

# Raisin Administrative Committee

## Marketing Policy & Industry Statistics 2010 - 2011 Marketing Season

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October 5, 2010, November 2, 2010, and January 6, 2011  
As Submitted to the Secretary

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.**

5,470 tons were being held on Memorandum Storage as of July 31, 2010.

**(B) Tonnage held by handlers.**

Packer inventory of raisins as of July 31, 2010, with comparative tonnages for July 31, 2009 was as follows:

|                         | <b>PACKER INVENTORY *</b><br>as of 07/31/09<br><u>Held Locally</u> | <b>PACKER INVENTORY *</b><br>as of 07/31/10<br><u>Held Locally</u> |
|-------------------------|--|--|
| Natural Seedless        | 126,824  | 83,143   |
| Dipped Seedless         | 3,230  | 2,411  |
| Golden Seedless         | 3,596  | 2,710  |
| Zante Currant           | 796  | 1,024  |
| Sultana                 | 42   | 23   |
| Muscat                  | 55   | 15   |
| Monukka                 | 130  | 138  |
| Other Seedless          | 4,112  | 3,369  |
| Other Seedless Sulfured | <u>576</u>   | <u>494</u>   |
| <b>TOTAL</b>            | <b>139,361</b>   | <b>93,327</b>  |

*\* Includes packed and unpacked in sweatbox tons*

**(C) Estimated tonnage held by Committee August 1, 2010.**

The Committee held 71 tons of Natural Seedless reserve pool raisins, of which 64 tons were uncommitted as of August 1, 2010.

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

**(A)** The 2010-2011 raisin grape crop is forecast to be up 1 percent above last year. Weather has been mostly favorable for crop development, although cool, wet weather in the spring and early summer resulted in some mildew problems. European Grapevine Moth remains a concern, mainly because of a quarantine in Fresno County. (Source: USDA California Farm News, August 2010)

Scattered rain showers from September 30 to October 7 resulted in 0.14 inches of precipitation measured in Fresno. Larger Quantities of rain were reported in some of the outlying areas.

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

**(B)** In a meeting on October 5, 2010, the Raisin Administrative Committee received input from Vic Tolomeo and Lena Schwedler of the California Agricultural Statistics Service, received a report from the RAC President and General Manager Gary Schulz and voted to accept the industry survey of 293,272 tons of Natural Seedless raisins as the 2010-2011 crop estimate. Upon consideration of the crop estimate versus the Natural Seedless trade demand of 297,387 as computed and accepted by the RAC on August 13, 2010, the Committee unanimously voted to recommend to the USDA no volume regulation for Natural Seedless raisins for the 2010-2011 crop year, resulting in a 100% free tonnage.

- (C) During the 2009-10 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%.
- (D) 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 2010-2011 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, meeting August 13, 2010, computed a trade demand for Natural (sun dried) Seedless Raisins. No trade demand was computed for the other varietal types of raisins. The Committee has a policy that for any variety of raisins for which the computed trade demand is less than 500 tons, the trade demand to be used for computing and announcing percentages would be 500 tons. The trade demand computed for the 2010-2011 crop year is as follows (in sweatbox tons):

| Variety                | Trade Demand | Estimated Production | Preliminary Percentages* |         |
|------------------------|--------------|----------------------|--------------------------|---------|
|                        |              |                      | Free                     | Reserve |
| Natural Seedless *     | 297,387      |                      |                          |         |
| Dipped Seedless**      | NONE         |                      |                          |         |
| Golden Seedless**      | NONE         |                      |                          |         |
| Zante Currant**        | NONE         |                      |                          |         |
| Sultana**              | NONE         |                      |                          |         |
| Muscat**               | NONE         |                      |                          |         |
| Monukka**              | NONE         |                      |                          |         |
| Other Seedless**       | NONE         |                      |                          |         |
| Other Seedless Sulf.** | NONE         |                      |                          |         |

\* 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 other varieties of raisins resulting in them being unregulated for the crop year 2010-11.

The 2010 August 1 grape estimate, and the 2009 and 2008 final grape crops (in green tons) are as follows:

| Varietal Type | August 1<br>2010 | Final     |           |
|---------------|------------------|-----------|-----------|
|               |                  | 2009      | 2008      |
| Wine          | 3,500,000        | 3,743,000 | 3,055,000 |
| Table         | 900,000          | 874,000   | 973,000   |
| Raisin        | 1,950,000        | 1,927,000 | 2,520,000 |
| Total         | 6,350,000        | 6,544,000 | 6,548,000 |

Source: USDA California Fruit & Nut Review, August 2010

**(B) Estimate of Tunnel Dehydrated Raisin Production.**

Production of Golden Seedless raisins in the 2009-2010 crop year was 17,008 swb tons. The carry-over from that year was 2,710 tons. Dipped Seedless production in 2009-2010 was 3,827 tons with a carry-over of 2,411 tons. Production of Golden Seedless and Dipped Seedless is expected to be about the same as the 2009-2010 crop production.

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

Cooler than normal temperatures resulted in a delay of about two weeks in the harvest of 2010-11 crop. The same growing conditions also resulted in a slightly decreased quality and maturity of the 2010-11 crop, which caused a slight increase in the substandard percentages.

**(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:

| <i>Domestic &amp; Canadian Markets</i> |                |                |                |                |                |
|--|----------------|----------------|----------------|----------------|----------------|
| Packed Tons                            |                |                |                |                |                |
| Varietal Type                          | 2005-06        | 2006-07        | 2007-08        | 2008-09        | <b>2009-10</b> |
| Natural Seedless                       | 186,358        | 188,944        | 193,609        | 191,929        | 186,176        |
| Dipped Seedless                        | 5,111          | 4,673          | 3,651          | 3,480          | 3,629          |
| Oleates                                | 0              | 0              | 0              | 0              | 0              |
| Golden Seedless                        | 11,084         | 12,384         | 11,263         | 11,539         | 11,699         |
| Zante Currants                         | 1,403          | 1,244          | 1,535          | 1,536          | 1,382          |
| Sultanas                               | 32             | 181            | 42             | 56             | 52             |
| Muscats                                | 6              | 4              | 5              | 2              | 0              |
| Monukkas                               | 124            | 208            | 269            | 347            | 126            |
| Other Seedless                         | 4,573          | 3,135          | 4,944          | 4,363          | 5,385          |
| Other Seedl. Sulf.                     | 495            | 555            | 491            | 406            | 422            |
| <b>Total</b>                           | <b>209,186</b> | <b>211,328</b> | <b>215,809</b> | <b>213,658</b> | <b>208,871</b> |
| Five-Yr. Average                       |                |                |                |                | 211,770        |

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

| <i>Export Markets</i> |                |                |                |                |                |
|-----------------------|----------------|----------------|----------------|----------------|----------------|
| Packed Tons           |                |                |                |                |                |
| Varietal Type         | 2005-06        | 2006-07        | 2007-08        | 2008-09        | <b>2009-10</b> |
| Natural Seedless      | 97,672         | 101,684        | 142,541        | 125,789        | 152,246        |
| Dipped Seedless       | 8              | 0              | 0              | 0              | 19             |
| Oleate Seedless       | 0              | 0              | 0              | 0              | 0              |
| Golden Seedless       | 3,625          | 3,037          | 4,823          | 5,217          | 4,858          |
| Zante Currants        | 792            | 875            | 2,881          | 1,771          | 781            |
| Sultanas              | 0              | 0              | 0              | 0              | 0              |
| Muscats               | 0              | 0              | 0              | 0              | 0              |
| Monukkas              | 1              | 0              | 1              | 1              | 0              |
| Other Seedless        | 342            | 319            | 771            | 760            | 1097           |
| Other Seedl. Sulf.    | 0              | 0              | 0              | 0              | 21             |
| <b>Total</b>          | <b>102,440</b> | <b>105,915</b> | <b>151,017</b> | <b>133,538</b> | <b>159,022</b> |
| Five-Yr. Average      |                |                |                |                | 130,386        |

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

**(A)** Free Tonnage – After much debate, the Committee’s recommendation on July 24, 2002 was approved by USDA to change the desirable carryout from a rolling average of 3 months to 2 months of prior year’s shipments over the past five years, dropping the high and low figure; or 60,000 tons, whichever is higher, for Natural (sun-dried) Seedless raisins; other varieties stayed at a 2.5-months desirable carry-out calculation. (The rule was published in the Federal Register on August 12, 2002.)

**(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 increased by 26,457 packed tons to 152,246 packed tons during 2009-2010 from 125,789 packed tons in 2008-09.

In an effort to maintain export markets, the Committee continued the Export Replacement Program during the 2009-10 crop year. The Export Replacement Program was a Cash Back Program through September 15, 2010.

The following table shows the shipments of raisins on a packed weight basis for the 2009-2010 crop year into countries which were eligible for reserve pool sales:

| Countries of Destination | Natural Seedless | Golden Seedless | Other        |
|--------------------------|------------------|-----------------|--------------|
| Belgium                  | 2,117            | 19              | 0            |
| Denmark                  | 5,828            | 0               | 0            |
| South Ireland            | 936              | 0               | 0            |
| Finland                  | 1,808            | 0               | 0            |
| France                   | 917              | 0               | 0            |
| Germany                  | 18,056           | 95              | 0            |
| Hong Kong                | 1,612            | 129             | 1            |
| Japan                    | 21,133           | 0               | 846          |
| Korea                    | 3,929            | 6               | 0            |
| Netherlands              | 3,412            | 18              | 4            |
| Norway                   | 3,575            | 0               | 0            |
| Singapore                | 1,419            | 316             | 31           |
| Sweden                   | 6,722            | 0               | 9            |
| Switzerland              | 138              | 0               | 0            |
| Taiwan                   | 5,187            | 157             | 13           |
| United Kingdom           | 31,578           | 145             | 424          |
| Latin America            | 7,851            | 48              | 102          |
| All Other Markets        | 36,028           | 3,925           | 488          |
| <b>TOTAL</b>             | <b>152,246</b>   | <b>4,858</b>    | <b>1,918</b> |

Global raisin consumption in 2010/11 is forecast to decline 8 percent and has weakened over the last few years due to lower availability. Most of the world remaining stock of raisins as of July 31, 2010 was held by the U.S.A and Turkey. The 2011 Turkish production is estimated to be 240,000 metric tons (MT) down from 260,000 last year. Published production and raisin disposition statistics from Afghanistan have increased slightly over prior years. Iran production estimates show an increase from 100,000MT in 2009-10 to 125,000 in 2010-11 or about a 25% increase. The South African 2009 production is at approximately 43,000 MT with an estimate for the 2010-11 crop year to be 48,000 MT. Australia's 2010 production is estimated at 15,000 MT and Chile is estimated at 75,000 MT. Mexican production is estimated at 8,500 tons. China has an estimated production of 120,000 MT.

Source: [www.fas.usda.gov](http://www.fas.usda.gov) •Raisins: World Markets and Trade Report: 2010/11 Forecast Overview

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

**(A)** As announced by the Raisin Bargaining Association on October 8, 2010.

**Probable Prices to be Received by Producers for the 2010-2011 Crop**

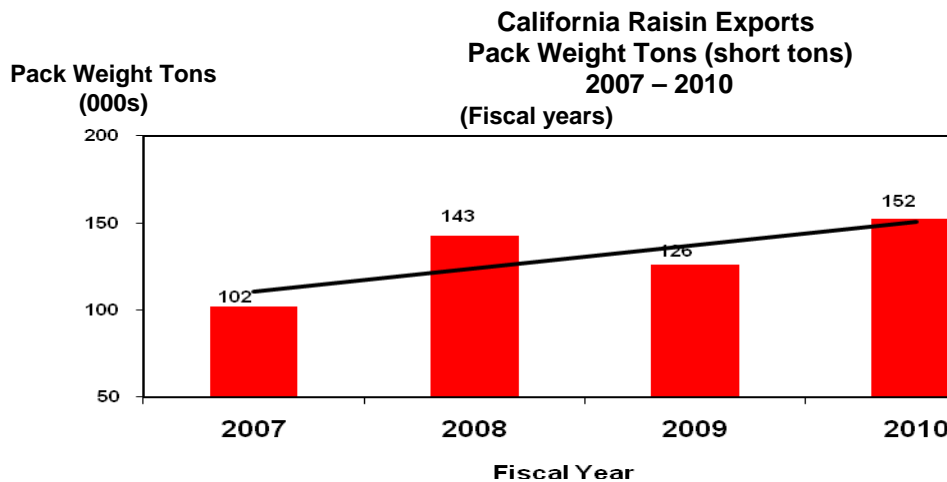
|                      |                    |         |
|----------------------|--------------------|---------|
| Natural Seedless     | \$ <u>1,500.00</u> | Per Ton |
| Dipped Seedless      | \$ _____           | Per Ton |
| Golden Seedless      | \$ _____           | Per Ton |
| Zante Currants       | \$ <u>2,000.00</u> | 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 | \$ _____ | <i>Per Ton</i> |
| Dipped Seedless  | \$ _____ | <i>Per Ton</i> |
| Golden Seedless  | \$ _____ | <i>Per Ton</i> |
| Zante Currants   | \$ _____ | <i>Per Ton</i> |
| Other Seedless   | \$ _____ | <i>Per Ton</i> |

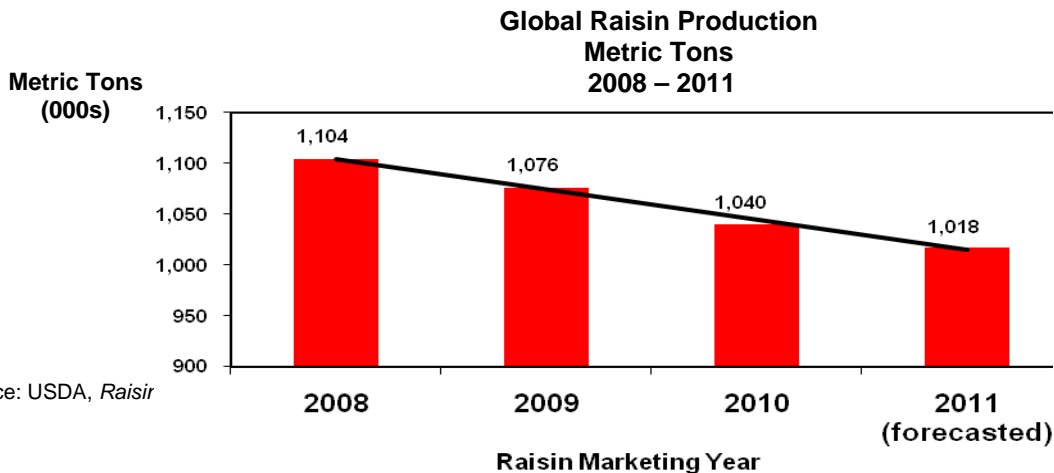
The Raisin Administrative Committee recently held its annual October 5<sup>th</sup> meeting to estimate the size of the 2010 California raisin crop and evaluate overall market conditions. It has been difficult during the past two years for the California raisin industry to maintain support for export markets as RAC inventories of natural seedless raisins have declined. The RAC export replacement offer (ERO) has been in place for many years for the purpose of assisting with orderly marketing of raisins. It has successfully assisted in expanding export sales of California raisins (which are up nearly 50% in four years) and has always been 100% funded by California raisin growers.

