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California Winegrape Production

by Dale M. Heien

In 1976 a Paris wine merchant held a blind tasting pitting several California wines against the top French vintages. To the eternal chagrin of the (French) judges, the California wines were voted superior. Lost in the euphoria of the moment was the fact that this event marked the culmination of a long effort to achieve quality winemaking and grape growing in California. With new found pride in international recognition, winemaking and grape growing moved to the forefront in California. Consumers began to take a new interest in wine. This led to increased awareness of wine quality and its accompanying indicators, such as the area where the grapes were grown and which grapes were used to make the wine.

Up to this time, California had been known as a center for generic wine of consistently good quality and reasonable prices. These wines bore uninformative titles such as "Chablis" or "Burgundy", which are simply winegrowing areas of France. They were made from blends of various grapes, which for the white wines were mainly French Colombard and Chenin Blanc. Neither grape is known for strong varietal characteristics.

The groundwork for the "Paris Surprise" was laid by a group of Napa winemakers and wineries. These individuals and their associated wineries had been producing fine, but largely unrecognized, wines for some time. With recognition from the Paris tasting and the leadership of a handful of vintners and winemakers, the California wine boom began. It continues to this day. The new era also brought new titles—Cabernet Sauvignon and Chardonnay, to mention only the most prominent. Wines were named after the grape used to make the particular wine. This is in contrast to European wines which generally bear only the name of the winery. In Europe each winery typically makes only one wine, usually a blend of two

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or three varieties. In California, it is not unusual for a winery to produce several wines, each from a different grape.

In addition to wine grapes, California is also well suited to the cultivation of table and raisin grapes, in particular the Thompson Seedless. The Thompson Seedless can be marketed as a table grape, crushed or dried and sold as raisins. If crushed, it can be used in the production of wine or sold as grape juice concentrate, which is added to soft drinks and confectionery products. The concentrate market has been growing considerably in recent years and now plays an important, albeit fluctuating, role in the California grape economy.

Over the past twenty some years the California wine story has largely been one of a gradual upgrading of consumer tastes. This has led to the observation that Americans now drink 'less, but better'. Wineries have increasingly tied wine consumption to good food such as 'California' or 'Mediterranean' cuisine, travel, and family values. The areas better suited to the production of high-quality wine grapes have experienced rapid growth. Acreage in both the North and Central Coast areas has increased more than ninety percent since 1975, while acreage in the rest of the state has grown slightly more than twenty percent. Changes have occurred in the varieties grown, the areas where grapes are grown, the end uses for grapes, the way they are grown and how the wine is produced and marketed. The chart below gives some indication of these changes:

Area	1972	1997	% Change
Raisin Grapes	240,390	269,576	12.1
Table Grapes	65,830	76,717	16.5
Wine Grapes	137,210	328,882	139.5

It is clear from the chart that while raisin and table grape plantings have increased over these twenty-five years, wine grape plantings have increased much faster. Of more interest is the change in the composition of wine grape varieties grown.

From Table 1 it is clear that there is more concentration in terms of varieties today than in 1972. The top five varieties have 63% of the acreage in 1997 versus 44.5% in 1973. Chardonnay, the top ranking variety in 1997, had only 2.0% of the acreage in 1973. More importantly, due to the expansion in acreage, there is over twenty-five times the acreage in Chardonnay today compared to 1972.

While there are significant changes in the varieties planted and areas where they are grown, an equally impressive story lies in the viticulture techniques employed. In the early seventies, most vineyards were planted in rows ten or twelve feet apart. This prevented disease problems by allowing more air circulation, but had the drawback of wasting a good deal of (then relatively inexpensive) land. Also, large farm machinery, not intended for grape production, was more adaptable to wider rows. Current row spacing is much closer, depending on the trellis configuration. In the past, the trellis was a simple three-wire system: one wire for the irrigation hose; one for the cordon or vine; and the last, 'catch wire' for the foliage. Many vineyards were furrow irrigated and did not use drip irrigation. Today, sophisticated injection systems allow growers to dispense fertilizers through the dripper lines more efficiently and more accurately.

