300	29,700	27,000	31,000
United States	28,868	21,625	19,300	21,100	25,000	23,000
Brazil	19,175	22,700	19,500	27,000	25,000	22,000
Australia	27,475	26,850	26,600	25,700	25,000	20,000
United Arab Emirates	10,000	12,300	6,300	16,900	nr	20,000
Ukraine	19,725	20,100	16,000	17,600	16,500	16,500
Iraq	6,000	6,000	14,400	15,900	nr	15,000
China	12,300	13,600	11,300	13,300	13,000	14,500
Mexico	14,300	13,100	15,500	16,900	15,000	11,000
India	6,900	8,900	9,200	9,300	9,000	9,500
Algeria	7,650	7,900	9,000	8,500	6,800	8,600
New Zealand	7,925	8,000	7,400	7,900	7,400	8,000
Taiwan	5,850	6,325	6,375	7,200	7,000	8,000
Peru	5,625	5,625	6,425	6,900	6,000	6,500
Malaysia	5,200	5,025	5,950	6,800	6,300	6,000
Venezuela	5,100	7,400	6,000	6,200	5,800	6,000
Colombia	5,750	5,950	6,000	6,400	6,000	5,800
Other	27,600	27,250	26,050	29,950	19,200	28,600
Total	682,018	703,850	659,400	712,750	630,000	695,000

Raisin marketing year for producer countries begins in August for northern hemisphere countries and January for southern hemisphere countries.
Raisin marketing year for non-producer countries begins in August.
Intra-EU trade excluded from EU-27 data.
The notation 'nr' indicates 'no record' in the previous report and is the result of these countries being added to the database.

Raisin Production, Supply and Distribution

Metric Tons (Dry Weight Basis)

Country Mktg Year	Beginning Stocks	Production	Imports	Total Supply	Exports	Domestic Consumption	Ending Stocks
Afghanistan							
2001/02	0	16,000	0	16,000	13,600	2,400	0
2002/03	0	26,000	0	26,000	22,700	3,300	0
2003/04	0	25,000	0	25,000	19,500	5,500	0
2004/05	0	18,000	0	18,000	14,350	3,650	0
2005/06	0	31,000	0	31,000	25,100	5,900	0
2006/07	0	20,000	0	20,000	15,500	4,500	0
2007/08	0	25,000	0	25,000	21,000	4,000	0
2008/09	0	26,000	0	26,000	21,900	4,100	0
2009/10	0	28,000	0	28,000	24,100	3,900	0
2010/11	0	29,000	0	29,000	25,000	4,000	0
Algeria							
2001/02	0	0	2,800	2,800	0	2,800	0
2002/03	0	0	5,600	5,600	0	5,600	0
2003/04	0	0	7,800	7,800	0	7,800	0
2004/05	0	0	7,125	7,125	0	7,125	0
2005/06	0	0	6,600	6,600	0	6,600	0
2006/07	0	0	7,650	7,650	0	7,650	0
2007/08	0	0	7,900	7,900	0	7,900	0
2008/09	0	0	9,000	9,000	0	9,000	0
2009/10	0	0	8,500	8,500	0	8,500	0
2010/11	0	0	8,600	8,600	0	8,600	0
Argentina							
2001/02	0	21,000	0	21,000	16,800	4,200	0
2002/03	0	13,000	0	13,000	9,700	3,300	0
2003/04	0	23,000	0	23,000	18,200	4,800	0
2004/05	0	27,000	0	27,000	22,000	5,000	0
2005/06	0	25,000	0	25,000	19,100	5,900	0
2006/07	0	33,000	0	33,000	29,200	3,800	0
2007/08	0	28,000	0	28,000	23,950	4,050	0
2008/09	0	26,000	0	26,000	22,200	3,800	0
2009/10	0	27,000	0	27,000	23,400	3,600	0
2010/11	0	29,000	0	29,000	25,000	4,000	0
Australia							
2001/02	0	29,956	17,002	46,958	7,600	39,358	0
2002/03	0	16,118	19,478	35,596	8,200	27,396	0
2003/04	0	27,000	24,200	51,200	7,100	44,100	0
2004/05	0	30,000	21,475	51,475	6,450	45,025	0
2005/06	0	30,400	11,600	42,000	7,650	34,350	0
2006/07	0	15,000	27,475	42,475	5,700	36,775	0
2007/08	0	12,000	26,850	38,850	4,150	34,700	0
2008/09	0	16,000	26,600	42,600	4,500	38,100	0
2009/10	0	14,000	25,700	39,700	2,800	36,900	0
2010/11	0	15,000	20,000	35,000	3,000	32,000	0
Brazil							
2001/02	0	0	16,700	16,700	0	16,700	0
2002/03	0	0	13,800	13,800	0	13,800	0
2003/04	0	0	17,750	17,750	0	17,750	0
2004/05	0	0	14,725	14,725	0	14,725	0
2005/06	0	0	17,150	17,150	0	17,150	0
2006/07	0	0	19,175	19,175	0	19,175	0
2007/08	0	0	22,700	22,700	0	22,700	0
2008/09	0	0	19,500	19,500	0	19,500	0
2009/10	0	0	27,000	27,000	0	27,000	0
2010/11	0	0	22,000	22,000	0	22,000	0

Raisin Production, Supply and Distribution (Continued)

Metric Tons (Dry Weight Basis)