In an action by the Committee on October 5, the California raisin industry recommended a 100% free tonnage for the coming year. This also had the practical effect of not establishing an export replacement offer (ERO) for the coming year.



Source: Raisin Administrative Committee. August 2010

World production has declined for various reasons. As a result, world market conditions have been driving raisin prices up during the past months to levels which have not been seen in recent years.



Source: USDA, Raisin

California raisins are the most versatile, nutritious, and economical dried fruit in the world. Over 80% of exported California raisins are used as bulk ingredients in a wide assortment of food products, including bakery, cereal, and confectionary.

**(8) THE TREND AND LEVEL OF CONSUMER INCOME.**

Many have feared that the economy might worsen and enter what is known as a “double-dip” recession; however, the US economy has proven to be more resilient. Those fears have been somewhat relieved by better than expected improvements during July and August economic data showing modest gains in GDP. Moreover, consumer demand looks stronger and should grow enough to offset the winding down of various stimulus programs. What does seem certain is that economic growth will remain sluggish throughout the next year. The pace of growth is only producing modest income gains and is unlikely to spark a resurgence in consumer spending, particularly with unemployment so high (9.6% in August) and state and local government still cutting jobs. (Source: Wells Fargo Economic Group Outlook; September 8, 2010).

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.**

On Tuesday, October 5, in accordance with mandatory provisions of the federal marketing order 989 for raisins produced from grapes grown in California, the Raisin Administrative Committee met and determined a crop estimate for Natural Seedless raisins for the 2010-2011 crop year.

The crop estimate was determined to be 293,272 tons. The calculated trade demand for the 2010-2011 crop year is 297,387 tons and was determined at the Committee’s August 15, 2010 meeting. It is important to note that only 83,207 tons were carried into the 2010 crop year, the lowest such inventory since 1980 (70,145 tons of combined free and reserve tonnage inventory as of 8/1/80). As the demand for Natural Seedless raisins is greater than the estimated crop for the upcoming crop year, the Committee recommended to USDA that Natural Seedless be declared 100% free with no reserve pool.

# Trade Demand

## Raisin Administrative Committee 2010-2011

|                                   | Natural<br>Seedless | Dipped<br>Seedless                 | Golden<br>Seedless | Zante<br>Currants | Sultanas | Muscats   | Monukkas | Other<br>Seedless | Other Sulf.<br>Seedless |
|-----------------------------------|---------------------|------------------------------------|--------------------|-------------------|----------|-----------|----------|-------------------|-------------------------|
| Base Shipments<br>(Packed Tons)   | 338,422             | 3,648                              | 16,557             | 2,163             | 52       | 0         | 126      | 6,482             | 443                     |
| ./. Shrink Factor (5 yr avg)      | 0.95024             | 0.89091                            | 0.89794            | 0.86367           | 0.71255  | (1.27456) | 0.87137  | 0.84779           | 0.89515                 |
| Shrink %                          | 4.976               | 10.909                             | 10.206             | 13.633            | 28.745   | 227.456   | 12.863   | 15.221            | 10.485                  |
| = Base Tonnage<br>(Sweatbox Tons) | 356,144             | 4,095                              | 18,439             | 2,504             | 73       | 0         | 144      | 7,646             | 495                     |
| x 90% Formula                     | 90%                 | 90%                                | 90%                | 90%               | 90%      | 90%       | 90%      | 90%               | 90%                     |
| = Adjusted Base                   | 320,530             | 3,686                              | 16,595             | 2,254             | 66       | 0         | 130      | 6,881             | 446                     |
| Physical Inventory<br>07/31/10    | 83,143              | 2,411                              | 2,710              | 1,024             | 23       | 15        | 138      | 3,369             | 494                     |
| - Desirable Inventory             | 60,000              | 1,035                              | 3,996              | 739               | 0        | (1)       | 35       | 943               | 75                      |
| = ± Inventory Adjustment          | (23,143)            | (1,377)                            | 1,285              | (285)             | (23)     | (15)      | (102)    | (2,426)           | (419)                   |
| = Computed Trade Demand           | 297,387             | 2,309                              | 17,880             | 1,969             | 43       | (15)      | 28       | 4,455             | 27                      |
| 2010/11 Final Trade Demand        | 297,387             | <b>NO TRADE DEMAND ESTABLISHED</b> |                    |                   |          |           |          |                   |                         |

NOTE: Prior Years' Practice sets 500 minimum

RAC - 8/13/2010



## **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.

|                      | <u>05-06</u> | <u>06-07</u> | <u>07-08</u> | <u>08-09</u> | <u>09-10</u> |
|----------------------|--------------|--------------|--------------|--------------|--------------|
| Natural Seedless     | 0.952        | 0.927        | 0.962        | 0.956        | 0.955        |
| Dipped Seedless      | 0.925        | 0.830        | 0.782        | 1.090        | 0.827        |
| Golden Seedless      | 0.859        | 0.917        | 0.893        | 0.895        | 0.926        |
| Zante Currants       | 0.851        | 0.840        | 0.894        | 0.860        | 0.873        |
| Sultanas             | 1.101        | 0.708        | 0.490        | 0.728        | 0.626        |
| Muscats              | 1.000        | 1.020        | 0.572        | 0.124        | -9.089       |
| Monukkas             | 0.907        | 0.911        | 0.796        | 0.922        | 0.821        |
| Other Seedless       | 0.910        | 0.758        | 0.962        | 0.807        | 0.802        |
| Other Seedless Sulf. | 0.714        | 0.500        | 0.750        | 1.599        | 0.913        |

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**Table 1**

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

| Year                    | BEARING ACREAGE |         |        |           | Fresh Grape Production | Yield Per Acre |
|-------------------------|-----------------|---------|--------|-----------|------------------------|----------------|
|                         | Total           | Wine    | Table  | Raisins   |                        |                |
| 2001 *                  | 803,000         | 480,000 | 88,000 | 235,000 * | 5,962,000              | 7.42           |
| 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 +         |
| <b>TEN YEAR AVERAGE</b> |                 |         |        |           |                        |                |
|                         | 808,000         | 482,000 | 84,300 | 241,008   | 6,273,100              |                |
|                         | (8,300)         |         |        | (8,300)   |                        |                |
| ++                      | 799,700         | 482,000 | 84,300 | 232,708   | 6,273,100              | 7.84 +         |

\* Note:

In 2001 41,000 acres had no production - diversion program  
 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 - April 2010 and August 2010

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**

| <b>NON-BEARING ACREAGE</b> |              |             |              |                |
|----------------------------|--------------|-------------|--------------|----------------|
| <b>Year</b>                | <b>Total</b> | <b>Wine</b> | <b>Table</b> | <b>Raisins</b> |
| 2000                       | 91,433       | 77,392      | 8,201        | 5,840          |
| 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          |
| <b>TEN YEAR AVERAGE</b>    |              |             |              |                |
|                            | 61,264       | 48,108      | 8,453        | 4,703          |

Source: California Agricultural Statistics Service, Sacramento, California - April 2010

**Table 2**

**California Total Annual Grape Production  
By Varietal Type and Utilization  
2005-2009  
(Fresh Tons)**

| Varietal Type           | 2005-2006 Crop   |               | 2006-2007 Crop   |               | 2007-2008 Crop   |               | 2008-2009 Crop   |               | 2009-2010 Crop   |               |
|-------------------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|
|                         | Tons             | %             | Tons             | %             | Tons             | %             | Tons             | %             | Tons             | %             |
| <b>Raisins</b>          |                  |               |                  |               |                  |               |                  |               |                  |               |
| Dried                   | 1,604,000        | 70.20         | 1,422,000        | 76.41         | 1,593,000        | 74.06         | 1,838,000        | 72.94         | 1,463,000        | 75.92         |
| Crushed                 | 468,000          | 20.48         | 267,000          | 14.35         | 364,000          | 16.92         | 494,000          | 19.60         | 307,000          | 15.93         |
| Canned                  | 0                | 0.00          | 21,000           | 1.13          | 21,000           | 0.98          | 25,000           | 0.99          | 20,000           | 1.04          |
| Fresh Sales             | 213,000          | 9.32          | 151,000          | 8.11          | 173,000          | 8.04          | 163,000          | 6.47          | 137,000          | 7.11          |
| <b>Total Production</b> | <b>2,285,000</b> | <b>32.82</b>  | <b>1,861,000</b> | <b>32.28</b>  | <b>2,151,000</b> | <b>34.53</b>  | <b>2,520,000</b> | <b>38.49</b>  | <b>1,927,000</b> | <b>29.45</b>  |
| <b>Wine</b>             |                  |               |                  |               |                  |               |                  |               |                  |               |
| Crushed                 | 3,756,000        | 98.69         | 3,136,000        | 98.74         | 3,247,000        | 98.78         | 3,015,000        | 98.69         | 3,703,000        | 98.93         |
| Fresh Sales             | 50,000           | 1.31          | 40,000           | 1.26          | 40,000           | 1.22          | 40,000           | 1.31          | 40,000           | 1.07          |
| <b>Total Production</b> | <b>3,806,000</b> | <b>54.66</b>  | <b>3,176,000</b> | <b>55.08</b>  | <b>3,287,000</b> | <b>52.77</b>  | <b>3,055,000</b> | <b>46.66</b>  | <b>3,743,000</b> | <b>57.20</b>  |
| <b>Table</b>            |                  |               |                  |               |                  |               |                  |               |                  |               |
| Dried                   | 41,000           | 4.70          | 29,000           | 3.98          | 28,000           | 3.54          | 35,000           | 3.60          | 34,000           | 3.89          |
| Crushed                 | 106,000          | 12.16         | 86,000           | 11.80         | 63,000           | 7.96          | 165,000          | 16.96         | 85,000           | 9.73          |
| Fresh Sales             | 725,000          | 83.14         | 614,000          | 84.22         | 700,000          | 88.50         | 773,000          | 79.45         | 755,000          | 86.38         |
| <b>Total Production</b> | <b>872,000</b>   | <b>12.52</b>  | <b>729,000</b>   | <b>12.64</b>  | <b>791,000</b>   | <b>12.70</b>  | <b>973,000</b>   | <b>14.86</b>  | <b>874,000</b>   | <b>13.36</b>  |
| <b>Total Grape</b>      |                  |               |                  |               |                  |               |                  |               |                  |               |
| Dried                   | 1,645,000        | 23.62         | 1,451,000        | 25.16         | 1,621,000        | 26.02         | 1,873,000        | 28.60         | 1,497,000        | 22.88         |
| Crushed                 | 4,330,000        | 62.19         | 3,489,000        | 60.51         | 3,674,000        | 58.98         | 3,674,000        | 56.11         | 4,095,000        | 62.58         |
| Canned                  | 0                | 0.00          | 21,000           | 0.36          | 21,000           | 0.34          | 25,000           | 0.38          | 20,000           | 0.31          |
| Fresh Sales             | 988,000          | 14.19         | 805,000          | 13.96         | 913,000          | 14.66         | 976,000          | 14.91         | 932,000          | 14.24         |
| <b>Total Production</b> | <b>6,963,000</b> | <b>100.00</b> | <b>5,766,000</b> | <b>100.00</b> | <b>6,229,000</b> | <b>100.00</b> | <b>6,548,000</b> | <b>100.00</b> | <b>6,544,000</b> | <b>100.00</b> |

Percentages in Relation to Total Annual Production and Type of Production

Source: Agricultural Statistics Board NASS, USDA, Noncitrus Fruits and Nuts - July 2010. Percentages computed by the RAC.