Current trellis systems are more elaborate and more expensive. Especially popular are quadrilateral trellises, where vines are grown up the stake, turned ninety degrees in both directions, and then split again so that they appear to be an 'H' pattern when viewed from above. This, and its many variants, allows more efficient use of expensive land. Also, it has been

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Table 1. Change in Varietal Acreage: 1972-1997

Variety	1972	Variety	1997
Carignane	11.8%	Chardonnay	19.8%
French Colombard	10.0%	French Colombard	13.9%
Zinfandel	9.4%	Zinfandel	12.4%
Grenache	6.9%	Cabernet Sauvignon	10.4%
Barbera	6.4%	Merlot	6.7%
Cabernet Sauvignon	5.3%	Chenin Blanc	6.5%
Chenin Blanc	6.2%	Grenache	3.4%
Ruby Cabernet	5.0%	Barbera	3.3%
Petite Sirah	3.4%	Sauvignon Blanc	3.0%

California Farm-Retail Milk Price Relationships

by Hoy F. Carman

Milk pricing in California is often controversial. Consumer advocates and their organizations periodically charge that retail milk prices are "unfair" or "too high" and call for public intervention in the fluid-milk market. The consumer view is expressed by Consumers Union, which after conducting surveys of retail milk prices in Los Angeles and San Francisco area food stores, charged that large supermarket chains were "gouging" consumers and that this gouging was the primary cause of surging retail milk prices that were leading to an increasing gap between the price per gallon received by farmers and the price paid by consumers. A 1997 Consumers Union press release based on their price surveys observed that:

> *"When the farm price increases even a penny, grocers generally raise the price to consumers quickly and exponentially. When the farm price drops, as it has three times in the past two years, grocers have slowly passed on a fraction of the decrease to their customers. If that historical trend continues, the large gap between the farm price and the price consumers pay will steadily grow."*

Consumers Union used their September 1996 Bay Area milk price survey to call on the California Attorney General to "investigate whether there exists an unspoken agreement on the part of the major Bay Area supermarket chains to set the price of milk." There was an investigation and on July 22, 1997, the Attorney General's office announced that they had "found there is no evidence of an agreement to establish prices among the supermarkets." Questions remain, however, concerning the relationships between farm and retail milk prices and food retailers' pricing methods and practices.

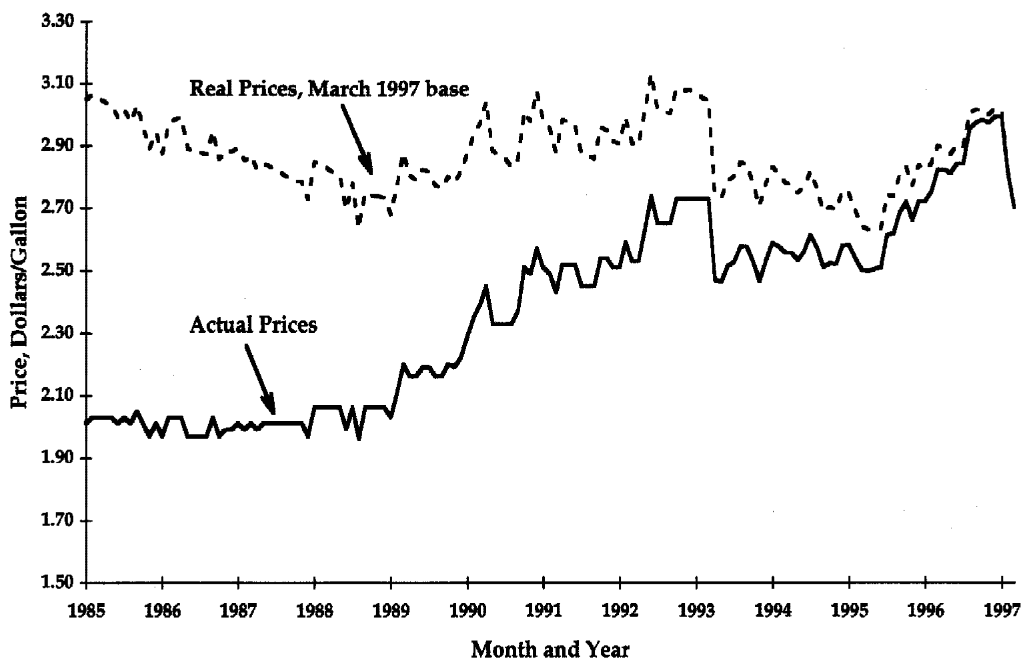
This article examines the relationship between farm-level and retail prices for whole fluid milk in California over time. The focus is on the responsiveness of retail milk prices to both increases and decreases in farm-level prices, with attention to the possible lags involved. The relationship between marketing margins and changes in marketing costs, which are the major determinants of the difference between farm-level and retail prices for food, is also examined.