Country Mktg Year	Beginning Stocks	Production	Imports	Total Supply	Exports	Domestic Consumption	Ending Stocks
Canada							
2001/02	0	0	32,200	32,200	0	32,200	0
2002/03	0	0	32,200	32,200	0	32,200	0
2003/04	0	0	34,175	34,175	0	34,175	0
2004/05	0	0	34,300	34,300	0	34,300	0
2005/06	0	0	34,000	34,000	0	34,000	0
2006/07	0	0	32,800	32,800	0	32,800	0
2007/08	0	0	32,500	32,500	0	32,500	0
2008/09	0	0	31,300	31,300	0	31,300	0
2009/10	0	0	29,300	29,300	0	29,300	0
2010/11	0	0	35,000	35,000	0	35,000	0
Chile							
2001/02	714	45,000	100	45,814	41,569	3,700	545
2002/03	545	51,000	100	51,645	48,094	3,100	451
2003/04	451	48,000	100	48,551	44,583	3,200	768
2004/05	768	55,900	1,200	57,868	52,500	4,298	1,070
2005/06	1,070	65,500	1,350	67,920	59,600	4,250	4,070
2006/07	4,070	61,500	300	65,870	61,300	3,400	1,170
2007/08	1,170	67,350	300	68,820	65,600	2,700	520
2008/09	520	80,000	200	80,720	78,300	2,200	220
2009/10	220	65,000	700	65,920	63,600	2,220	100
2010/11	100	75,000	600	75,700	73,000	2,600	100
China							
2001/02	0	85,000	2,900	87,900	2,500	85,400	0
2002/03	0	85,000	7,000	92,000	6,400	85,600	0
2003/04	0	90,000	8,850	98,850	9,500	89,350	0
2004/05	0	95,000	12,188	107,188	14,818	92,370	0
2005/06	0	105,000	10,400	115,400	18,300	97,100	0
2006/07	0	125,000	12,300	137,300	23,800	113,500	0
2007/08	0	150,000	13,600	163,600	32,100	131,500	0
2008/09	0	150,000	11,300	161,300	27,800	133,500	0
2009/10	0	185,000	13,300	198,300	48,000	150,300	0
2010/11	0	160,000	14,500	174,500	45,000	129,500	0
Colombia							
2001/02	0	0	4,700	4,700	0	4,700	0
2002/03	0	0	4,500	4,500	0	4,500	0
2003/04	0	0	5,200	5,200	0	5,200	0
2004/05	0	0	5,100	5,100	0	5,100	0
2005/06	0	0	5,200	5,200	0	5,200	0
2006/07	0	0	5,750	5,750	0	5,750	0
2007/08	0	0	5,950	5,950	0	5,950	0
2008/09	0	0	6,000	6,000	0	6,000	0
2009/10	0	0	6,400	6,400	0	6,400	0
2010/11	0	0	5,800	5,800	0	5,800	0
EU-27							
2001/02	0	28,000	279,900	307,900	7,800	300,100	0
2002/03	0	10,000	295,400	305,400	6,900	298,500	0
2003/04	0	10,000	297,980	307,980	7,650	300,330	0
2004/05	0	30,000	312,225	342,225	9,525	332,700	0
2005/06	0	30,000	319,000	349,000	8,700	340,300	0
2006/07	0	20,000	331,600	351,600	8,600	343,000	0
2007/08	0	10,000	349,900	359,900	7,450	352,450	0
2008/09	0	10,000	325,000	335,000	7,600	327,400	0
2009/10	0	12,000	338,500	350,500	9,000	341,500	0
2010/11	0	10,000	340,000	350,000	10,000	340,000	0

Raisin Production, Supply and Distribution (Continued)

Metric Tons (Dry Weight Basis)

Country Mktg Year	Beginning Stocks	Production	Imports	Total Supply	Exports	Domestic Consumption	Ending Stocks
India							
2001/02	0	0	8,800	8,800	0	8,800	0
2002/03	0	0	6,400	6,400	0	6,400	0
2003/04	0	0	4,300	4,300	0	4,300	0
2004/05	0	0	7,850	7,850	0	7,850	0
2005/06	0	0	8,650	8,650	0	8,650	0
2006/07	0	0	6,900	6,900	0	6,900	0
2007/08	0	0	8,900	8,900	0	8,900	0
2008/09	0	0	9,200	9,200	0	9,200	0
2009/10	0	0	9,300	9,300	0	9,300	0
2010/11	0	0	9,500	9,500	0	9,500	0
Iran							
2001/02	0	115,000	0	115,000	92,000	23,000	0
2002/03	0	130,000	0	130,000	105,000	25,000	0
2003/04	0	156,000	0	156,000	130,000	26,000	0
2004/05	0	154,000	0	154,000	128,000	26,000	0
2005/06	0	162,000	0	162,000	135,000	27,000	0
2006/07	0	147,000	0	147,000	120,000	27,000	0
2007/08	0	166,000	0	166,000	138,000	28,000	0
2008/09	0	80,000	0	80,000	65,000	15,000	0
2009/10	0	145,000	0	145,000	120,000	25,000	0
2010/11	0	150,000	0	150,000	125,000	25,000	0
Iraq							
2001/02	0	0	1,000	1,000	0	1,000	0
2002/03	0	0	2,000	2,000	0	2,000	0
2003/04	0	0	1,000	1,000	0	1,000	0
2004/05	0	0	2,000	2,000	0	2,000	0
2005/06	0	0	5,000	5,000	0	5,000	0
2006/07	0	0	6,000	6,000	0	6,000	0
2007/08	0	0	6,000	6,000	0	6,000	0
2008/09	0	0	14,400	14,400	0	14,400	0
2009/10	0	0	15,900	15,900	0	15,900	0
2010/11	0	0	15,000	15,000	0	15,000	0
Japan							
2001/02	0	0	29,200	29,200	0	29,200	0
2002/03	0	0	30,300	30,300	0	30,300	0
2003/04	0	0	32,300	32,300	0	32,300	0
2004/05	0	0	32,750	32,750	0	32,750	0
2005/06	0	0	28,950	28,950	0	28,950	0
2006/07	0	0	31,850	31,850	0	31,850	0
2007/08	0	0	32,300	32,300	0	32,300	0
2008/09	0	0	27,300	27,300	0	27,300	0
2009/10	0	0	29,700	29,700	0	29,700	0
2010/11	0	0	31,000	31,000	0	31,000	0
Kazakhstan							
2001/02	0	0	0	0	0	0	0
2002/03	0	0	0	0	0	0	0
2003/04	0	0	0	0	0	0	0
2004/05	0	0	0	0	0	0	0
2005/06	0	0	50	50	0	50	0
2006/07	0	0	50	50	0	50	0
2007/08	0	0	50	50	0	50	0
2008/09	0	0	300	300	0	300	0
2009/10	0	0	1,100	1,100	0	1,100	0
2010/11	0	0	4,000	4,000	0	4,000	0

Raisin Production, Supply and Distribution (Continued)

Metric Tons (Dry Weight Basis)