**Table 3**

**Raisin Deliveries By Varietal Types  
2000-2009  
(Sweatbox Tons)**

| Varietal Type         | 2000-01        | 2001-02        | 2002-03        | 2003-04        | 2004-05        | 2005-06        | 2006-07        | 2007-08        | 2008-09        | 2009-10        |
|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Natural Seedless      | 432,616        | 377,328 (a)    | 388,010 (b)    | 296,864 (c)    | 265,262        | 319,126        | 282,999        | 329,288        | 364,268        | 298,532        |
| Dipped Seedless       | 24,441         | 1,750          | 8,907          | 11,933         | 5,839          | 8,044          | 2,456          | 3,225          | 4,845          | 3,827          |
| Oleate Seedless *     | 3,669          | 6,495          | 18,385         | 0              | 0              | 0              | 0              | 0              | 0              | 0              |
| Golden Seedless       | 14,360         | 20,624         | 19,119         | 15,650         | 19,353         | 15,474         | 13,833         | 17,626         | 19,782         | 17,008         |
| Zante Currants        | 4,848          | 4,213          | 4,385          | 3,029          | 3,495          | 3,800          | 2,968          | 3,347          | 2,912          | 2,708          |
| Sultanas              | 139            | 142            | 86             | 84             | 34             | 75             | 216            | 93             | 67             | 63             |
| Muscat                | 51             | 39             | 34             | 20             | 0              | 2              | 7              | 3              | 5              | 8              |
| Monukka               | 910            | 559            | 620            | 336            | 235            | 156            | 364            | 280            | 287            | 155            |
| Other Seedless        | 8,241          | 5,193          | 3,468          | 2,593          | 2,649          | 8,353          | 5,170          | 5,231          | 6,529          | 7,304          |
| Other Seedless, Sulf. | 0              | 0              | 365            | 1,309          | 374            | 412            | 963            | 687            | 521            | 413            |
| <b>TOTALS</b>         | <b>489,275</b> | <b>416,343</b> | <b>443,379</b> | <b>331,818</b> | <b>297,241</b> | <b>355,442</b> | <b>308,976</b> | <b>359,780</b> | <b>399,217</b> | <b>330,018</b> |

(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

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**Table 4**

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

| <i>Country of Destination</i>          | 2008-2009      | 2009-2010      | Percent<br>Gain/Loss<br>(2008-2009=100%) |
|--|----------------|----------------|--|
| <b><i>European Countries</i></b>       |                |                |  |
| Austria                                | 227            | 91             | -60.00%                                  |
| Belgium                                | 1,039          | 2,117          | 103.66%                                  |
| Denmark                                | 5,990          | 5,828          | -2.70%                                   |
| So. Ireland                            | 344            | 936            | 172.59%                                  |
| Finland                                | 1,878          | 1,808          | -3.75%                                   |
| France                                 | 626            | 917            | 46.44%                                   |
| Germany                                | 15,831         | 18,057         | 14.06%                                   |
| Israel                                 | 327            | 516            | 57.67%                                   |
| Italy                                  | 130            | 130            | 0.00%                                    |
| Netherlands                            | 3,175          | 3,412          | 7.47%                                    |
| Norway                                 | 2,687          | 3,575          | 33.06%                                   |
| Spain                                  | 840            | 908            | 8.19%                                    |
| Sweden                                 | 6,040          | 6,722          | 11.31%                                   |
| Switzerland                            | 137            | 138            | 1.34%                                    |
| United Kingdom                         | 24,979         | 31,578         | 26.42%                                   |
| <b>Total European Countries</b>        | <b>64,250</b>  | <b>76,733</b>  | <b>19.43%</b>                            |
| <b><i>Latin American Republics</i></b> |                |                |  |
| Brazil                                 | 354            | 521            | 47.11%                                   |
| Colombia                               | 155            | 272            | 75.17%                                   |
| Costa Rica                             | 178            | 424            | 138.91%                                  |
| Dominican Republic                     | 751            | 732            | -2.48%                                   |
| Ecuador                                | 40             | 43             | 7.41%                                    |
| Mexico                                 | 1,399          | 3,931          | 180.97%                                  |
| Panama                                 | 582            | 576            | -0.92%                                   |
| Puerto Rico                            | 0              | 0              | 0.00%                                    |
| Venezuela                              | 530            | 633            | 19.36%                                   |
| Others                                 | 798            | 719            | -9.96%                                   |
| <b>Total Latin American Republics</b>  | <b>4,787</b>   | <b>7,851</b>   | <b>64.01%</b>                            |
| <b><i>Other Countries</i></b>          |                |                |  |
| Australia                              | 5,760          | 7,051          | 22.41%                                   |
| China                                  | 9,984          | 10,073         | 0.89%                                    |
| Hong Kong                              | 1,678          | 1,612          | -3.95%                                   |
| Iceland                                | 314            | 310            | -1.26%                                   |
| Indonesia                              | 1,089          | 1,185          | 8.88%                                    |
| Japan                                  | 16,010         | 21,133         | 32.00%                                   |
| Korea                                  | 3,561          | 3,929          | 10.34%                                   |
| Malaysia                               | 2,836          | 3,832          | 35.10%                                   |
| New Zealand                            | 1,848          | 1,617          | -12.51%                                  |
| USSR - Russia                          | 109            | 98             | -10.12%                                  |
| Philippines                            | 1,643          | 1,881          | 14.50%                                   |
| Singapore                              | 1,428          | 1,419          | -0.68%                                   |
| Taiwan                                 | 4,537          | 5,187          | 14.33%                                   |
| Thailand                               | 1,562          | 2,078          | 33.05%                                   |
| Others                                 | 4,394          | 6,257          | 42.39%                                   |
| <b>Total Other Countries</b>           | <b>56,752</b>  | <b>67,662</b>  | <b>19.22%</b>                            |
| <b>GRAND TOTAL</b>                     | <b>125,789</b> | <b>152,246</b> | <b>21.03%</b>                            |

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**Table 4 ZC**

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

| <i>Country of Destination</i>          | 2008-2009    | 2009-2010  | Percent<br>Gain/Loss<br>(2008-2009=100%) |
|--|--------------|------------|--|
| <b><i>European Countries</i></b>       |              |            |  |
| Austria                                | 0            | 0          | 0.00%                                    |
| Belgium                                | 0            | 0          | 0.00%                                    |
| Denmark                                | 0            | 0          | 0.00%                                    |
| So. Ireland                            | 0            | 0          | 0.00%                                    |
| Finland                                | 1            | 0          | -100.00%                                 |
| France                                 | 0            | 0          | 0.00%                                    |
| Germany                                | 0            | 0          | 0.00%                                    |
| Israel                                 | 10           | 32         | 205.00%                                  |
| Italy                                  | 0            | 0          | 0.00%                                    |
| Netherlands                            | 11           | 4          | -59.86%                                  |
| Norway                                 | 0            | 0          | 0.00%                                    |
| Spain                                  | 0            | 0          | 0.00%                                    |
| Sweden                                 | 12           | 8          | -29.30%                                  |
| Switzerland                            | 0            | 0          | 0.00%                                    |
| United Kingdom                         | 903          | 29         | -96.79%                                  |
| <b>Total European Countries</b>        | <b>937</b>   | <b>74</b>  | <b>-92.14%</b>                           |
| <b><i>Latin American Republics</i></b> |              |            |  |
| Brazil                                 | 10           | 13         | 33.18%                                   |
| Colombia                               | 0            | 0          | 0.00%                                    |
| Costa Rica                             | 1            | 0          | -100.00%                                 |
| 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%                                    |
| Venezuela                              | 0            | 0          | 0.00%                                    |
| Others                                 | 0            | 18         | 100.00%                                  |
| <b>Total Latin American Republics</b>  | <b>11</b>    | <b>31</b>  | <b>197.25%</b>                           |
| <b><i>Other Countries</i></b>          |              |            |  |
| Australia                              | 59           | 44         | -24.60%                                  |
| China                                  | 143          | 147        | 3.18%                                    |
| Hong Kong                              | 1            | 1          | 0.00%                                    |
| Iceland                                | 0            | 0          | 0.00%                                    |
| Indonesia                              | 43           | 22         | -48.47%                                  |
| Japan                                  | 468          | 395        | -15.62%                                  |
| Korea                                  | 0            | 0          | 0.00%                                    |
| Malaysia                               | 26           | 34         | 29.82%                                   |
| New Zealand                            | 1            | 1          | 0.00%                                    |
| USSR - Russia                          | 0            | 0          | 0.00%                                    |
| Philippines                            | 0            | 0          | 0.00%                                    |
| Singapore                              | 39           | 19         | -49.61%                                  |
| Taiwan                                 | 21           | 13         | -39.29%                                  |
| Thailand                               | 0            | 0          | 0.00%                                    |
| Others                                 | 22           | 0          | -100.00%                                 |
| <b>Total Other Countries</b>           | <b>823</b>   | <b>676</b> | <b>-17.89%</b>                           |
| <b>GRAND TOTAL</b>                     | <b>1,771</b> | <b>781</b> | <b>-55.90%</b>                           |

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**Table 4A**

***Free Tonnage Export Shipments***  
*(Excluding Canada)*  
***Natural Seedless Raisins***  
***2005 - 2009***  
*(Packed Tons)*

|                   | 2005-06 | 2006-07 | 2007-2008 | 2008-2009 | 2009-2010 |
|-------------------|---------|---------|-----------|-----------|-----------|
| <b>August</b>     | 8,983   | 10,257  | 11,109    | 13,778    | 15,767    |
| <b>September</b>  | 10,993  | 9,747   | 10,358    | 14,897    | 19,494    |
| <b>October</b>    | 7,593   | 10,279  | 10,127    | 13,869    | 10,429    |
| <b>November</b>   | 6,551   | 8,411   | 10,442    | 5,456     | 8,087     |
| <b>December</b>   | 8,092   | 8,678   | 10,851    | 8,335     | 11,816    |
| <b>January</b>    | 6,945   | 7,180   | 12,667    | 9,877     | 12,668    |
| <b>February</b>   | 6,527   | 6,278   | 10,416    | 6,502     | 11,088    |
| <b>March</b>      | 7,301   | 7,391   | 10,262    | 8,441     | 12,435    |
| <b>April</b>      | 7,181   | 7,300   | 12,433    | 11,123    | 12,346    |
| <b>May</b>        | 8,442   | 8,127   | 14,109    | 8,882     | 13,664    |
| <b>June</b>       | 9,018   | 8,786   | 14,745    | 12,244    | 11,666    |
| <b>July</b>       | 10,046  | 9,250   | 15,022    | 12,385    | 12,786    |
| <b>TOTAL YEAR</b> | 97,672  | 101,684 | 142,541   | 125,789   | 152,246   |

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**Table 4B**

*Free Tonnage Export Shipments*  
*(Excluding Canada)*  
*Zante Currant Raisins*  
*2005 - 2009*  
*(Packed Tons)*

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|                   | 2005-06 | 2006-07 | 2007-2008 | 2008-2009 | 2009-2010 |
|-------------------|---------|---------|-----------|-----------|-----------|
| <b>August</b>     | 144     | 54      | 130       | 208       | 112       |
| <b>September</b>  | 71      | 82      | 117       | 291       | 39        |
| <b>October</b>    | 30      | 151     | 204       | 214       | 154       |
| <b>November</b>   | 75      | 81      | 150       | 270       | 70        |
| <b>December</b>   | 85      | 55      | 327       | 58        | 73        |
| <b>January</b>    | 59      | 84      | 151       | 40        | 42        |
| <b>February</b>   | 53      | 92      | 460       | 234       | 49        |
| <b>March</b>      | 57      | 40      | 188       | 45        | 48        |
| <b>April</b>      | 48      | 53      | 250       | 162       | 50        |
| <b>May</b>        | 47      | 60      | 309       | 96        | 42        |
| <b>June</b>       | 79      | 40      | 317       | 63        | 45        |
| <b>July</b>       | 44      | 83      | 278       | 90        | 57        |
| <b>TOTAL YEAR</b> | 792     | 875     | 2,881     | 1,771     | 781       |

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**Table 5****Free Tonnage Shipments To Domestic And Canadian Markets***(Including Government)***Natural Seedless Raisins****2005 - 2009***(Packed Tons)*