California Milk Price Data

Farm and retail milk price relationships are analyzed for three major California retail market areas: Los Angeles, San Francisco and Sacramento. Monthly retail milk prices for the period from January 1985 through March 1993 were collected by the California Department of Food and Agriculture (CDFA) during the first week of each month from five stores in Sacramento, four stores in San Francisco and seven stores in Los Angeles. Beginning in April 1993, the Department contracted with A.C. Nielsen to provide the retail price survey data. The Nielsen prices, from Scantrack Reports on Refrigerated Milk, are weighted averages of prices for 4-week periods. California farm prices are monthly minimum producer prices for class 1 milk (delivered at the processing plant) for two production areas (Northern California and Southern California). Producer and retail prices are reported in the *California Dairy Information Bulletin* issued monthly by the Dairy Marketing Branch of CDFA.

Pricing patterns and marketing margin behavior were similar for each region. The behavior of retail milk prices for the Los Angeles market over the period of analysis is illustrated by the data in Figure 1. While retail milk prices tended to be highest in Los Angeles and lowest in Sacramento, the price and margin trends for San Francisco and Sacramento were generally similar to those observed for Los Angeles. As shown, average retail prices varied around $2.00 per gallon from January 1985 through January 1989; average retail prices then began a rather steady upward climb, reaching $2.73 per gallon from October 1992 through March 1993. There was a sharp drop in average retail prices in April 1993 when data collection procedures were changed; average retail prices remained under

Figure 1. Los Angeles Retail Milk Prices, Monthly Actual and Real
January 1985 – March 1997



$2.61 per gallon until July 1995 and then began a steady increase, reaching $2.99 per gallon in December 1996 and January 1997. Average retail prices then decreased to $2.70 per gallon in March 1997. When adjusted for changes in the general level of prices as measured by the Consumer Price Index (March 1997 = 100), the average real retail price of milk per gallon in Los Angeles showed periods of increasing and decreasing price trends, but the real price in March 1997 ($2.70) was well below the real price in January 1985 ($3.05). Data on the actual milk marketing margin (retail price minus producer price) for the Los Angeles market reveal significant variability but with an upward trend over the 12-year period (Figure 2). In real terms, the margin was higher in March 1997 ($1.45) than in January 1985 ($1.23), but it decreased slightly from April 1993 ($1.53) to March 1997 ($1.45), when A.C. Nielsen collected the retail price data.