Country Mktg Year	Beginning Stocks	Production	Imports	Total Supply	Exports	Domestic Consumption	Ending Stocks
Korea, South							
2001/02	0	0	3,150	3,150	0	3,150	0
2002/03	0	0	3,300	3,300	0	3,300	0
2003/04	0	0	3,200	3,200	0	3,200	0
2004/05	0	0	3,150	3,150	0	3,150	0
2005/06	0	0	3,250	3,250	0	3,250	0
2006/07	0	0	3,650	3,650	0	3,650	0
2007/08	0	0	3,800	3,800	0	3,800	0
2008/09	0	0	3,300	3,300	0	3,300	0
2009/10	0	0	3,850	3,850	0	3,850	0
2010/11	0	0	4,000	4,000	0	4,000	0
Malaysia							
2001/02	0	0	4,800	4,800	0	4,800	0
2002/03	0	0	5,100	5,100	0	5,100	0
2003/04	0	0	4,500	4,500	0	4,500	0
2004/05	0	0	4,900	4,900	0	4,900	0
2005/06	0	0	4,950	4,950	0	4,950	0
2006/07	0	0	5,200	5,200	0	5,200	0
2007/08	0	0	5,025	5,025	0	5,025	0
2008/09	0	0	5,950	5,950	0	5,950	0
2009/10	0	0	6,800	6,800	0	6,800	0
2010/11	0	0	6,000	6,000	0	6,000	0
Mexico							
2001/02	0	13,106	10,486	23,592	4,891	18,701	0
2002/03	0	7,140	11,400	18,540	3,500	15,040	0
2003/04	0	7,440	12,854	20,294	2,897	17,397	0
2004/05	0	7,500	13,227	20,727	3,808	16,919	0
2005/06	0	8,200	11,700	19,900	3,000	16,900	0
2006/07	0	8,500	14,300	22,800	2,000	20,800	0
2007/08	0	8,500	13,100	21,600	3,200	18,400	0
2008/09	0	8,500	15,500	24,000	2,800	21,200	0
2009/10	0	8,300	16,900	25,200	2,900	22,300	0
2010/11	0	8,500	11,000	19,500	4,000	15,500	0
Morocco							
2001/02	0	0	2,900	2,900	0	2,900	0
2002/03	0	0	5,800	5,800	0	5,800	0
2003/04	0	0	5,700	5,700	0	5,700	0
2004/05	0	0	6,850	6,850	0	6,850	0
2005/06	0	0	4,850	4,850	0	4,850	0
2006/07	0	0	6,500	6,500	0	6,500	0
2007/08	0	0	5,500	5,500	0	5,500	0
2008/09	0	0	7,500	7,500	0	7,500	0
2009/10	0	0	7,500	7,500	0	7,500	0
2010/11	0	0	4,500	4,500	0	4,500	0
New Zealand							
2001/02	0	0	7,500	7,500	0	7,500	0
2002/03	0	0	7,200	7,200	0	7,200	0
2003/04	0	0	7,600	7,600	0	7,600	0
2004/05	0	0	8,025	8,025	0	8,025	0
2005/06	0	0	6,900	6,900	0	6,900	0
2006/07	0	0	7,925	7,925	0	7,925	0
2007/08	0	0	8,000	8,000	0	8,000	0
2008/09	0	0	7,400	7,400	0	7,400	0
2009/10	0	0	7,900	7,900	0	7,900	0
2010/11	0	0	8,000	8,000	0	8,000	0

Raisin Production, Supply and Distribution (Continued)

Metric Tons (Dry Weight Basis)

Country Mktg Year	Beginning Stocks	Production	Imports	Total Supply	Exports	Domestic Consumption	Ending Stocks
Norway							
2001/02	0	0	3,500	3,500	0	3,500	0
2002/03	0	0	3,800	3,800	0	3,800	0
2003/04	0	0	3,900	3,900	0	3,900	0
2004/05	0	0	3,800	3,800	0	3,800	0
2005/06	0	0	4,000	4,000	0	4,000	0
2006/07	0	0	4,600	4,600	0	4,600	0
2007/08	0	0	4,600	4,600	0	4,600	0
2008/09	0	0	4,500	4,500	0	4,500	0
2009/10	0	0	4,700	4,700	0	4,700	0
2010/11	0	0	4,500	4,500	0	4,500	0
Peru							
2001/02	0	0	4,000	4,000	0	4,000	0
2002/03	0	0	4,800	4,800	0	4,800	0
2003/04	0	0	5,000	5,000	0	5,000	0
2004/05	0	0	4,125	4,125	0	4,125	0
2005/06	0	0	4,975	4,975	0	4,975	0
2006/07	0	0	5,625	5,625	0	5,625	0
2007/08	0	0	5,625	5,625	0	5,625	0
2008/09	0	0	6,425	6,425	0	6,425	0
2009/10	0	0	6,900	6,900	0	6,900	0
2010/11	0	0	6,500	6,500	0	6,500	0
Philippines							
2001/02	0	0	3,700	3,700	0	3,700	0
2002/03	0	0	3,200	3,200	0	3,200	0
2003/04	0	0	3,600	3,600	0	3,600	0
2004/05	0	0	3,700	3,700	0	3,700	0
2005/06	0	0	3,400	3,400	0	3,400	0
2006/07	0	0	3,200	3,200	0	3,200	0
2007/08	0	0	3,500	3,500	0	3,500	0
2008/09	0	0	2,750	2,750	0	2,750	0
2009/10	0	0	2,800	2,800	0	2,800	0
2010/11	0	0	4,000	4,000	0	4,000	0
Russia							
2001/02	0	0	45,800	45,800	0	45,800	0
2002/03	0	0	55,700	55,700	0	55,700	0
2003/04	0	0	61,650	61,650	0	61,650	0
2004/05	0	0	66,000	66,000	0	66,000	0
2005/06	0	0	62,600	62,600	0	62,600	0
2006/07	0	0	70,325	70,325	0	70,325	0
2007/08	0	0	70,500	70,500	0	70,500	0
2008/09	0	0	64,500	64,500	0	64,500	0
2009/10	0	0	71,700	71,700	0	71,700	0
2010/11	0	0	60,000	60,000	0	60,000	0
South Africa							
2001/02	8,176	40,518	97	48,791	33,693	10,500	4,598
2002/03	4,598	34,953	200	39,751	34,500	4,251	1,000
2003/04	1,000	39,516	1,084	41,600	27,647	9,332	4,621
2004/05	4,621	30,400	3,000	38,021	22,000	12,121	3,900
2005/06	3,900	30,000	700	34,600	23,800	7,600	3,200
2006/07	3,200	41,800	300	45,300	33,800	8,500	3,000
2007/08	3,000	40,200	100	43,300	38,800	3,500	1,000
2008/09	1,000	28,000	1,100	30,100	23,400	5,700	1,000
2009/10	1,000	43,000	2,300	46,300	40,200	5,600	500
2010/11	500	45,000	1,000	46,500	40,000	6,000	500

Raisin Production, Supply and Distribution (Continued)

Metric Tons (Dry Weight Basis)