|                   | 2005-2006      |            | 2006-2007      |            | 2007-2008      |            | 2008-2009      |            | 2009-2010      |            |
|-------------------|----------------|------------|----------------|------------|----------------|------------|----------------|------------|----------------|------------|
|                   | Tons           | %          | Tons           | %          | Tons           | %          | Tons           | %          | Tons           | %          |
| <b>August</b>     |                |            |                |            |                |            |                |            |                |            |
| Packed            | 6,918          | 37         | 6,762          | 40         | 6,713          | 38         | 5,479          | 35         | 5,701          | 39         |
| Bulk              | 11,855         | 63         | 10,229         | 60         | 11,092         | 62         | 10,274         | 65         | 8,737          | 61         |
| <b>TOTAL</b>      | <b>18,773</b>  | <b>100</b> | <b>16,991</b>  | <b>100</b> | <b>17,805</b>  | <b>100</b> | <b>15,753</b>  | <b>100</b> | <b>14,438</b>  | <b>100</b> |
| <b>September</b>  |                |            |                |            |                |            |                |            |                |            |
| Packed            | 5,805          | 34         | 6,455          | 40         | 5,318          | 36         | 5,887          | 37         | 6,823          | 39         |
| Bulk              | 11,372         | 66         | 9,759          | 60         | 9,618          | 64         | 9,844          | 63         | 10,591         | 61         |
| <b>TOTAL</b>      | <b>17,177</b>  | <b>100</b> | <b>16,214</b>  | <b>100</b> | <b>14,936</b>  | <b>100</b> | <b>15,731</b>  | <b>100</b> | <b>17,414</b>  | <b>100</b> |
| <b>October</b>    |                |            |                |            |                |            |                |            |                |            |
| Packed            | 6,435          | 37         | 7,748          | 41         | 7,699          | 41         | 7,035          | 38         | 6,937          | 41         |
| Bulk              | 11,165         | 63         | 11,194         | 59         | 11,219         | 59         | 11,614         | 62         | 10,012         | 59         |
| <b>TOTAL</b>      | <b>17,600</b>  | <b>100</b> | <b>18,942</b>  | <b>100</b> | <b>18,918</b>  | <b>100</b> | <b>18,649</b>  | <b>100</b> | <b>16,949</b>  | <b>100</b> |
| <b>November</b>   |                |            |                |            |                |            |                |            |                |            |
| Packed            | 6,301          | 36         | 6,926          | 43         | 7,388          | 44         | 6,208          | 39         | 7,944          | 45         |
| Bulk              | 11,021         | 64         | 9,140          | 57         | 9,438          | 56         | 9,661          | 61         | 9,869          | 55         |
| <b>TOTAL</b>      | <b>17,322</b>  | <b>100</b> | <b>16,066</b>  | <b>100</b> | <b>16,826</b>  | <b>100</b> | <b>15,869</b>  | <b>100</b> | <b>17,813</b>  | <b>100</b> |
| <b>December</b>   |                |            |                |            |                |            |                |            |                |            |
| Packed            | 5,439          | 38         | 5,162          | 38         | 5,485          | 42         | 6,602          | 44         | 6,235          | 42         |
| Bulk              | 8,815          | 62         | 8,523          | 62         | 7,632          | 58         | 8,437          | 56         | 8,755          | 58         |
| <b>TOTAL</b>      | <b>14,254</b>  | <b>100</b> | <b>13,685</b>  | <b>100</b> | <b>13,117</b>  | <b>100</b> | <b>15,039</b>  | <b>100</b> | <b>14,990</b>  | <b>100</b> |
| <b>January</b>    |                |            |                |            |                |            |                |            |                |            |
| Packed            | 4,643          | 32         | 5,041          | 33         | 6,433          | 37         | 5,328          | 33         | 5,774          | 40         |
| Bulk              | 9,859          | 68         | 10,095         | 67         | 10,722         | 63         | 10,716         | 67         | 8,814          | 60         |
| <b>TOTAL</b>      | <b>14,502</b>  | <b>100</b> | <b>15,136</b>  | <b>100</b> | <b>17,155</b>  | <b>100</b> | <b>16,044</b>  | <b>100</b> | <b>14,588</b>  | <b>100</b> |
| <b>February</b>   |                |            |                |            |                |            |                |            |                |            |
| Packed            | 5,001          | 35         | 5,464          | 37         | 6,256          | 38         | 5,914          | 41         | 4,021          | 29         |
| Bulk              | 9,439          | 65         | 9,125          | 63         | 10,368         | 62         | 8,473          | 59         | 9,818          | 71         |
| <b>TOTAL</b>      | <b>14,440</b>  | <b>100</b> | <b>14,589</b>  | <b>100</b> | <b>16,624</b>  | <b>100</b> | <b>14,387</b>  | <b>100</b> | <b>13,839</b>  | <b>100</b> |
| <b>March</b>      |                |            |                |            |                |            |                |            |                |            |
| Packed            | 5,769          | 34         | 6,510          | 39         | 6,114          | 38         | 5,854          | 35         | 6,472          | 37         |
| Bulk              | 11,297         | 66         | 10,343         | 61         | 9,983          | 62         | 11,017         | 65         | 10,807         | 63         |
| <b>TOTAL</b>      | <b>17,066</b>  | <b>100</b> | <b>16,853</b>  | <b>100</b> | <b>16,097</b>  | <b>100</b> | <b>16,871</b>  | <b>100</b> | <b>17,279</b>  | <b>100</b> |
| <b>April</b>      |                |            |                |            |                |            |                |            |                |            |
| Packed            | 4,991          | 33         | 5,376          | 34         | 5,971          | 37         | 5,687          | 36         | 5,862          | 36         |
| Bulk              | 9,923          | 67         | 10,383         | 66         | 9,965          | 63         | 10,225         | 64         | 10,235         | 64         |
| <b>TOTAL</b>      | <b>14,914</b>  | <b>100</b> | <b>15,759</b>  | <b>100</b> | <b>15,936</b>  | <b>100</b> | <b>15,912</b>  | <b>100</b> | <b>16,097</b>  | <b>100</b> |
| <b>May</b>        |                |            |                |            |                |            |                |            |                |            |
| Packed            | 5,446          | 41         | 5,895          | 36         | 5,448          | 36         | 5,558          | 36         | 4,673          | 34         |
| Bulk              | 7,885          | 59         | 10,553         | 64         | 9,718          | 64         | 9,837          | 64         | 9,197          | 66         |
| <b>TOTAL</b>      | <b>13,331</b>  | <b>100</b> | <b>16,448</b>  | <b>100</b> | <b>15,166</b>  | <b>100</b> | <b>15,395</b>  | <b>100</b> | <b>13,870</b>  | <b>100</b> |
| <b>June</b>       |                |            |                |            |                |            |                |            |                |            |
| Packed            | 5,822          | 36         | 4,140          | 33         | 4,973          | 36         | 5,775          | 34         | 4,691          | 32         |
| Bulk              | 10,243         | 64         | 8,311          | 67         | 8,967          | 64         | 11,070         | 66         | 10,081         | 68         |
| <b>TOTAL</b>      | <b>16,065</b>  | <b>100</b> | <b>12,451</b>  | <b>100</b> | <b>13,940</b>  | <b>100</b> | <b>16,845</b>  | <b>100</b> | <b>14,772</b>  | <b>100</b> |
| <b>July</b>       |                |            |                |            |                |            |                |            |                |            |
| Packed            | 4,992          | 46         | 5,468          | 35         | 6,036          | 35         | 5,731          | 37         | 5,092          | 36         |
| Bulk              | 5,922          | 54         | 10,342         | 65         | 11,053         | 65         | 9,703          | 63         | 9,035          | 64         |
| <b>TOTAL</b>      | <b>10,914</b>  | <b>100</b> | <b>15,810</b>  | <b>100</b> | <b>17,089</b>  | <b>100</b> | <b>15,434</b>  | <b>100</b> | <b>14,127</b>  | <b>100</b> |
| <b>TOTAL YEAR</b> |                |            |                |            |                |            |                |            |                |            |
| Packed            | 67,562         | 36         | 70,947         | 38         | 73,834         | 38         | 71,058         | 37         | 70,225         | 38         |
| Bulk              | 118,796        | 64         | 117,997        | 62         | 119,775        | 62         | 120,871        | 63         | 115,951        | 62         |
| <b>TOTAL</b>      | <b>186,358</b> | <b>100</b> | <b>188,944</b> | <b>100</b> | <b>193,609</b> | <b>100</b> | <b>191,929</b> | <b>100</b> | <b>186,176</b> | <b>100</b> |

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**Table 6**

**Free Tonnage Shipments To All Market Outlets  
2002 - 2009  
(Sweatbox Tons)**

| Variety                              | 2002-03        | 2003-04        | 2004-05        | 2005-06        | 2006-07        | 2007-08        | 2008-09        | 2009-10        |
|--------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>Natural Seedless</b>              |                |                |                |                |                |                |                |                |
| Domestic & Canada                    | 189,160        | 191,376        | 205,002        | 195,822        | 203,889        | 201,355        | 200,775        | 194,879        |
| Export Free                          | 108,480        | 112,860        | 112,996        | 102,632        | 109,727        | 148,243        | 131,587        | 159,363        |
| <b>Total</b>                         | <b>297,640</b> | <b>304,236</b> | <b>317,998</b> | <b>298,454</b> | <b>313,616</b> | <b>349,598</b> | <b>332,361</b> | <b>354,242</b> |
| <b>Dipped Seedless</b>               |                |                |                |                |                |                |                |                |
| Domestic & Canada                    | 9,414          | 14,408         | 6,584          | 5,527          | 5,628          | 4,668          | 3,192          | 4,389          |
| Export Free                          | 2              | 27             | 0              | 8              | 0              | 0              | 0              | 23             |
| <b>Total</b>                         | <b>9,416</b>   | <b>14,435</b>  | <b>6,584</b>   | <b>5,534</b>   | <b>5,628</b>   | <b>4,668</b>   | <b>3,192</b>   | <b>4,412</b>   |
| <b>Oleate &amp; Related Seedless</b> |                |                |                |                |                |                |                |                |
| Domestic & Canada                    | 6,959          | 0              | 0              | 0              | 0              | 0              | 0              | 0              |
| Export Free                          | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              |
| <b>Total</b>                         | <b>6,959</b>   | <b>0</b>       | <b>0</b>       | <b>0</b>       | <b>0</b>       | <b>0</b>       | <b>0</b>       | <b>0</b>       |
| <b>Golden Seedless</b>               |                |                |                |                |                |                |                |                |
| Domestic & Canada                    | 13,759         | 12,851         | 12,319         | 12,897         | 13,505         | 12,620         | 12,899         | 12,632         |
| Export Free                          | 6,179          | 5,335          | 4,128          | 4,218          | 3,312          | 5,404          | 5,832          | 5,245          |
| <b>Total</b>                         | <b>19,938</b>  | <b>18,186</b>  | <b>16,447</b>  | <b>17,115</b>  | <b>16,817</b>  | <b>18,024</b>  | <b>18,731</b>  | <b>17,877</b>  |
| <b>Zante Currants</b>                |                |                |                |                |                |                |                |                |
| Domestic & Canada                    | 2,225          | 1,856          | 1,920          | 1,648          | 1,481          | 1,717          | 1,786          | 1,583          |
| Export Free                          | 2,875          | 1,370          | 883            | 931            | 1,041          | 3,222          | 2,060          | 895            |
| <b>Total</b>                         | <b>5,100</b>   | <b>3,226</b>   | <b>2,803</b>   | <b>2,579</b>   | <b>2,522</b>   | <b>4,939</b>   | <b>3,846</b>   | <b>2,478</b>   |
| <b>Sultanas</b>                      |                |                |                |                |                |                |                |                |
| Domestic & Canada                    | 152            | 63             | 25             | 32             | 255            | 85             | 78             | 83             |
| <b>Total</b>                         | <b>152</b>     | <b>63</b>      | <b>25</b>      | <b>32</b>      | <b>255</b>     | <b>85</b>      | <b>78</b>      | <b>83</b>      |
| <b>Muscats</b>                       |                |                |                |                |                |                |                |                |
| Domestic & Canada                    | 9              | 4              | 12             | 6              | 4              | 9              | 14             | 0              |
| Export Free                          | 1              | 0              | 0              | 0              | 0              | 0              | 0              | 0              |
| <b>Total</b>                         | <b>10</b>      | <b>4</b>       | <b>12</b>      | <b>6</b>       | <b>4</b>       | <b>9</b>       | <b>14</b>      | <b>0</b>       |
| <b>Monukka Type</b>                  |                |                |                |                |                |                |                |                |
| Domestic & Canada                    | 669            | 503            | 424            | 137            | 228            | 338            | 376            | 153            |
| Export Free                          | 0              | 0              | 0              | 1              | 0              | 1              | 1              | 0              |
| <b>Total</b>                         | <b>669</b>     | <b>503</b>     | <b>424</b>     | <b>138</b>     | <b>228</b>     | <b>339</b>     | <b>377</b>     | <b>153</b>     |
| <b>Other Seedless</b>                |                |                |                |                |                |                |                |                |
| Domestic & Canada                    | 3,861          | 3,676          | 1,808          | 5,023          | 4,135          | 5,141          | 5,408          | 6,716          |
| Export Free                          | 463            | 1,334          | 880            | 375            | 421            | 802            | 942            | 1,367          |
| <b>Total</b>                         | <b>4,324</b>   | <b>5,010</b>   | <b>2,688</b>   | <b>5,398</b>   | <b>4,556</b>   | <b>5,943</b>   | <b>6,350</b>   | <b>8,083</b>   |
| <b>Other Seedless Sulfured</b>       |                |                |                |                |                |                |                |                |
| Domestic & Canada *                  | 357            | 698            | 243            | 693            | 1,110          | 655            | 254            | 462            |
| Export Free                          | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 23             |
| <b>Total</b>                         | <b>357</b>     | <b>698</b>     | <b>243</b>     | <b>693</b>     | <b>1,110</b>   | <b>655</b>     | <b>254</b>     | <b>485</b>     |
| <b>TOTAL ALL VARIETIES</b>           | <b>344,565</b> | <b>346,361</b> | <b>347,224</b> | <b>329,950</b> | <b>344,736</b> | <b>384,260</b> | <b>365,203</b> | <b>387,813</b> |
| Government Reserve - Nat'ls          | 11,037         | 19,270         | 165            | 0              | 982            | 0              | 0              | 0              |
| Government Reserve - Zantes          | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              |

\*For statistical reporting purposes the shrinkage for Golden Seedless was used in 2002/03.