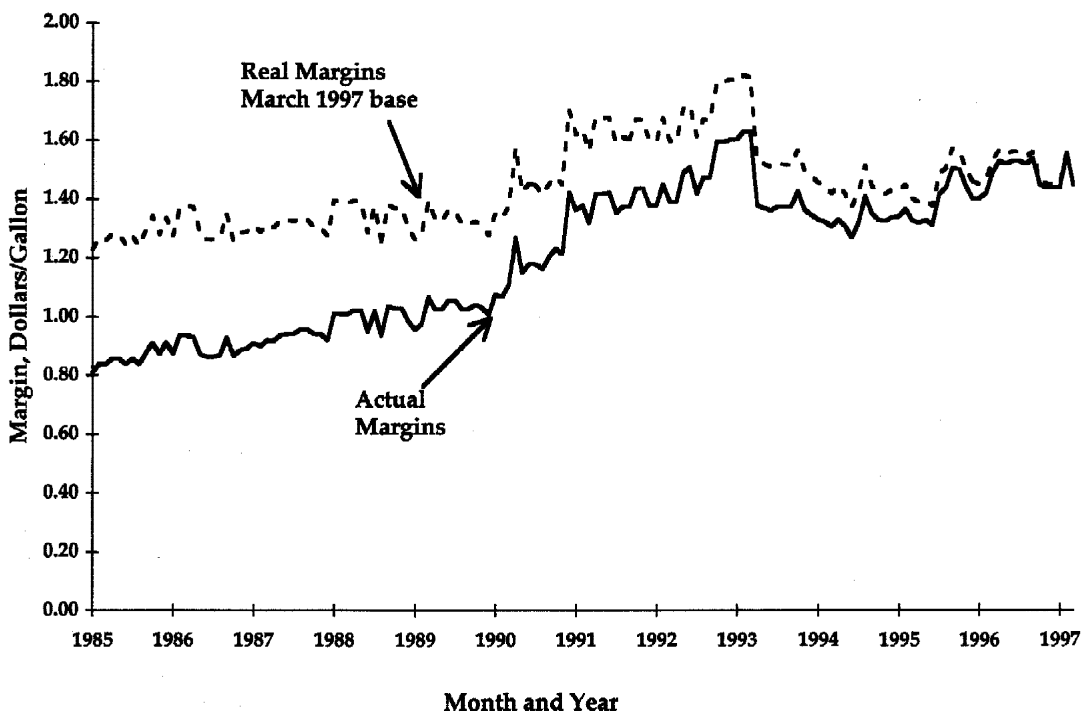
Retail Price Response

CDFA, under provisions of a state marketing order, sets the monthly California farm price for fluid and manufacturing milk. Prices at other levels in the milk marketing channel are established by market forces. As noted, the level and behavior of retail milk prices and milk marketing margins have raised questions about how well the market is functioning.

This study focuses on the behavior of retail milk prices in response to farm price changes. A price-response equation, with average retail prices as a function of farm price increases, farm price decreases and marketing costs, was estimated using monthly observations for each of the three retail markets for the four-year period from April 1993 through March 1997, during which the retail price data were collected by A.C. Nielsen. Even though a much longer data series is available for analysis, the focus is on the most recent period for two reasons. First, the shorter period has a lower probability of structural change and is more representative of current conditions; second, the A.C. Nielsen retail price data are preferred to CDFA-collected retail price data. The variables included in the equation (farm-level prices and marketing costs) explained 96–98% of the variation in retail milk prices for each market.

Statistical test results, each using a 95% confidence level, are as follows. First, the estimated coefficients for farm price increases and farm price decreases are all significantly greater than zero. The positive coefficients for each market indicate that farm and retail prices move together; retail prices increase when farm prices increase and decrease when farm prices decrease. Second, the difference between the coefficients for price increases and price decreases is not statistically significant. This implies that the response of retail milk prices to a one-dollar farm price decrease is similar to the response to a one-dollar farm price increase, leading to the conclusion that retail price changes are symmetric for farm price increases and decreases. Third, the estimated coefficients are not significantly different than one for the Sacramento and San Francisco markets, implying that the marketing margin is constant, with a one-dollar increase or decrease in the farm price resulting in a one-dollar increase or decrease in retail prices in these two markets. In Los Angeles, however, the estimated coefficient for a farm price increase was significantly less than one, while the coefficient for a farm price decrease was not significantly different than one. This indicates that retailers increased retail prices by less than one dollar when farm prices increased one dollar and decreased retail prices one dollar when farm prices decreased one dollar, which results in more stable retail prices and decreased marketing margins. Fourth, there was a positive trend in retail prices in each of the markets but it was significantly greater than zero only in Los Angeles. This indicates that retail milk prices in Los Angeles were increasing over time independent of farm price changes or marketing cost changes. All of the estimated coefficients for the marketing cost variable are also positive, but none was statistically greater than zero. This result was surprising; one expects to find that increased marketing costs increase the margin between farm and retail prices. This lack of statistical significance could be due to the data series used to measure marketing costs. Finally, an analysis of the timing of price changes indicates that there was no lag between farm price increases and retail price increases, with both occurring in the same month. There was, however, a significant one-month lag between farm price decreases and total retail price decreases for each market area. The retail price