Country Mktg Year	Beginning Stocks	Production	Imports	Total Supply	Exports	Domestic Consumption	Ending Stocks
Switzerland							
2001/02	0	0	4,000	4,000	0	4,000	0
2002/03	0	0	4,000	4,000	0	4,000	0
2003/04	0	0	3,900	3,900	0	3,900	0
2004/05	0	0	3,800	3,800	0	3,800	0
2005/06	0	0	4,000	4,000	0	4,000	0
2006/07	0	0	4,000	4,000	0	4,000	0
2007/08	0	0	4,800	4,800	0	4,800	0
2008/09	0	0	4,200	4,200	0	4,200	0
2009/10	0	0	4,000	4,000	0	4,000	0
2010/11	0	0	4,000	4,000	0	4,000	0
Taiwan							
2001/02	0	0	4,600	4,600	0	4,600	0
2002/03	0	0	5,700	5,700	0	5,700	0
2003/04	0	0	5,100	5,100	0	5,100	0
2004/05	0	0	5,500	5,500	0	5,500	0
2005/06	0	0	5,400	5,400	0	5,400	0
2006/07	0	0	5,850	5,850	0	5,850	0
2007/08	0	0	6,325	6,325	0	6,325	0
2008/09	0	0	6,375	6,375	0	6,375	0
2009/10	0	0	7,200	7,200	0	7,200	0
2010/11	0	0	8,000	8,000	0	8,000	0
Turkey							
2001/02	77,295	220,000	1,275	298,570	211,100	40,000	47,470
2002/03	47,470	230,000	1,759	279,229	210,000	50,000	19,229
2003/04	19,229	235,000	1,702	255,931	210,600	24,007	21,324
2004/05	21,324	300,000	4,000	325,324	239,200	40,000	46,124
2005/06	46,124	250,000	4,200	300,324	209,200	29,200	61,924
2006/07	61,924	280,000	5,000	346,924	263,800	40,024	43,100
2007/08	43,100	250,000	4,600	297,700	205,900	72,676	19,124
2008/09	19,124	310,000	2,200	331,324	274,900	50,477	5,947
2009/10	5,947	260,000	3,000	268,947	217,200	47,047	4,700
2010/11	4,700	260,000	2,000	266,700	220,000	42,200	4,500
Ukraine							
2001/02	0	0	15,900	15,900	0	15,900	0
2002/03	0	0	17,500	17,500	0	17,500	0
2003/04	0	0	17,550	17,550	0	17,550	0
2004/05	0	0	17,525	17,525	0	17,525	0
2005/06	0	0	15,475	15,475	0	15,475	0
2006/07	0	0	19,725	19,725	0	19,725	0
2007/08	0	0	20,100	20,100	0	20,100	0
2008/09	0	0	16,000	16,000	0	16,000	0
2009/10	0	0	17,600	17,600	0	17,600	0
2010/11	0	0	16,500	16,500	0	16,500	0
United Arab Emirates							
2001/02	0	0	7,000	7,000	0	7,000	0
2002/03	0	0	6,000	6,000	0	6,000	0
2003/04	0	0	7,000	7,000	0	7,000	0
2004/05	0	0	7,000	7,000	0	7,000	0
2005/06	0	0	8,000	8,000	0	8,000	0
2006/07	0	0	10,000	10,000	0	10,000	0
2007/08	0	0	12,300	12,300	0	12,300	0
2008/09	0	0	6,300	6,300	0	6,300	0
2009/10	0	0	16,900	16,900	0	16,900	0
2010/11	0	0	20,000	20,000	0	20,000	0

Raisin Production, Supply and Distribution (Continued)

Metric Tons (Dry Weight Basis)

Country Mktg Year	Beginning Stocks	Production	Imports	Total Supply	Exports	Domestic Consumption	Ending Stocks
United States							
2001/02	244,418	378,387	15,289	638,094	113,403	309,900	214,791
2002/03	214,791	402,246	14,658	631,695	115,883	289,728	226,084
2003/04	226,084	319,238	10,403	555,725	119,783	258,613	177,329
2004/05	177,329	251,562	20,113	449,004	113,908	206,899	128,197
2005/06	128,197	324,319	21,614	474,130	109,500	218,495	146,135
2006/07	146,135	280,774	28,868	455,777	112,220	229,178	114,379
2007/08	114,379	326,587	21,625	462,591	152,385	214,063	96,143
2008/09	96,143	354,074	19,300	469,517	144,295	199,305	125,917
2009/10	125,917	304,361	21,100	451,378	172,470	203,408	75,500
2010/11	75,500	304,000	23,000	402,500	130,000	218,100	54,400
Uzbekistan							
2001/02	0	12,000	0	12,000	9,400	2,600	0
2002/03	0	11,000	0	11,000	8,900	2,100	0
2003/04	0	15,000	0	15,000	11,775	3,225	0
2004/05	0	28,000	0	28,000	22,400	5,600	0
2005/06	0	26,000	0	26,000	20,600	5,400	0
2006/07	0	30,000	0	30,000	24,000	6,000	0
2007/08	0	37,000	0	37,000	29,700	7,300	0
2008/09	0	25,700	0	25,700	21,100	4,600	0
2009/10	0	26,000	0	26,000	21,700	4,300	0
2010/11	0	30,000	0	30,000	25,000	5,000	0
Venezuela							
2001/02	0	0	3,000	3,000	0	3,000	0
2002/03	0	0	2,500	2,500	0	2,500	0
2003/04	0	0	3,100	3,100	0	3,100	0
2004/05	0	0	3,500	3,500	0	3,500	0
2005/06	0	0	3,600	3,600	0	3,600	0
2006/07	0	0	5,100	5,100	0	5,100	0
2007/08	0	0	7,400	7,400	0	7,400	0
2008/09	0	0	6,000	6,000	0	6,000	0
2009/10	0	0	6,200	6,200	0	6,200	0
2010/11	0	0	6,000	6,000	0	6,000	0
World							
World							
2001/02	330,603	1,003,967	532,299	1,866,869	554,356	1,045,109	267,404
2002/03	267,404	1,016,457	569,395	1,853,256	579,777	1,026,715	246,764
2003/04	246,764	995,194	591,498	1,833,456	609,235	1,020,179	204,042
2004/05	204,042	1,027,362	629,153	1,860,557	648,959	1,032,307	179,291
2005/06	179,291	1,087,419	617,564	1,884,274	639,550	1,029,395	215,329
2006/07	215,329	1,062,574	682,018	1,959,921	699,920	1,098,352	161,649
2007/08	161,649	1,120,637	703,850	1,986,136	722,235	1,147,114	116,787
2008/09	116,787	1,114,274	659,400	1,890,461	693,795	1,063,582	133,084
2009/10	133,084	1,117,661	712,750	1,963,495	745,370	1,137,325	80,800
2010/11	80,800	1,115,500	695,000	1,891,300	725,000	1,106,800	59,500

Antioxidants

1. "Raisin Effects on Biomarkers of Coronary Heart Disease in Elderly Men and Women"

Maria Luz Fernandez, PhD, University of Connecticut

A randomized, controlled study with 17 men and women aged 50-70 years were involved in the study. They were encouraged to walk or to walk and eat 1 cup of raisins per day or just eat 1 cup of raisins per day. The intervention improved the lipid risk profile for all groups by resulting in a reduction in both total cholesterol and LDL-C. The authors suggested that the increase in fiber intake was a likely contributor to the reduction in LDL-C for RAISIN and RAISIN + WALK. The reduction in blood pressure for RAISIN and RAISIN + WALK may have resulted from antioxidant effects of the raisin polyphenols. In conclusion, risk factors for CVD were affected significantly by consuming raisins or increasing steps walked. Blood pressure, plasma total cholesterol and LDL-C were significantly decreased by all interventions, while walking lowered plasma TG. Raisins lowered the risk for inflammatory damage by decreasing one of the markers of inflammation associated with diabetes and coronary heart disease (tumor necrosis factor – alpha -TNF-α.).