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**Table 6A**

**Free Tonnage Shipments To All Market Outlets  
2002 - 2009  
(Packed Tons)**

| Variety                              | 2002-03        | 2003-04        | 2004-05        | 2005-06        | 2006-07        | 2007-08        | 2008-09        | 2009-10        |
|--------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>Natural Seedless</b>              |                |                |                |                |                |                |                |                |
| Domestic & Canada                    | 177,054        | 180,085        | 193,680        | 186,358        | 188,944        | 193,609        | 191,929        | 186,176        |
| Export Free                          | 101,537        | 106,201        | 106,755        | 97,672         | 101,684        | 142,541        | 125,789        | 152,246        |
| <b>Total</b>                         | <b>278,591</b> | <b>286,286</b> | <b>300,435</b> | <b>284,030</b> | <b>290,628</b> | <b>336,150</b> | <b>317,718</b> | <b>338,422</b> |
| <b>Dipped Seedless</b>               |                |                |                |                |                |                |                |                |
| Domestic & Canada                    | 10,327         | 10,316         | 5,337          | 5,111          | 4,673          | 3,651          | 3,480          | 3,629          |
| Export Free                          | 2              | 19             | 0              | 8              | 0              | 0              | 0              | 19             |
| <b>Total</b>                         | <b>10,329</b>  | <b>10,335</b>  | <b>5,337</b>   | <b>5,119</b>   | <b>4,673</b>   | <b>3,651</b>   | <b>3,480</b>   | <b>3,648</b>   |
| <b>Oleate &amp; Related Seedless</b> |                |                |                |                |                |                |                |                |
| Domestic & Canada                    | 7,669          | 0              | 0              | 0              | 0              | 0              | 0              | 0              |
| Export Free                          | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              |
| <b>Total</b>                         | <b>7,669</b>   | <b>0</b>       | <b>0</b>       | <b>0</b>       | <b>0</b>       | <b>0</b>       | <b>0</b>       | <b>0</b>       |
| <b>Golden Seedless</b>               |                |                |                |                |                |                |                |                |
| Domestic & Canada                    | 11,929         | 11,604         | 11,242         | 11,084         | 12,384         | 11,263         | 11,539         | 11,699         |
| Export Free                          | 5,357          | 4,818          | 3,767          | 3,625          | 3,037          | 4,823          | 5,217          | 4,858          |
| <b>Total</b>                         | <b>17,286</b>  | <b>16,422</b>  | <b>15,009</b>  | <b>14,709</b>  | <b>15,421</b>  | <b>16,086</b>  | <b>16,756</b>  | <b>16,557</b>  |
| <b>Zante Currants</b>                |                |                |                |                |                |                |                |                |
| Domestic & Canada                    | 2,049          | 1,663          | 1,692          | 1,403          | 1,244          | 1,535          | 1,536          | 1,382          |
| Export Free                          | 2,648          | 1,227          | 778            | 792            | 875            | 2,881          | 1,771          | 781            |
| <b>Total</b>                         | <b>4,697</b>   | <b>2,890</b>   | <b>2,470</b>   | <b>2,195</b>   | <b>2,119</b>   | <b>4,416</b>   | <b>3,307</b>   | <b>2,163</b>   |
| <b>Sultanas</b>                      |                |                |                |                |                |                |                |                |
| Domestic & Canada                    | 86             | 18             | 7              | 32             | 181            | 42             | 56             | 52             |
| <b>Total</b>                         | <b>86</b>      | <b>18</b>      | <b>7</b>       | <b>32</b>      | <b>181</b>     | <b>42</b>      | <b>56</b>      | <b>52</b>      |
| <b>Muscats</b>                       |                |                |                |                |                |                |                |                |
| Domestic & Canada                    | 9              | 3              | 10             | 6              | 4              | 5              | 2              | 0              |
| Export Free                          | 1              | 0              | 0              | 0              | 0              | 0              | 0              | 0              |
| <b>Total</b>                         | <b>10</b>      | <b>3</b>       | <b>10</b>      | <b>6</b>       | <b>4</b>       | <b>5</b>       | <b>2</b>       | <b>0</b>       |
| <b>Monukka Type</b>                  |                |                |                |                |                |                |                |                |
| Domestic & Canada                    | 307            | 400            | 400            | 124            | 208            | 269            | 347            | 126            |
| Export Free                          | 0              | 0              | 0              | 1              | 0              | 1              | 1              | 0              |
| <b>Total</b>                         | <b>307</b>     | <b>400</b>     | <b>400</b>     | <b>125</b>     | <b>208</b>     | <b>270</b>     | <b>348</b>     | <b>126</b>     |
| <b>Other Seedless</b>                |                |                |                |                |                |                |                |                |
| Domestic & Canada                    | 3,491          | 2,603          | 1,303          | 4,573          | 3,135          | 4,944          | 4,363          | 5,386          |
| Export Free                          | 418            | 944            | 634            | 342            | 319            | 771            | 760            | 1,096          |
| <b>Total</b>                         | <b>3,909</b>   | <b>3,547</b>   | <b>1,937</b>   | <b>4,915</b>   | <b>3,454</b>   | <b>5,715</b>   | <b>5,123</b>   | <b>6,482</b>   |
| <b>Other Seedless Sulfured</b>       |                |                |                |                |                |                |                |                |
| Domestic & Canada                    | 310            | 399            | 167            | 495            | 555            | 491            | 406            | 422            |
| Export Free                          | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 21             |
| <b>Total</b>                         | <b>310</b>     | <b>399</b>     | <b>167</b>     | <b>495</b>     | <b>555</b>     | <b>491</b>     | <b>406</b>     | <b>443</b>     |
| <b>TOTAL ALL VARIETIES</b>           | <b>323,194</b> | <b>320,300</b> | <b>325,772</b> | <b>311,626</b> | <b>317,243</b> | <b>366,826</b> | <b>347,196</b> | <b>367,893</b> |
| Government Reserve - Nat'l's         | 10,348         | 18,078         | 154            | 0              | 923            | 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  
1994 - 2009  
(Packed Tons)**

| Crop Year               | Aug       | Sep      | Oct       | Nov       | Dec    | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Total   |
|-------------------------|-----------|----------|-----------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| 1994-95                 | 18,182    | 19,627   | 18,334    | 17,067    | 14,947 | 13,252 | 13,773 | 20,846 | 13,833 | 13,990 | 14,115 | 10,607 | 188,573 |
| 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 |
| <b>TEN YEAR AVERAGE</b> | 16,011    | 15,521   | 17,616    | 15,803    | 15,052 | 15,770 | 14,206 | 16,207 | 15,394 | 14,177 | 14,175 | 14,727 | 184,657 |

\* 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  
2000 - 2009  
(Sweatbox Tons)**

|  | 2000-01        | 2001-02            | 2002-03            | 2003-04            | 2004-05        | 2005-06        | 2006-07        | 2007-08        | 2008-09        | 2009-10        |
|--|----------------|--------------------|--------------------|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>Natural Seedless Total Deliveries</b> | <b>432,616</b> | <b>377,328 (a)</b> | <b>388,010 (a)</b> | <b>296,864 (a)</b> | <b>265,262</b> | <b>319,126</b> | <b>282,999</b> | <b>329,288</b> | <b>364,268</b> | <b>298,532</b> |
| <b>Free Tonnage Purchased</b>            | <b>229,287</b> | <b>237,716</b>     | <b>205,668</b>     | <b>207,818</b>     | <b>265,262</b> | <b>263,287</b> | <b>254,703</b> | <b>279,895</b> | <b>316,913</b> | <b>253,752</b> |
| <b>Reserve Tonnage Purchased (b)</b>     | <b>84,867</b>  | <b>76,827</b>      | <b>76,146</b>      | <b>61,186</b>      | <b>72,789</b>  | <b>31,975</b>  | <b>52,689</b>  | <b>69,604</b>  | <b>35,844</b>  | <b>56,798</b>  |
| <b>Total Tonnage Purchased</b>           | <b>314,154</b> | <b>314,543</b>     | <b>281,814</b>     | <b>269,004</b>     | <b>338,051</b> | <b>295,262</b> | <b>307,392</b> | <b>349,499</b> | <b>352,757</b> | <b>310,550</b> |
| <b>Packers' August 1 Carryin (c)</b>     | <b>97,109</b>  | <b>116,131</b>     | <b>132,135</b>     | <b>129,345</b>     | <b>95,003</b>  | <b>114,792</b> | <b>111,444</b> | <b>105,430</b> | <b>106,249</b> | <b>126,824</b> |
| <b>Total Disposable Tonnage</b>          | <b>411,263</b> | <b>430,674</b>     | <b>413,949</b>     | <b>398,349</b>     | <b>433,054</b> | <b>410,054</b> | <b>418,836</b> | <b>454,929</b> | <b>459,006</b> | <b>437,374</b> |
| <b>Commercial Shipments</b>              | <b>295,027</b> | <b>298,633</b>     | <b>297,640</b>     | <b>304,236</b>     | <b>317,998</b> | <b>298,454</b> | <b>313,616</b> | <b>349,598</b> | <b>332,362</b> | <b>354,242</b> |
| <b>July 31 Carryout (calculated)</b>     | <b>116,236</b> | <b>132,041</b>     | <b>116,309</b>     | <b>94,113</b>      | <b>115,056</b> | <b>111,600</b> | <b>105,220</b> | <b>105,331</b> | <b>126,645</b> | <b>83,132</b>  |

(a) Includes Diversion Tonnage

(b) Export and 10+10

(c) Packers' Carryin Inventory Report

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**Table 9**

**SUPPLY AND DISPOSITION  
NATURAL SEEDLESS RAISINS  
2000-2009  
(Sweatbox Tons)**

|                                      | 2000-01        | 2001-02        | 2002-03        | 2003-04        | 2004-05        | 2005-2006      | 2006-2007      | 2007-2008      | 2008-2009      | 2009-2010      |
|--------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>Total Disposable Free Tonnage</b> | <b>411,263</b> | <b>430,674</b> | <b>413,949</b> | <b>398,349</b> | <b>433,054</b> | <b>410,054</b> | <b>418,836</b> | <b>454,929</b> | <b>459,006</b> | <b>437,374</b> |
| <b>Disposition</b>                   |                |                |                |                |                |                |                |                |                |                |
| Domestic & Canada                    | 185,429        | 186,361        | 189,160        | 191,376        | 205,002        | 195,822        | 203,889        | 201,355        | 200,775        | 194,879        |
| Export Free                          | 109,598        | 112,272        | 108,480        | 112,860        | 112,996        | 102,632        | 109,727        | 148,243        | 131,587        | 159,363        |
| Total Disposition                    | 295,027        | 298,633        | 297,640        | 304,236        | 317,998        | 298,454        | 313,616        | 349,598        | 332,362        | 354,242        |
| Carryout (Calculated)                | 116,236        | 132,041        | 116,309        | 94,113         | 115,056        | 111,600        | 105,220        | 105,331        | 126,644        | 83,132         |
| <b>Reserve Tonnage</b>               |                |                |                |                |                |                |                |                |                |                |
| <b>Total Available Supply</b>        | <b>244,724</b> | <b>292,799</b> | <b>287,067</b> | <b>221,951</b> | <b>101,358</b> | <b>82,096</b>  | <b>77,783</b>  | <b>70,257</b>  | <b>48,002</b>  | <b>56,934</b>  |
| Released for Export*                 | 62,776         | 72,827         | 19,349         | 0              | 0              | 0              | 0              | 0              | 25,438         | 11,604         |
| Other Disposition                    | 181,948        | 219,972        | 267,718        | 221,951        | 101,358        | 82,096         | 77,783         | 70,257         | 22,564         | 45,330         |
| <b>Exports</b>                       |                |                |                |                |                |                |                |                |                |                |
| Free Tonnage                         | 109,598        | 112,272        | 108,480        | 112,860        | 112,996        | 102,632        | 109,727        | 148,243        | 131,587        | 159,363        |
| Reserve Shipments                    | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              |
| Total Exports                        | 109,598        | 112,272        | 108,480        | 112,860        | 112,996        | 102,632        | 109,727        | 148,243        | 131,587        | 159,363        |

\* Raisin-Back

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**Table 10**

**Supply And Disposition Of Reserve Pool Tonnage  
Natural Seedless Raisins  
2002-2009  
(Sweatbox Tons)**

|                              | 2002-2003<br>Crop Year | 2003-2004<br>Crop Year | 2004-2005<br>Crop Year | 2005-2006<br>Crop Year | 2006-2007<br>Crop Year | 2007-2008<br>Crop Year | 2008-2009<br>Crop Year | 2009-2010<br>Crop Year |
|------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| <b>SUPPLY</b>                |                        |                        |                        |                        |                        |                        |                        |                        |
| Reserve Tonnage              | 182,342                | 89,046                 | 0                      | 55,839                 | 28,297                 | 49,393                 | 47,355                 | 44,780                 |
| Carry In From Previous Year  | 104,725                | 132,905                | 101,358                | 26,257                 | 49,486                 | 20,864                 | 647                    | 12,154                 |
| <b>Total Reserve Supply</b>  | <b>287,067</b>         | <b>221,951</b>         | <b>101,358</b>         | <b>82,096</b>          | <b>77,783</b>          | <b>70,257</b>          | <b>48,002</b>          | <b>56,934</b>          |
| <b>DISPOSITION</b>           |                        |                        |                        |                        |                        |                        |                        |                        |
| 10 & 10**                    | 56,797                 | 61,186                 | 72,789                 | 31,975                 | 52,689                 | 69,604                 | 10,406                 | 45,194                 |
| Export*                      | 19,349                 | 0                      | 0                      | 0                      | 0                      | 0                      | 25,438                 | 11,604                 |
| Raisin Diversion Program     | 50,840                 | 15,299                 | 0                      | 0                      | 0                      | 0                      | 0                      | 0                      |
| Government                   | 11,037                 | 19,270                 | 165                    | 0                      | 982                    | 0                      | 0                      | 0                      |
| Non-Normal Outlets           | 15,102                 | 23,000                 | 0                      | 0                      | 0                      | 0                      | 0                      | 0                      |
| Distillation                 | 0                      | 0                      | 0                      | 0                      | 0                      | 0                      | 0                      | 0                      |
| Donations                    | 1,037                  | 1,838                  | 1,853                  | 635                    | 1,139                  | 6                      | 4                      | 15                     |
| Miscellaneous                | 0                      | 0                      | 294                    | 0                      | 2,109                  | 0                      | 0                      | 50                     |
| Carry Out To Subsequent Year | 132,905                | 101,358                | 26,257                 | 49,486                 | 20,864                 | 647                    | 12,154                 | 71                     |
| <b>Total Disposition</b>     | <b>287,067</b>         | <b>221,951</b>         | <b>101,358</b>         | <b>82,096</b>          | <b>77,783</b>          | <b>70,257</b>          | <b>48,002</b>          | <b>56,934</b>          |

\*\* Includes all Reserve for Free Usage Sales

\* Raisin-Back

RAC - September 2010

**Table 11**

**Supply And Disposition Of Reserve Pool Tonnage  
Natural Seedless Raisins  
2009-2010 Crop Year  
(Sweatbox Tons)**

| <b>SUPPLY</b>  |                         |
|--|-------------------------|
| Reserve Tonnage<br>(based on total deliveries of: 298,532) | 44,780                  |
| Carry In From Previous Crop Year                           | <u>12,154</u>           |
| <b>Total Reserve Supply</b>                                | <b>56,934</b>           |
| <b>DISPOSITION</b>   |                         |
| 10 & 10  | 45,189                  |
| 67(j)  | 5                       |
| Export*  | 11,604                  |
| Raisin Diversion Program                                   | 0                       |
| Government/Food Aid  | 0                       |
| Non-Normal Outlets   | 0                       |
| Exemption/Loss   | 50                      |
| Donations  | <u>15</u>               |
| <b>Total Disposition</b>                                   | <b><u>56,863</u></b>    |
| Carry Out To Subsequent Crop Year                          | <b><u><u>71</u></u></b> |