2. Raisins Deliver Antioxidants

Raisins rank among the top antioxidant foods, according to tests conducted by the U.S. Department of Agriculture (USDA). Antioxidants are important because they protect cells and their components from oxidative damage – a little like "rust prevention" for the body. Early findings suggest that eating plenty of fruits and vegetables high in antioxidants, such as raisins and spinach, may help slow the processes associated with aging in both body and brain and may help protect cell components from changes that lead to diseases such as cancer and coronary heart disease. Antioxidants protect cholesterol and other fats in the blood from oxidizing. This is critical because oxidized fats in the bloodstream are much more likely to be deposited on the artery wall or form clots which may lead to heart attack or stroke. Raisins are among the top contenders for convenient, accessible, affordable, all-season antioxidant foods.

3. "Raisins, Cyclo-oxygenase – 2 and Cancer Prevention"

Andrew J. Dannenberg, M.D., NewYork-Presbyterian Hospital/ Weill Medical College of Cornell University, New York, NY.

One of the antioxidant compounds in raisins and some other fruits and vegetables is catechin. When catechins were fed to tumor-prone mice by the noted cancer researcher Dr. Andrew Dannenberg and his colleagues, there was a 70 percent reduction in the number of tumors compared to control animals (not fed additional catechin). This type of

study adds to the body of evidence linking phytochemical components of fruits and vegetables to reduction in the risk of colorectal cancer, colorectal adenomas and other gastrointestinal tumors.

4. “Antioxidant Capacity and Cholesterol Concentration in Human Subjects”

Carl L. Keen, Ph.D., Professor and Chair, Department of Nutrition, University of California – Davis, Davis, California.

Subjects eating raisins (4 servings) daily for 4 weeks increased the plasma antioxidant capacity. This in turn decreased the level of circulating oxidized low-density lipoprotein (LDL), so-called bad cholesterol, in subjects. High levels of LDL cholesterol are associated with increased cardiovascular disease. Oxidized LDL is especially problematic because the oxidized particles in the bloodstream are more likely to add to plaque on the artery wall. These data clearly show raisins are an important part of a diet that encourages 8 to 13 servings of fruit and vegetables loaded with important phytochemicals and antioxidants.

5. "Value of Raisins for Reduction of Oxidative Stress, Endothelial Dysfunction, and Inflammation in Obesity"

Janet Walberg Rankin, Ph.D., Professor in Human Nutrition, Foods, and Exercise, Virginia Tech., Blacksburg, Virginia.

Research expert on oxidative stress and disease, Janet Walberg Rankin, studied the effect of raisins with their important antioxidant contribution on oxidative stress and inflammation in overweight subjects. It is well known that oxidative stress triggers an inflammatory response that increases disease risk. Together with graduate student Mary Whitlock, Dr. Rankin looked at whether the modest, easily accessible raisin can benefit obese individuals. They showed lowered levels of markers of inflammation, C-reactive peptide (CRP) and interleukin-6 (IL-6). These findings are important because those eating high fat meals or who are obese have elevated levels of CRP and IL-6. High levels of these components adversely affect proper blood vessel functioning. Thus, those with high oxidative stress tend to have blood vessels that do not appropriately dilate and relax.

Foods, such as raisins, that are good sources of antioxidants, especially flavonoids and phenolics, can be helpful in fighting oxidation stress and improving blood vessel function.

6. Raisin effects on in vitro demineralization of teeth

Clifton Carey, PhD, Director of Administration, American Dental Association – Paffenbarger Research Center

Strong evidence exists that food particles retained on the teeth will lead to

Demineralization of the tooth enamel and dental caries. (caries) (Kashket et al, 1996). This led to the idea that foods which are perceived as 'sticky' will be more cariogenic than non-sticky snack foods. Raisins have been perceived by the general public and by pediatric dentists as the ninth stickiest food out of a list of twenty-one popular snacks. Despite this, there is no evidence that raisins contribute to the demineralization of teeth. In fact measurement of food that is on the tooth 5 minutes after swallowing showed that foods that are less soluble in oral fluids are retained for longer times. Specifically, raisins although perceived as quite sticky, they are easily cleared from the oral cavity. These observations suggest that raisins may not contribute to tooth demineralization significantly because the sugars are removed from the dentition before the plaque mass has the opportunity to generate sufficient acid to lower the pH below 5.5. There is also research that shows that raisins contain compounds that inhibit the *in vitro* growth of *S. mutans,* thus making raisins less cariogenic than other foods. However, the *in vitro* research with 10% raisin juice showed that it had the potential to demineralize tooth enamel but that this was less than orange juice with its citric acid.

7. "Raisins as a Functional Food for Oral Health"

Christine D. Wu, M.S., Ph.D., Professor, Department of Periodontics, University of Illinois, College of Dentistry, Chicago, Illinois.

Raisins contain compounds including oleanolic acid that inhibit *in vitro* growth of *Streptococcus mutans*, one of the major bacteria in the mouth responsible for tooth decay. Oleanolic acid and other compounds in raisins also inhibit organisms associated with periodontal disease, including *Porphyromonas gingivalis* and *Fusobacterium nucleatum*. Oleanolic acid is effective in suppressing *in vitro* plaque formation by *Streptococcus mutans*. Prevention of plaque formation on the tooth surface is critical both for preventing tooth decay and promoting healthy gums.

Food Preservation

8. "Phenolic Content, Antioxidant Activity and Antimicrobial Properties of Raisins in Food Systems"

Luis Cisneros-Zevallos, Ph.D., Assistant Professor, Department of Horticultural Sciences, Texas A&M University, College Station, Texas.

Raisins have a considerable concentration of phenolic compounds. This analysis showed that they were quinic and gallic acid, chlorogenic and caffeic acids, catechin, and epicatechin. Golden raisins have more of many of these compounds because the antioxidant effect of the sulfite used in golden raisins inhibits the loss of these compounds. Raisin juice extracts and concentrates also have significantly increased numbers of these compounds, so they have the potential to reduce the growth of harmful microorganisms and prevent browning of cut produce. According to studies conducted by Luis Cisneros-Zevallos and his team at Texas A&M, raisin extracts were shown to reduce the growth of known food pathogens such as *Listeria monocytogenes* and *Escherichia*

coli 0157:H7 in a variety of model food systems. This has great importance to food safety and to the produce industry as a non-food additive solution to help extend the shelf life of food and reduce food-borne disease.

9. "Inhibition of Lipid Oxidation by Raisin Paste in Cooked Ground Meat"

Daren Cornforth, Ph.D., Professor, Nutrition & Food Sciences, Utah State University, Logan, Utah.

Raisins are recognized as a good source of dietary antioxidants. Adding raisin paste or extract to cooked ground beef or pork at just 1% to 2% of the weight improved its flavor after storage due to inhibition of rancidity by the antioxidants. Addition of the raisin extract to chicken at the same levels was also effective but did cause the meat to darken. In all cases the addition of the small amount of raisins did not affect the flavor of the meat.

10. "Evaluation of the Potential Anti-Microbial Properties of Raisins and Their Application in Food Safety and Preservation"

Mark A. Daeschel, Ph.D., Professor, Food Microbiology and Safety, Oregon State University, Corvallis, Oregon.

Pathogenic bacteria, including *Escherichia coli 0157:H7, Staphylococcus aureus* and *Listeria monocytogenes,* were inhibited in jerky systems containing 25% or 50% raisins. Raisins were shown to have the same preservative properties as sodium nitrite in meat systems. Raisins' innate combination of antioxidants, sugar and acids were shown to be as effective as the sodium nitrite in inhibiting organisms that cause food- borne disease and in maintaining food safety. This is good news because producers of jerky, sausages, hot dogs and other cured meats may be able to reduce or eliminate the use of nitrite additives.

Use of raisins to replace sodium nitrite in cured meats has many health benefits. First, the nitrite may form cancer-causing nitrosamines during digestion. Second, unlike the sodium nitrite, raisins add no sodium. This is important for those on sodium-restricted diets. Third, addition of raisins may improve the overall nutritional profile of cured meats, such as jerky, since the raisins provide antioxidants and make it possible to produce a palatable product that is lower in fat.

Fiber

11. "Raisin Dietary Fiber: Composition and Characteristics"

Mary Ellen Camire, Ph.D., Professor, Department of Food Science and Human Nutrition, University of Maine, Orono, Maine.

Dietary fiber and other components may reduce the risk of heart disease and cancer by binding bile acids and causing their elimination from the body. Camire's study confirms that eating fibrous foods, such as raisins, caused the elimination of bile acids. This in turn stimulates the body to replace the excreted bile acids using its own cholesterol, thus potentially lowering serum cholesterol and the risk of coronary heart disease. Furthermore, bile acids that are bound by fibers such as those in raisins will not be metabolized in the gut to a more toxic form that can cause harmful changes on the colonic wall, and this may potentially reduce cancer risk.

12. "Raisins as a Source of Inulin"

Medallion Labs, Minneapolis, Minnesota.

California raisins are a good source of inulin, a naturally occurring fiber-like carbohydrate that helps keep the colon healthy. Independent laboratory analysis by Medallion Labs, a laboratory known for their analytical work for nutrition labeling in the U.S., showed that a standard 1/4-cup serving of California raisins contains 1.5 grams of inulin. Recommended daily intake levels of inulin have yet to be established. However, inulin is one of the soluble fibers. Health benefits of inulin are the subject of active research and new functions are being documented. Some of these include its effects on cholesterol levels and gut health. Its role as a prebiotic has received much attention because prebiotics are important to support immune function both in the gut and in the body.

13. "Beneficial Effects of Raisins on Colonic Function with Possible Implications for the Prevention of Colon Cancer"

Gene A. Spiller, Ph.D., Head, Sphera Foundation and Health Research Studies Center, Los Altos, California.

The combination of dietary fiber and tartaric acid in sun-dried raisins plays an important role in colon function and health. The study was designed to test the hypothesis that eating 2 to 4 servings of raisins per day may improve colonic health. Research by Dr. Spiller found a positive correlation between consuming sun-dried raisins and a reduction in some colon cancer risk factors. For example, raisins increased fecal weight and caused material to move through the colon faster (called faster transit time). Increased transit time and increased fecal weight is important not only to have a properly functioning gastrointestinal tract and to reduce constipation and hemorrhoids, it also means that any toxic materials that might be in the diet or produced by metabolism in the gut will have little time to adversely affect the colon wall. Raisins reduced the alkalinity in the colon. Both the faster transit and lowered pH are associated with reduced colon cancer risk. The authors concluded that 2 servings of raisins per day caused moderate but beneficial changes in colon function.

Nutrient Composition

14. "The Impact of Pre-exercise Snacks on Exercise Intensity, Stress, and Fatigue in Children"

Debra R. Keast, PhD; Carol E. O'Neil, PhD, MPH, RD; Julie M. Jones, PhD, CNS, LN

Objective: This study examined the association of dried fruit consumption with nutrient intake, diet quality, and anthropometric indicators of overweight/obesity.

Design: Analyses of dietary and anthropometric data collected from adult (19+ years) participants (n=13,292) of the 1999-2004 National Health and Nutrition Examination Survey were conducted. Dried fruit consumers were defined as those consuming amounts ≥⅛ cup-equivalent fruit/day and identified using 24-hour recalls. Diet quality was measured using the Healthy Eating Index-2005 (HEI-2005). Covariate-adjusted means, standard errors, prevalence rates and odds ratios were determined to conduct statistical tests for differences between dried fruit consumers and non-consumers.

Results: Seven percent of the population consumed dried fruit. Adult shortfall nutrients for which there were mean intake differences ($p<0.01$) between consumers and non-consumers were: fiber (+6.6 g/d), vitamin A (+173µg RAE/d), vitamin E (+1.5 mg AT/d), vitamin C (+20 mg/d), calcium (+103 mg/d), magnesium (+72 mg/d), and potassium (+432 mg/d). Dried fruit consumers had improved MyPyramid food intake, including lower SoFAAS intake, and a higher SoFAAS score (11.1±0.2 vs 8.2±0.1) than non-consumers. The total HEI-2005 score was significantly higher ($p<0.01$) in consumers (59.3±0.5) than non-consumers (49.4±0.3). Covariate-adjusted weight (78.2±0.6 kg vs 80.7±0.3 kg), body mass index (27.1±0.2 vs 28.1±0.2), and waist circumference (94.0±0.5 vs 96.5±0.2) were lower ($p<0.01$) in consumers than non-consumers, respectively.

Conclusions: Dried fruit consumption was associated with improved nutrient intakes, a higher overall diet quality score, and lower body weight/adiposity measures.

Glycemic Effects, Sustainable Energy and Healthy Snacks

15. "The Impact of Pre-exercise Snacks on Exercise Intensity, Stress, and Fatigue in Children"

Jennifer M. Sacheck, Tamar Kafka, Helen Rasmussen, Jeffrey B. Blumberg, and Christina D. Economos

Purpose: Few studies have examined how the composition of snacks affects athletic performance in children. We investigated whether the macronutrient and flavonoid content of 3 pre-exercise snacks differentially affected exercise intensity, stress, and postgame fatigue in young soccer players.