\* Raisin-Back

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**Table 12**

**Reserve Pool Percentages  
Natural Seedless Raisins  
1995-2009**

| Crop Year | Preliminary Percentages |         | Secretary Established |         | Date Established | Basis for Pool Payments |         |
|-----------|-------------------------|---------|-----------------------|---------|------------------|-------------------------|---------|
|           | Free                    | Reserve | Free                  | Reserve |                  | Free                    | Reserve |
| 1995-96   | 65                      | 35      | 79                    | 21      | 07/15/96         | 79                      | 21      |
| 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      |

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**Table 13**

**Comparison Of Packer Acquisitions By Week  
Natural Seedless Raisins  
2005-2009  
(Sweatbox Tons)**

| Week of Delivery                | 2005-2006 | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 |         |
|---------------------------------|-----------|-----------|-----------|-----------|-----------|---------|
| 1                               | 21        | 672       |           | 9,858     | 0         |         |
| 2                               | 0         | 5,442     |           | 63        | 0         |         |
| 3                               | 0         | 105       | 60        | 0         | 0         |         |
| 4                               | 0         | 820       | 0         | 5         | 47        |         |
| <b>Comparative 4 Week Total</b> |           | 21        | 7,039     | 60        | 9,926     | 47      |
| 5                               | 4         | 173       | 101       | 604       | 90        |         |
| 6                               | 389       | 613       | 932       | 873       | 2,506     |         |
| 7                               | 890       | 3,760     | 2,993     | 3,769     | 5,368     |         |
| 8                               | 3,071     | 13,251    | 8,280     | 9,837     | 9,815     |         |
| 9                               | 7,838     | 22,229    | 13,266    | 13,417    | 22,195    |         |
| <b>Comparative 5 Week Total</b> |           | 12,192    | 40,026    | 25,572    | 28,500    | 39,974  |
| 10                              | 14,496    | 23,167    | 22,181    | 18,962    | 38,094    |         |
| 11                              | 18,324    | 32,391    | 24,766    | 24,319    | 29,239    |         |
| 12                              | 23,591    | 25,798    | 32,053    | 42,918    | 32,437    |         |
| 13                              | 24,063    | 26,524    | 32,825    | 28,560    | 29,838    |         |
| <b>Comparative 4 Week Total</b> |           | 80,474    | 107,880   | 111,825   | 114,759   | 129,608 |
| 14                              | 24,014    | 21,549    | 28,623    | 30,100    | 24,054    |         |
| 15                              | 22,670    | 20,755    | 26,154    | 25,770    | 25,535    |         |
| 16                              | 25,146    | 16,196    | 21,650    | 23,219    | 12,521    |         |
| 17                              | 15,376    | 10,301    | 10,763    | 8,962     | 7,559     |         |
| <b>Comparative 4 Week Total</b> |           | 87,206    | 68,801    | 87,190    | 88,051    | 69,669  |
| 18                              | 19,953    | 11,070    | 17,524    | 14,541    | 7,373     |         |
| 19                              | 18,417    | 8,987     | 11,373    | 11,542    | 5,401     |         |
| 20                              | 15,627    | 4,465     | 11,561    | 8,675     | 5,654     |         |
| 21                              | 10,889    | 2,453     | 5,375     | 1,966     | 2,002     |         |
| 22                              | 4,973     | 2,977     | 2,895     | 4,370     | 1,773     |         |
| <b>Comparative 5 Week Total</b> |           | 69,859    | 29,952    | 48,728    | 41,094    | 22,203  |
| 23                              | 6,237     | 1,502     | 4,301     | 7,905     | 5,001     |         |
| 24                              | 9,087     | 2,175     | 7,818     | 11,856    | 4,455     |         |
| 25                              | 7,296     | 1,484     | 3,048     | 3,110     | 1,800     |         |
| 26                              | 4,474     | 2,179     | 3,970     | 4,633     | 2,015     |         |
| <b>Comparative 4 Week Total</b> |           | 27,094    | 7,340     | 19,137    | 27,504    | 13,271  |
| 27                              | 4,112     | 1,438     | 3,052     | 3,666     | 2,534     |         |
| 28                              | 4,095     | 1,189     | 3,322     | 5,166     | 2,500     |         |
| 29                              | 3,069     | (145)     | 3,618     | 2,131     | 2,594     |         |
| 30                              | 2,984     | 1,726     | 2,282     | 2,473     | 1,191     |         |
| <b>Comparative 4 Week Total</b> |           | 14,260    | 4,208     | 12,274    | 13,436    | 8,819   |

**Table 13**

**Comparison Of Packer Acquisitions By Week  
Natural Seedless Raisins  
2005-2009  
(Sweatbox Tons)**

Page 2 of 2

| Week of Delivery                | 2005-2006      | 2006-2007      | 2007-2008      | 2008-2009      | 2009-2010      |
|---------------------------------|----------------|----------------|----------------|----------------|----------------|
| 31                              | 2,645          | 1,626          | 2,700          | 6,046          | 1,716          |
| 32                              | 1,678          | 767            | 1,587          | 2,126          | 1,833          |
| 33                              | 2,097          | 1,116          | 2,170          | 1,378          | 2,257          |
| 34                              | 1,943          | 1,346          | 823            | 8,329          | 1,813          |
| <b>Comparative 4 Week Total</b> | <b>8,363</b>   | <b>4,855</b>   | <b>7,280</b>   | <b>17,879</b>  | <b>7,619</b>   |
| 35                              | 1,550          | 486            | 561            | 988            | 1,373          |
| 36                              | 752            | 476            | 1,407          | 203            | 419            |
| 37                              | 522            | 589            | 1,785          | 735            | 769            |
| 38                              | 4,479          | 940            | 1,712          | 2,141          | 913            |
| 39                              | 747            | 1,011          | 388            | 1,605          | 307            |
| <b>Comparative 5 Week Total</b> | <b>8,050</b>   | <b>3,502</b>   | <b>5,853</b>   | <b>5,672</b>   | <b>3,781</b>   |
| 40                              | 375            | 613            | 1,927          | 1,530          | 258            |
| 41                              | 733            | 143            | 1,510          | 769            | 1,201          |
| 42                              | 439            | 802            | 1,101          | 946            | 743            |
| 43                              | 480            | 756            | 986            | 1,129          | 275            |
| <b>Comparative 4 Week Total</b> | <b>2,027</b>   | <b>2,314</b>   | <b>5,524</b>   | <b>4,374</b>   | <b>2,477</b>   |
| 44                              | 212            | 175            | 566            | 463            | 230            |
| 45                              | 60             | 2,068          | 993            | 300            | 634            |
| 46                              | 149            | 1,204          | 495            | 376            | (25)           |
| 47                              | 166            | 1,616          | 791            | 478            | 48             |
| <b>Comparative 4 Week Total</b> | <b>587</b>     | <b>5,063</b>   | <b>2,845</b>   | <b>1,617</b>   | <b>887</b>     |
| 48                              | 886            | 776            | 665            | 943            | 143            |
| 49                              | 508            | 437            | 387            | 1,736          | 0              |
| 50                              | 356            | 119            | 613            | 1,845          | 2              |
| 51                              | 1,115          | 505            | 558            | 3,114          | 5              |
| 52                              | 6,129          | 182            | 778            | 3,818          | 27             |
| <b>Comparative 5 Week Total</b> | <b>8,994</b>   | <b>2,019</b>   | <b>3,001</b>   | <b>11,456</b>  | <b>177</b>     |
| <b>YEARLY TOTAL</b>             | <b>319,126</b> | <b>282,999</b> | <b>329,288</b> | <b>364,268</b> | <b>298,532</b> |

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**Table 14**

**Free Tonnage Supply And Demand Situation  
Natural Seedless Raisins  
1995-2009  
(Sweatbox Tons)**

| Crop Year | S U P P L Y |              |              |         |                        |                   | S H I P M E N T S   |               |                   |                   |
|-----------|-------------|--------------|--------------|---------|------------------------|-------------------|---------------------|---------------|-------------------|-------------------|
|           | Acquired    | Percent Free | Free Tonnage | Carryin | Purchased From Reserve | Total Free Supply | Canada and Domestic | Export (Free) | Total Disposition | Computed Carryout |
| 1995-96   | 325,911     | 79.0         | 257,470      | 105,294 | 67,251                 | 430,015           | 198,517             | 116,653       | 315,170           | 114,845           |
| 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            |

**TEN YEAR AVERAGE**

|         |        |         |         |        |         |         |         |         |         |
|---------|--------|---------|---------|--------|---------|---------|---------|---------|---------|
| 335,429 | 75.0 * | 251,430 | 113,446 | 61,872 | 426,749 | 195,405 | 120,776 | 316,181 | 110,568 |
|---------|--------|---------|---------|--------|---------|---------|---------|---------|---------|

\* Percentage is a weighted average

\*\* Adjusted for exempt tonnage

\*\*\*Includes Government Free

**Table 15**

**Calculated Free Tonnage Disappearance  
Natural Seedless Raisins  
2000-2009  
(Sweatbox Tons)**

| <b>Crop Year</b> | <b>Reported Beginning Physical Inventory</b> | <b>Free Tonnage</b> | <b>Reported Ending Physical Inventory</b> | <b>Free Tonnage Disappearance</b> | <b>Handler Reported Shipments (Packed Tons)</b> | <b>Calculated Shrink (a)</b> |
|------------------|--|---------------------|---|-----------------------------------|---|------------------------------|
| 2000-01          | 97,109                                       | 314,154             | 116,131                                   | 295,132                           | 277,030   | 6.13%                        |
| 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%                        |

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



**Table 16**

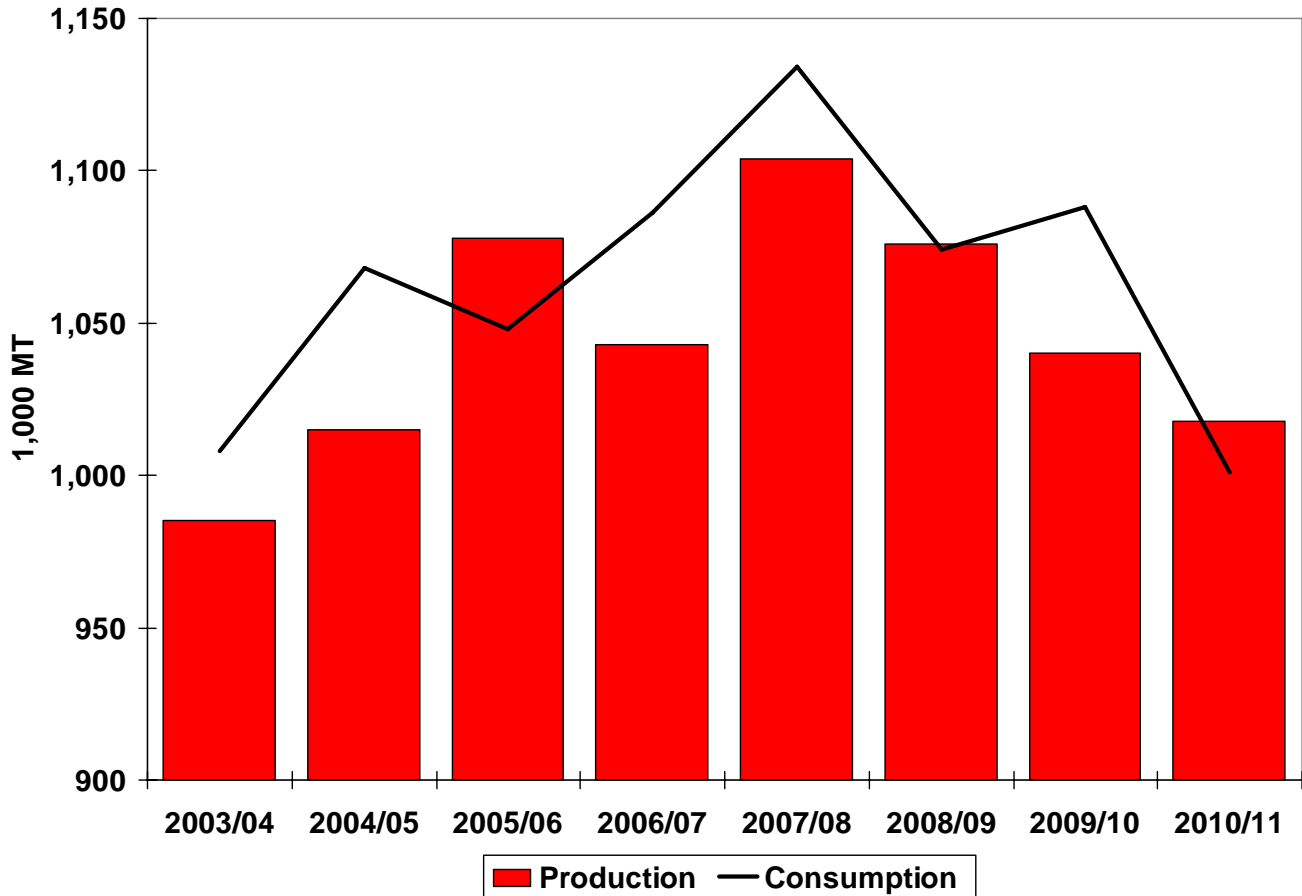
**Natural Seedless Raisins Diversion Program  
Historical Data  
1999-2009**

| <b>RDP Year</b>                               | <b>Number of<br/>Certificates Issued</b> | <b>Number of<br/>Acres</b> | <b>Number of<br/>Pounds</b> | <b>Average<br/>Tons/Acre</b> |
|---|--|----------------------------|-----------------------------|------------------------------|
| <b><u>Combined--Diverted and Removed:</u></b> |  |                            |                             |                              |
| 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                            |
| 1999  | 0  | 0                          | 0                           | 0                            |
|   |  | 73,048.40                  | 310,431,322                 | 2.12                         |
| <b><u>Diverted:</u></b>                       |  |                            |                             |                              |
| 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                         |
| 1999  | 0  | 0                          | 0                           | 0.00                         |
|   |  | 56,401.00                  | 245,891,306                 | 2.18                         |
| <b><u>Removed:</u></b>                        |  |                            |                             |                              |
| 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                         |
| 1999  | 0  | 0                          | 0                           | 0.00                         |
|   |  | 16,647.40                  | 64,540,016                  | 1.94                         |