Methods: At 1 h prior to a 50-min soccer game, 115 children (9.1 ± 0.9 y) were

randomly assigned to consume 1 of 3 isocaloric snacks: 1) nutrient dense/high flavonoid (HF) raisin/nut bar; 2) low flavonoid (LF) peanut butter graham bar; or 3) low flavonoid/high sugar (LF/HS) rice cereal bar. Blood glucose and salivary cortisol and IgA were measured before consuming the snack and immediately following the game. Game exercise intensity was measured by accelerometry. Self-administered questionnaires were used to assess diet quality and physical and mental fatigue after the game.

Results: The children spent approximately 33% of the game in moderate to vigorous activity and 49% of the game in sedentary activity. The snack consumed was not related to exercise intensity. Mean post-exercise blood glucose ($P<0.001$) and cortisol ($P<0.05$) increased and IgA levels decreased ($P<0.001$) from pre-game values. The pre-exercise snack did not predict the post-exercise outcome for any of these parameters after controlling for pre-exercise values of the biomarkers, age, gender, BMI, exercise intensity, game-time water consumption, and diet quality. Children who reported symptoms of fatigue were more likely to have consumed the LF/HS snack ($P<0.05$).

Conclusion: The pre-exercise snacks formulated for this study did not affect blood sugar or salivary biomarkers of stress following a soccer game in young children. The nutrient content of the single snack did not differentially influence these biomarkers or the exercise intensity; however subjective feelings of fatigue may be associated with low flavonoid/high sugar snacks. Future investigations are warranted to further explore the effects of pre-exercise snacks on exercise, performance, stress and fatigue in children.

16.“Glycemic Index in the Management of Type 2 Diabetes Mellitus”

Carla Miller, PhD, RD, Ohio State University

The glycemic index of the diet decreased following a 9-week intervention in which 109 diabetics were instructed to increase their intake of fruit and dried fruit, total dietary fiber (including soluble and insoluble fiber) and the percentages of energy from protein and total fat (including saturated and monounsaturated fat) improved. IN addition to a changed GI of the diet, there was a significant reduction in body weight and body mass index (weight (kg)/height (m2)) in both men and women and a significant reduction in waist circumference in men. More fruit including raisins and other dried fruit was consumed following the intervention, which is consistent with the dietary pattern recommended in the Dietary Guidelines 2005. These studies show the importance of fruit, including dried fruit, and dietary fiber in the diet of diabetics. Thus, a carbohydrate-controlled portion of raisins can readily be incorporated into a well-constructed diabetic diet.

17. “Determination of the Glycemic and Insulinemic Responses to Raisins and the Application of Raisins as a Pre-exercise Snack for Persons with Impaired Glucose Tolerance”

Craig Mattern, Assistant Professor, State University of New York at Brockport

Raisins fed as a pre-exercise food to 22 exercisers (approximately half with normal and abnormal glucose tolerance) resulted in similar increases in blood glucose to those observed with a popular energy bar. These observed increases in blood glucose for raisins and energy bar were less than a standardized glucodex solution. The blood insulin response to the pre-exercise meal with raisins, especially in a sedentary population, produced statistically lower insulin values than the standardized glucose solution or the energy bar. All three test substances including Raisins resulted in similar mobilization of free fatty acids from adipose tissue during exercise. Thus, raisins resulted in a similar glucose response during exercise when compared to an energy bar and were less than the standardized glucose solution. The good news is that the insulin responses to raisin ingestion prior to, and in the early phases of exercise, were more favorable than those observed with the energy bar. Thus, raisins can be an excellent food for use by exercisers to help deliver the right kind of carbohydrates.

18. "Determination of the Glycemic and Insulinemic Indexes of Raisins in Three Populations"

Steve Hertzler, Ph.D., Assistant Professor of Nutrition, The Ohio State University, Columbus, Ohio.

The glycemic index (G.I.) and insulin index (I.I.) of raisins was determined on three different populations. In 10 sedentary adults, the G.I. of raisins was determined to be an average of 49.4. A nearly identical G.I. value for raisins was found for 10 prediabetic individuals. In the 11 endurance athletes, the G.I. of raisins was 62.3. As expected, the highest insulin index was found in prediabetic subjects (I.I. = 54.4) and the lowest was found in sedentary subjects (I.I. = 47.3). While the I.I. for athletes was 51.9, the overall insulin excursion in trained athletes was not nearly as great, showing the effects of training on insulin sensitivity and glucose utilization.

Interestingly, California raisins in this study came in as a moderate glycemic food, which is different from the ‘high’ classification they are given in published tables. Data for published tables have not been collected on California raisins, and the population studied is not from the United States.

19. "Raisin Consumption and Exercise Performance of Endurance Athletes"

Mark Kern, Ph.D., Department of Exercise and Nutritional Sciences, University of California – San Diego, San Diego, California.

Raisins were shown to be a good alternative to sports gels in a study conducted with endurance athletes under two different conditions. In studies by Mark Kern, San Diego State professor and author of the CRC Desk Reference on Sports Nutrition (2005, CRC Press), endurance-trained cyclists (4 males and 4 females) completed two feeding-performance trials where changes in metabolism and cycling performance were compared after consumption of raisins (a moderate to low glycemic index food) versus a commercial sports gel (a high glycemic index food). There were no differences in

performance in the 45 minute cycling trial (at 75% VO2max). No gastrointestinal discomfort was reported with either the gel or raisins. Measures of metabolic substrates after exercise were the same with both the sports gel and raisins except there were more free fatty acids after the pre-exercise ingestion of raisins. This increase in the free fatty acids indicates that raisins subtly, but favorably, improved metabolism. The authors concluded that raisins have similar performance effects to commercial sports gel products, but raisins are a better alternative since they provide more micronutrients, an acid-neutralizing load to the kidneys and are a more cost-effective and convenient food for use during exercise.

20. "The Effects of a Raisin-Peanut Pre-Event Meal on Indices of Energy and Fatigue in Young, Trained Soccer Players (10-12 Years of Age) Playing a Standard Game"

Gene A. Spiller, Ph.D., Head, Sphera Foundation and Health Research and Studies Center, Los Altos, California.

Feeding raisins along with peanuts and water to 10 to12 year old children prior to a soccer game resulted in lower increases in blood glucose and insulin than a snack of a white bagel and lemonade. This is important because it means a more steady fuel supply to the exercising muscle of the young players. Lower insulin levels are advantageous because high levels of circulating insulin can promote the laying down of fat and may lead to insulin resistance, a concern among U.S. children today, where rates of obesity and type-2 diabetes are increasing dramatically.

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FUNDED CROP PRODUCTION RESEARCH

FY 2004-2005

- Development of Improved Raisin Grapes for Mechanical Harvest Including Types Resistant to Powdery Mildew, by David Ramming
- Breeding Rootstocks Resistant to Aggressive Root-Knot Nematodes, by Peter Cousins
- Development, Testing and Introduction of Grape Rootstocks with Broad and Durable Nematode Resistance, by Howard Ferris and M. Andrew Walker
- Developing Sustainable Control Options for the Vine Mealybug in California, by Kent Danne
- Investigation of the Grape Mealybug Complex and its Natural Enemies to Improve Biological Control, by Kent Daane and Mark Battany
- Use of Vine Mealybug Sex Pheromone for Monitoring and Mating Disruption, by Walt Bentley and Kent Daane
- Leafroll Disease Revisited, by D.A. Golino
- Develop and Implement Control Methods for Eutypa Dieback, by Doug Gubler
- Investigations Into Pathogenicity of *Phomopsis viticola* as a Cause of Cankers and Bud Death in Grapes, by George Leavitt
- Pheromones for Sampling Major Mealybug Pests in California Vineyards, by Jocelyn Millar
- Physiological Implications of Harvest Pruning Raisin Grapes, by Matthew Fidelibus
- Evaluation of Training Systems, Trellises, Row Direction, and Grape Cultivars in Dry-on-the-Vine (DOV) Raisin Production, by Matthew Fidelibus
- Evaluation of Canopy Separation and Defoliation Practices for Mechanized Raisin Harvest on traditional Trellises, by Matthew Fidelibus
- Evaluation of Nematode Resistant Rootstalks for Use with Early Ripening Raisin Varieties Grown for Dried-on-the-Vine Raisin Production, by Stephan Vasquez
- Raisin Research on DOV Using the Within Row Alternate Bearing Method (WRAB DOV), by Bill Peacock

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FY 2005-2006

- Raisin Research on DOV Using the Within Row Alternate Bearing Method (WRAB DOV), by Bill Peacock
- Evaluation of Training Systems, Trellises, Row Direction, and Grape Cultivars for Dry-on-Vine (DOV) Raisin Production, by Matthew Fidelibus
- Evaluation of Canopy Separation and Defoliation Practices for Mechanized Raisin Harvest on Traditional Trellises, by Matthew Fidelibus and Stephan Vasquez
- Overhead Arbor Trellis Systems: Canopy Structure and Function in Relation to Irrigation Requirements, by Matthew Fidelibus and Stephan Vasquez
- Physiological Implications of Harvest Pruning Raisin Grapes, by Matthew Fidelibus and D. Smart
- Development of Improved Raisin Grapes for Mechanical Harvest including Types Resistant to Powdery Mildew, by David Ramming
- Development, Testing and Introduction of Grape Rootstocks with Broad and Durable Nematode Resistance, by Howard Ferris and M. Andrew Walker
- Breeding Rootstocks Resistant to Aggressive Root-Knot Nematodes, by Peter Cousins
- Sustainable Controls for Vine Mealybug: Mating Disruption, by Kent Daane

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FY 2006-2007

- Cost of Feasibility of Mechanically Harvested Continuous Tray Dried Raisins, by Stephan Vasquez
- Overhead Arbor Trellis Systems: Canopy Structure and Function in Relation to Irrigation Requirements, by Matthew Fidelibus, Lawrence Schwanki, and Stephan Vasquez
- Evaluation of novel abscission agents to facilitate mechanical harvesting of raisin grapes, by Matthew Fidelibus and Carlos Crisosto
- Development of improved raisin grapes for mechanical harvest including types resistant to powdery mildew, by David Ramming
- Sustainable Controls for Vine Mealybug: Mating Disruption, by Kent Daane and Walt Bentley
- Development, Testing and Introduction of Grape Rootstocks with Broad and Durable Nematode Resistance, by Howard Ferris and M. Andrew Walker
- Grapevine Cultivar and Drying Method Effects on Raisin Yield and Quality, by Matthew Fidelibus and Hildegarde Heymann
- Breeding Rootstocks Resistant to Aggressive Root-Knot Nematodes, by Peter Cousins

FUNDED CROP PRODUCTION RESEARCH

FY 2007-2008

- Water use of Thompson Seedless grapevines growing in a weighing lysimeter and trained to an overhead trellis system used for dried on the vine (DOV) raisin production, by Larry Williams
- Evaluation of novel abscission agents to facilitate mechanical harvesting of raisin grapes, by Matthew Fidelibus
- Grapevine cultivar and drying method effects on raisin yield and quality, by David Ramming
- Development, Testing and Introduction of Grape Rootstocks with Broad and Durable Nematode Resistance, by Howard Ferris and M. Andrew Walker
- Breeding Rootstocks Resistant to Aggressive Root-Knot Nematodes, by Peter Cousins
- Sustainable Controls for Vine Mealybug: Mating Disruption, by Kent Daane

FUNDED CROP PRODUCTION RESEARCH

FY 2008-2009

- Evaluation of novel abscission agents to facilitate mechanical harvesting of raisin grapes, by Matthew Fidelibus
- Grapevine Cultivar and Drying Method Effects on Raisin Yield and Quality, by Matthew Fidelibus and Hildegarde Heymann
- Development of improved raisin grapes for mechanical harvest including types resistant to powdery mildew, by David Ramming
- Breeding Rootstocks Resistant to Aggressive Root-Knot Nematodes, by Peter Cousins
- Spider mite management, by N. Mills
- Sustainable Controls for Vine Mealybug: Mating Disruption, by Kent Daane
- Sustainable Controls for Vine Mealybug: Biological Control, by Kent Daane

FUNDED CROP PRODUCTION RESEARCH

FY 2009-2010

- Breeding Rootstocks Resistant to Aggressive Root-Knot Nematodes, by Peter Cousins
- Advancing maturity of raisin cultivars using potassium sprays applied to fruit just prior or during the ripening phase, by Bill Peacock
- Development of improved raisin grapes for mechanical harvest including types resistant to powdery mildew, by David Ramming
- Sustainable Controls for Vine Mealybug, by Kent Daane
- Movento, Much More Than an Insect Growth Regulator, by M. McKenry
- Identifying raisin moth damage in raisin production systems, by Stephan Vasquez
- Evaluation of abscission agents for grapes, by Matthew Fidelibus

FUNDED CROP PRODUCTION RESEARCH

FY 2010-2011

- Advancing maturity of raisin cultivars using potassium sprays applied just prior or during the ripening phase, by Bill Peacock
- Sustainable Controls for Vine Mealybug – 2010, by Kent Daane
- Crop yield and economics of San Joaquin Valley vineyards under alternative weed management strategies, by Anil Shrestha
- Identifying and correlating populations to fruit damage in raisin production systems, by Stephen Vasquez
- Node position, shoot emergence, and yield components of cane-pruned raisin grapes, by Matthew Fidelibus
- Breeding Rootstocks Resistant to Aggressive Root-Knot Nematodes, by Peter Cousins
- Development of improved raisin grapes for mechanical harvest including types resistant to powdery mildew, by David Ramming

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Dustin Fuller **– Field Rep.**
Frank Nersesian **– Field Rep.**