# Raisins: World Markets and Trade

## Falling Global Production Pulls Consumption Lower



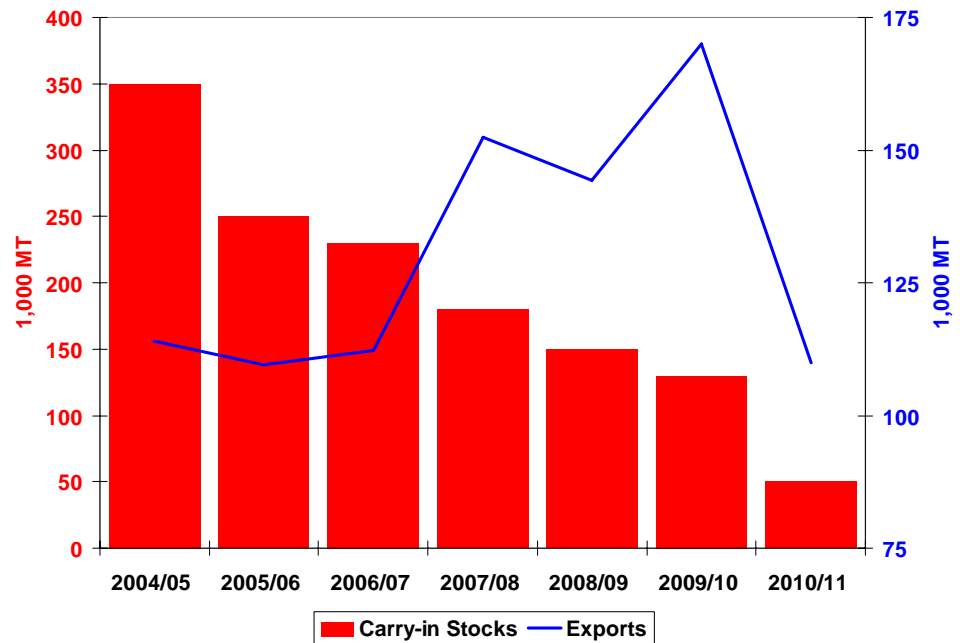
Global raisin consumption in 2010/11 is forecast to decline 8 percent to 1.0 million metric tons (MT) and has weakened over the last few years due to lower availability. The EU-27 consumes nearly one-third of the world's raisins and accounts for most of the decline due to tight supplies from Turkey and the United States.

Global production is forecast lower, the third year of contraction. The United States is forecast 5 percent lower due in part to mildew problems from cool, wet weather early in the summer. Also, the crop was over two weeks behind normal which is expected to increase the drying ratio and lower production. Turkey is forecast down 8 percent due to a frost in March as well as heavy rains that limited the use of agricultural inputs such as plant protection chemicals. China is forecast 20 percent lower due to damage from a strong windstorm in Turpin, the primary growing region. Partially offsetting these losses, Iran and Chile are forecast up 25 percent and 12 percent, respectively.

Global exports are forecast down 6 percent to 660,000 MT as losses from the United States, Turkey and China more than offset stronger exports from Iran and Chile.

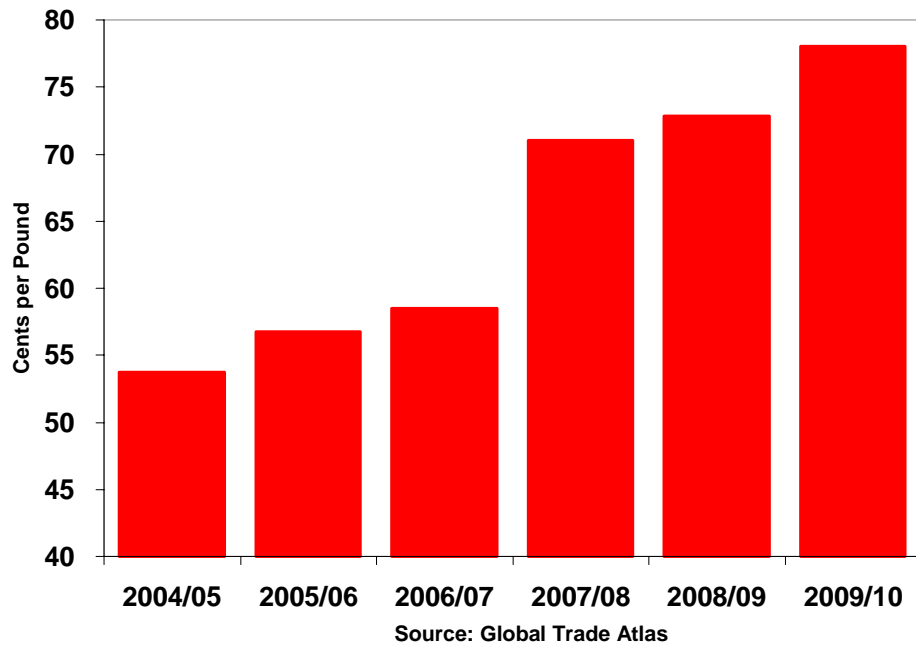
U.S. raisin exports are forecast to plunge 35 percent to 110,000 MT due primarily to low carry-in stocks. Exports were exceptionally strong the previous three years as high inventory levels were drawn down to supply overseas markets. With inventory levels tightening, exports are forecast to return to the pre-2007/08 level. As a result, exports to the EU-27, Japan and Canada are expected to decline.

### U.S. Exports Plunge as Carry-in Stocks Dwindle



Global import unit values are likely to continue rising as a result of less available supplies.

### Global Import Unit Values Continue to Rise



For further information, please contact Tony Halstead at 202-690-2313, or send an email to [Tony.Halstead@fas.usda.gov](mailto:Tony.Halstead@fas.usda.gov)

For additional production, supply, and demand information, you may visit our website at <http://www.fas.usda.gov/psdonline/psdHome.aspx>.

**Raisin Production and Exports**  
**Metric Tons (Dry Weight Basis)**

|                   | 2005/06          | 2006/07          | 2007/08          | 2008/09          | 2009/10          | Sep<br>2010/11   |
|-------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| <b>Production</b> |                  |                  |                  |                  |                  |                  |
| Afghanistan       | 31,000           | 20,000           | 25,000           | 25,300           | 29,000           | 32,000           |
| Argentina         | 25,000           | 36,000           | 33,000           | 30,000           | 36,000           | 37,000           |
| Australia         | 30,400           | 15,000           | 12,000           | 16,000           | 14,000           | 15,000           |
| Chile             | 65,500           | 61,500           | 67,350           | 80,000           | 67,000           | 75,000           |
| China             | 105,000          | 125,000          | 150,000          | 135,000          | 150,000          | 120,000          |
| EU-27             | 30,000           | 20,000           | 10,000           | 10,000           | 12,000           | 10,000           |
| Iran              | 155,000          | 130,000          | 150,000          | 60,000           | 100,000          | 125,000          |
| Mexico            | 8,200            | 8,500            | 8,500            | 8,500            | 8,300            | 8,500            |
| South Africa      | 36,000           | 41,800           | 40,200           | 28,000           | 43,000           | 45,000           |
| Turkey            | 250,000          | 280,000          | 250,000          | 310,000          | 260,000          | 240,000          |
| United States     | 316,245          | 274,877          | 321,143          | 347,452          | 294,835          | 280,000          |
| Uzbekistan        | 26,000           | 30,000           | 37,000           | 25,700           | 26,000           | 30,000           |
| <b>Total</b>      | <b>1,078,345</b> | <b>1,042,677</b> | <b>1,104,193</b> | <b>1,075,952</b> | <b>1,040,135</b> | <b>1,017,500</b> |
| <b>Exports</b>    |                  |                  |                  |                  |                  |                  |
| Afghanistan       | 25,100           | 15,500           | 21,000           | 21,300           | 25,000           | 28,000           |
| Argentina         | 19,100           | 28,900           | 23,950           | 22,200           | 28,100           | 29,000           |
| Australia         | 7,650            | 5,700            | 4,150            | 4,500            | 3,000            | 3,000            |
| Chile             | 59,400           | 61,300           | 65,600           | 78,300           | 65,000           | 73,000           |
| China             | 18,063           | 23,621           | 31,874           | 27,500           | 48,000           | 35,000           |
| EU-27             | 8,700            | 8,625            | 7,450            | 7,600            | 9,000            | 9,000            |
| Iran              | 123,000          | 103,000          | 117,000          | 40,000           | 78,000           | 100,000          |
| Mexico            | 3,014            | 1,967            | 3,200            | 2,800            | 2,400            | 2,500            |
| South Africa      | 23,600           | 33,830           | 38,800           | 23,200           | 40,000           | 40,500           |
| Turkey            | 209,200          | 263,800          | 205,900          | 274,900          | 214,000          | 205,000          |
| United States     | 109,500          | 112,220          | 152,385          | 144,295          | 170,000          | 110,000          |
| Uzbekistan        | 20,600           | 24,000           | 29,700           | 21,100           | 21,700           | 25,000           |
| <b>Total</b>      | <b>626,927</b>   | <b>682,463</b>   | <b>701,009</b>   | <b>667,695</b>   | <b>704,200</b>   | <b>660,000</b>   |

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.

## Raisin Imports and Consumption

Metric Tons (Dry Weight Basis)

|                             | 2005/06          | 2006/07          | 2007/08          | 2008/09          | 2009/10          | Sep<br>2010/11   |
|-----------------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| <b>Imports</b>              |                  |                  |                  |                  |                  |                  |
| Afghanistan                 | 0                | 0                | 0                | 0                | 0                | 0                |
| Algeria                     | 6,600            | 7,650            | 7,900            | 9,000            | 7,300            | 6,800            |
| Argentina                   | 0                | 0                | 0                | 0                | 0                | 0                |
| Australia                   | 11,600           | 27,475           | 26,850           | 26,600           | 26,800           | 25,000           |
| Brazil                      | 17,150           | 19,175           | 22,700           | 19,500           | 27,000           | 25,000           |
| Canada                      | 34,000           | 32,800           | 32,500           | 31,300           | 29,300           | 27,000           |
| Chile                       | 1,350            | 300              | 300              | 200              | 600              | 300              |
| China                       | 10,391           | 12,262           | 13,600           | 11,300           | 13,300           | 13,000           |
| Colombia                    | 5,200            | 5,750            | 5,950            | 6,000            | 6,500            | 6,000            |
| EU-27                       | 319,150          | 331,600          | 349,900          | 325,000          | 340,500          | 315,000          |
| India                       | 8,650            | 6,900            | 8,900            | 9,200            | 10,000           | 9,000            |
| Iran                        | 0                | 0                | 0                | 0                | 0                | 0                |
| Japan                       | 28,950           | 31,850           | 32,300           | 27,300           | 29,300           | 27,000           |
| Malaysia                    | 4,950            | 5,200            | 5,025            | 5,950            | 6,775            | 6,300            |
| Mexico                      | 11,690           | 14,342           | 13,100           | 15,500           | 16,100           | 15,000           |
| Morocco                     | 4,850            | 6,500            | 5,500            | 7,500            | 7,400            | 7,000            |
| New Zealand                 | 6,900            | 7,925            | 8,000            | 7,400            | 7,800            | 7,400            |
| Norway                      | 4,000            | 4,600            | 4,600            | 4,500            | 4,700            | 4,400            |
| Peru                        | 4,975            | 5,625            | 5,625            | 6,425            | 6,500            | 6,000            |
| Russia                      | 62,600           | 70,325           | 70,500           | 64,500           | 72,400           | 68,000           |
| South Africa                | 700              | 300              | 100              | 1,100            | 2,300            | 2,000            |
| Switzerland                 | 4,000            | 4,000            | 4,800            | 4,200            | 4,000            | 3,700            |
| Taiwan                      | 5,400            | 5,850            | 6,325            | 6,375            | 7,500            | 7,000            |
| Turkey                      | 1,000            | 1,000            | 1,000            | 2,100            | 2,000            | 1,800            |
| Ukraine                     | 15,475           | 19,725           | 20,100           | 16,000           | 17,800           | 16,500           |
| United States               | 21,614           | 28,868           | 21,625           | 19,300           | 20,000           | 25,000           |
| Uzbekistan                  | 0                | 0                | 0                | 0                | 0                | 0                |
| Venezuela                   | 3,600            | 5,100            | 7,400            | 6,000            | 6,200            | 5,800            |
| <b>Total</b>                | <b>594,795</b>   | <b>655,122</b>   | <b>674,600</b>   | <b>632,250</b>   | <b>672,075</b>   | <b>630,000</b>   |
| <b>Domestic Consumption</b> |                  |                  |                  |                  |                  |                  |
| Afghanistan                 | 5,900            | 4,500            | 4,000            | 4,000            | 4,000            | 4,000            |
| Algeria                     | 6,600            | 7,650            | 7,900            | 9,000            | 7,300            | 6,800            |
| Argentina                   | 5,900            | 7,100            | 9,050            | 7,800            | 7,900            | 8,000            |
| Australia                   | 34,350           | 36,775           | 34,700           | 38,100           | 37,800           | 37,000           |
| Brazil                      | 17,150           | 19,175           | 22,700           | 19,500           | 27,000           | 25,000           |
| Canada                      | 34,000           | 32,800           | 32,500           | 31,300           | 29,300           | 27,000           |
| Chile                       | 4,450            | 3,400            | 2,700            | 2,200            | 2,720            | 2,300            |
| China                       | 97,328           | 113,641          | 131,726          | 118,800          | 115,300          | 98,000           |
| Colombia                    | 5,200            | 5,750            | 5,950            | 6,000            | 6,500            | 6,000            |
| EU-27                       | 340,450          | 342,975          | 352,450          | 327,400          | 343,500          | 316,000          |
| India                       | 8,650            | 6,900            | 8,900            | 9,200            | 10,000           | 9,000            |
| Iran                        | 32,000           | 27,000           | 33,000           | 20,000           | 22,000           | 25,000           |
| Japan                       | 28,950           | 31,850           | 32,300           | 27,300           | 29,300           | 27,000           |
| Malaysia                    | 4,950            | 5,200            | 5,025            | 5,950            | 6,775            | 6,300            |
| Mexico                      | 16,876           | 20,875           | 18,400           | 21,200           | 22,000           | 21,000           |
| Morocco                     | 4,850            | 6,500            | 5,500            | 7,500            | 7,400            | 7,000            |
| New Zealand                 | 6,900            | 7,925            | 8,000            | 7,400            | 7,800            | 7,400            |
| Norway                      | 4,000            | 4,600            | 4,600            | 4,500            | 4,700            | 4,400            |
| Peru                        | 4,975            | 5,625            | 5,625            | 6,425            | 6,500            | 6,000            |
| Russia                      | 62,600           | 70,325           | 70,500           | 64,500           | 72,400           | 68,000           |
| South Africa                | 13,750           | 7,520            | 3,500            | 5,900            | 6,800            | 6,700            |
| Switzerland                 | 4,000            | 4,000            | 4,800            | 4,200            | 4,000            | 3,700            |
| Taiwan                      | 5,400            | 5,850            | 6,325            | 6,375            | 7,500            | 7,000            |
| Turkey                      | 26,000           | 36,000           | 69,100           | 50,377           | 46,000           | 40,000           |
| Ukraine                     | 15,475           | 19,725           | 20,100           | 16,000           | 17,800           | 16,500           |
| United States               | 248,359          | 241,525          | 220,383          | 242,457          | 224,835          | 205,000          |
| Uzbekistan                  | 5,400            | 6,000            | 7,300            | 4,600            | 4,300            | 5,000            |
| Venezuela                   | 3,600            | 5,100            | 7,400            | 6,000            | 6,200            | 5,800            |
| <b>Total</b>                | <b>1,048,063</b> | <b>1,086,286</b> | <b>1,134,434</b> | <b>1,073,984</b> | <b>1,087,630</b> | <b>1,000,900</b> |

**Raisin Production, Supply and Distribution**  
Metric Tons (Dry Weight Basis)

| Country Mktg Year  | Beginning Stocks | Production | Imports | Total Supply | Exports | Domestic Consumption | Ending Stocks |
|--------------------|------------------|------------|---------|--------------|---------|----------------------|---------------|
| <b>Afghanistan</b> |                  |            |         |              |         |                      |               |
| 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                | 25,300     | 0       | 25,300       | 21,300  | 4,000                | 0             |
| 2009/10            | 0                | 29,000     | 0       | 29,000       | 25,000  | 4,000                | 0             |
| 2010/11            | 0                | 32,000     | 0       | 32,000       | 28,000  | 4,000                | 0             |
| <b>Algeria</b>     |                  |            |         |              |         |                      |               |
| 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          | 7,300   | 7,300        | 0       | 7,300                | 0             |
| 2010/11            | 0                | 0          | 6,800   | 6,800        | 0       | 6,800                | 0             |
| <b>Argentina</b>   |                  |            |         |              |         |                      |               |
| 2006/07            | 0                | 36,000     | 0       | 36,000       | 28,900  | 7,100                | 0             |
| 2007/08            | 0                | 33,000     | 0       | 33,000       | 23,950  | 9,050                | 0             |
| 2008/09            | 0                | 30,000     | 0       | 30,000       | 22,200  | 7,800                | 0             |
| 2009/10            | 0                | 36,000     | 0       | 36,000       | 28,100  | 7,900                | 0             |
| 2010/11            | 0                | 37,000     | 0       | 37,000       | 29,000  | 8,000                | 0             |
| <b>Australia</b>   |                  |            |         |              |         |                      |               |
| 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     | 26,800  | 40,800       | 3,000   | 37,800               | 0             |
| 2010/11            | 0                | 15,000     | 25,000  | 40,000       | 3,000   | 37,000               | 0             |
| <b>Brazil</b>      |                  |            |         |              |         |                      |               |
| 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          | 25,000  | 25,000       | 0       | 25,000               | 0             |
| <b>Canada</b>      |                  |            |         |              |         |                      |               |
| 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          | 27,000  | 27,000       | 0       | 27,000               | 0             |
| <b>Chile</b>       |                  |            |         |              |         |                      |               |
| 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              | 67,000     | 600     | 67,820       | 65,000  | 2,720                | 100           |
| 2010/11            | 100              | 75,000     | 300     | 75,400       | 73,000  | 2,300                | 100           |
| <b>China</b>       |                  |            |         |              |         |                      |               |
| 2006/07            | 0                | 125,000    | 12,262  | 137,262      | 23,621  | 113,641              | 0             |
| 2007/08            | 0                | 150,000    | 13,600  | 163,600      | 31,874  | 131,726              | 0             |
| 2008/09            | 0                | 135,000    | 11,300  | 146,300      | 27,500  | 118,800              | 0             |
| 2009/10            | 0                | 150,000    | 13,300  | 163,300      | 48,000  | 115,300              | 0             |
| 2010/11            | 0                | 120,000    | 13,000  | 133,000      | 35,000  | 98,000               | 0             |
| <b>Colombia</b>    |                  |            |         |              |         |                      |               |
| 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          | 6,500   | 6,500        | 0       | 6,500                | 0             |
| 2010/11            | 0                | 0          | 6,000   | 6,000        | 0       | 6,000                | 0             |
| <b>EU-27</b>       |                  |            |         |              |         |                      |               |
| 2006/07            | 0                | 20,000     | 331,600 | 351,600      | 8,625   | 342,975              | 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 |
|--------------------|------------------|------------|---------|--------------|---------|----------------------|---------------|
| 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     | 340,500 | 352,500      | 9,000   | 343,500              | 0             |
| 2010/11            | 0                | 10,000     | 315,000 | 325,000      | 9,000   | 316,000              | 0             |
| <b>India</b>       |                  |            |         |              |         |                      |               |
| 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          | 10,000  | 10,000       | 0       | 10,000               | 0             |
| 2010/11            | 0                | 0          | 9,000   | 9,000        | 0       | 9,000                | 0             |
| <b>Iran</b>        |                  |            |         |              |         |                      |               |
| 2006/07            | 0                | 130,000    | 0       | 130,000      | 103,000 | 27,000               | 0             |
| 2007/08            | 0                | 150,000    | 0       | 150,000      | 117,000 | 33,000               | 0             |
| 2008/09            | 0                | 60,000     | 0       | 60,000       | 40,000  | 20,000               | 0             |
| 2009/10            | 0                | 100,000    | 0       | 100,000      | 78,000  | 22,000               | 0             |
| 2010/11            | 0                | 125,000    | 0       | 125,000      | 100,000 | 25,000               | 0             |
| <b>Japan</b>       |                  |            |         |              |         |                      |               |
| 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          | 29,300  | 29,300       | 0       | 29,300               | 0             |
| 2010/11            | 0                | 0          | 27,000  | 27,000       | 0       | 27,000               | 0             |
| <b>Malaysia</b>    |                  |            |         |              |         |                      |               |
| 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          | 6,775   | 6,775        | 0       | 6,775                | 0             |
| 2010/11            | 0                | 0          | 6,300   | 6,300        | 0       | 6,300                | 0             |
| <b>Mexico</b>      |                  |            |         |              |         |                      |               |
| 2006/07            | 0                | 8,500      | 14,342  | 22,842       | 1,967   | 20,875               | 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      | 16,100  | 24,400       | 2,400   | 22,000               | 0             |
| 2010/11            | 0                | 8,500      | 15,000  | 23,500       | 2,500   | 21,000               | 0             |
| <b>Morocco</b>     |                  |            |         |              |         |                      |               |
| 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          | 7,400   | 7,400        | 0       | 7,400                | 0             |
| 2010/11            | 0                | 0          | 7,000   | 7,000        | 0       | 7,000                | 0             |
| <b>New Zealand</b> |                  |            |         |              |         |                      |               |
| 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          | 7,800   | 7,800        | 0       | 7,800                | 0             |
| 2010/11            | 0                | 0          | 7,400   | 7,400        | 0       | 7,400                | 0             |
| <b>Norway</b>      |                  |            |         |              |         |                      |               |
| 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          | 4,400   | 4,400        | 0       | 4,400                | 0             |
| <b>Peru</b>        |                  |            |         |              |         |                      |               |
| 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             |

**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 |
|----------------------|------------------|------------|---------|--------------|---------|----------------------|---------------|
| 2009/10              | 0                | 0          | 6,500   | 6,500        | 0       | 6,500                | 0             |
| 2010/11              | 0                | 0          | 6,000   | 6,000        | 0       | 6,000                | 0             |
| <b>Russia</b>        |                  |            |         |              |         |                      |               |
| 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          | 72,400  | 72,400       | 0       | 72,400               | 0             |
| 2010/11              | 0                | 0          | 68,000  | 68,000       | 0       | 68,000               | 0             |
| <b>South Africa</b>  |                  |            |         |              |         |                      |               |
| 2006/07              | 3,250            | 41,800     | 300     | 45,350       | 33,830  | 7,520                | 4,000         |
| 2007/08              | 4,000            | 40,200     | 100     | 44,300       | 38,800  | 3,500                | 2,000         |
| 2008/09              | 2,000            | 28,000     | 1,100   | 31,100       | 23,200  | 5,900                | 2,000         |
| 2009/10              | 2,000            | 43,000     | 2,300   | 47,300       | 40,000  | 6,800                | 500           |
| 2010/11              | 500              | 45,000     | 2,000   | 47,500       | 40,500  | 6,700                | 300           |
| <b>Switzerland</b>   |                  |            |         |              |         |                      |               |
| 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          | 3,700   | 3,700        | 0       | 3,700                | 0             |
| <b>Taiwan</b>        |                  |            |         |              |         |                      |               |
| 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          | 7,500   | 7,500        | 0       | 7,500                | 0             |
| 2010/11              | 0                | 0          | 7,000   | 7,000        | 0       | 7,000                | 0             |
| <b>Turkey</b>        |                  |            |         |              |         |                      |               |
| 2006/07              | 61,924           | 280,000    | 1,000   | 342,924      | 263,800 | 36,000               | 43,124        |
| 2007/08              | 43,124           | 250,000    | 1,000   | 294,124      | 205,900 | 69,100               | 19,124        |
| 2008/09              | 19,124           | 310,000    | 2,100   | 331,224      | 274,900 | 50,377               | 5,947         |
| 2009/10              | 5,947            | 260,000    | 2,000   | 267,947      | 214,000 | 46,000               | 7,947         |
| 2010/11              | 7,947            | 240,000    | 1,800   | 249,747      | 205,000 | 40,000               | 4,747         |
| <b>Ukraine</b>       |                  |            |         |              |         |                      |               |
| 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          | 17,800  | 17,800       | 0       | 17,800               | 0             |
| 2010/11              | 0                | 0          | 16,500  | 16,500       | 0       | 16,500               | 0             |
| <b>United States</b> |                  |            |         |              |         |                      |               |
| 2006/07              | 230,000          | 274,877    | 28,868  | 533,745      | 112,220 | 241,525              | 180,000       |
| 2007/08              | 180,000          | 321,143    | 21,625  | 522,768      | 152,385 | 220,383              | 150,000       |
| 2008/09              | 150,000          | 347,452    | 19,300  | 516,752      | 144,295 | 242,457              | 130,000       |
| 2009/10              | 130,000          | 294,835    | 20,000  | 444,835      | 170,000 | 224,835              | 50,000        |
| 2010/11              | 50,000           | 280,000    | 25,000  | 355,000      | 110,000 | 205,000              | 40,000        |
| <b>Uzbekistan</b>    |                  |            |         |              |         |                      |               |
| 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             |
| <b>Venezuela</b>     |                  |            |         |              |         |                      |               |
| 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          | 5,800   | 5,800        | 0       | 5,800                | 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 |
|-------------------|------------------|------------|---------|--------------|---------|----------------------|---------------|
| <b>World</b>      |                  |            |         |              |         |                      |               |
| 2006/07           | 299,244          | 1,042,677  | 655,122 | 1,997,043    | 682,463 | 1,086,286            | 228,294       |
| 2007/08           | 228,294          | 1,104,193  | 674,600 | 2,007,087    | 701,009 | 1,134,434            | 171,644       |
| 2008/09           | 171,644          | 1,075,952  | 632,250 | 1,879,846    | 667,695 | 1,073,984            | 138,167       |
| 2009/10           | 138,167          | 1,040,135  | 672,075 | 1,850,377    | 704,200 | 1,087,630            | 58,547        |
| 2010/11           | 58,547           | 1,017,500  | 630,000 | 1,706,047    | 660,000 | 1,000,900            | 45,147        |

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.

## California Raisins Health and Nutrition Research

Updated February 19, 2009

### **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- $\alpha$ ).

#### 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., New York-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

Source: CALIFORNIA RAISIN MARKETING BOARD

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

Source: CALIFORNIA RAISIN MARKETING BOARD

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*

Source: CALIFORNIA RAISIN MARKETING BOARD

*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

Source: CALIFORNIA RAISIN MARKETING BOARD

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.

### **Glycemic Effects, Sustainable Energy and Healthy Snacks**

#### 14. "Glycemic Index in the Management of Type 2 Diabetes Mellitus"

Source: CALIFORNIA RAISIN MARKETING BOARD

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 (m<sup>2</sup>)) 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.

15. "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.

16. "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



Source: CALIFORNIA RAISIN MARKETING BOARD

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.

#### 17. "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% VO<sub>2</sub>max). 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.

#### 18. "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 to 12 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.



## 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 Rootstocks 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

## FUNDED CROP PRODUCTION RESEARCH

### 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

## FUNDED CROP PRODUCTION RESEARCH

### 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 Hildegard 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

# Raisin Administrative Committee

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