Figure 2. Los Angeles Milk Marketing Margins, Monthly Actual and Real January 1985 – March 1997



adjustment process to decreased producer prices, which begins during the month of the price change, requires the following month to be completed.

Conclusions

Data used for this analysis indicate that California's retail price of milk in current dollars has been trending up over time, but they also show that there has been no clear trend in real milk prices (prices adjusted for the effects of inflation). Contrary to the perceptions of many, there is a strong direct relationship between California retail and farm-level milk prices in each market area. Retailers increased their milk prices in response to farm-level price increases and they also reduced prices in response farm-level price decreases. Comparison of the coefficients indicates that there is no statistical difference in the total amount that retail prices increase or decrease in response to a one-dollar producer price increase or decrease. It does, however, take retailers a month longer to fully respond to a farm price decrease than it does to respond to a farm price increase, and this delay can benefit retailers at the expense of consumers.

The cause of this asymmetric timing of retail price adjustments cannot be fully explained. Other economists have observed similar lags for other perishable commodities. Some portion of the observed price behavior could be due to the actions of milk processors and wholesalers in response to farm price changes, but data were not available for these sectors. Lag differences could also be due to the nature of competitive price adjustments in food retailing, or they could result from market power.

One hypothesis holds that the observed price behavior is consistent with supermarket pricing practices for goods, such as milk, that have inelastic demand. With inelastic demand, total revenue increases with a price increase and decreases with a price decrease. Thus, retailers may be much more reluctant to reduce prices than to raise them. This reluctance is especially evident when using gross margin pricing by major department because of the adverse impact of price reductions on gross margins, even for goods with very elastic demand. This can be illustrated with a simple example. Suppose that weekly sales of a produce item that a retailer buys for $10 per carton and sells for $16.67, is 300 cartons. This 40% margin on selling price yields a total gross margin of $2,000 ($5,000 minus $3,000). If the item were placed on sale at $15 per carton (10% off), then sales would have to increase to 400 cartons (33.3%) to maintain the $2,000 total gross margin for the item. Thus, the price elasticity of demand (percentage change in quantity divided by the percentage change in price) would have to be at least -3.33 to maintain the total dollar gross margin.

Retailers may not respond to a price decrease until they observe a decrease in unit sales, or until they become concerned about an actual or possible loss in market share. The observed pricing behavior is also consistent with the use of search costs to explain lagged price changes. Here, each supermarket has possible spatial market power that is limited by consumer search for information on prices. When producer prices increase, supermarkets maintain profit margins by quickly passing the increase on to consumers. When producer prices decrease, however, each retailer can temporarily improve profit margins by slowly reducing prices in response to the consumer search process. As customers gain knowledge of comparative prices and respond, prices (and margins) will be pushed down to a competitive level. Finally, the observed price behavior could be the result of price leadership in markets with a few large participants. Using this explanation, large retailers would wait for their major direct competitors to reduce prices before following, in order to avoid the adverse effects of "price war" behavior on profits.

While there are several possible explanations for the observed relationships between farm and retail fluid-milk prices in California, the specific reasons are not isolated. It does appear, however, that the false perception that California retail milk prices tend to only increase and not respond to producer price decreases is largely due to the one-month lagged delay of retail price decreases in response to farm-price decreases.

For more information

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Odabashian, E. "Got Moo-La? Los Angeles Grocers Continue to Gouge Consumers on Milk." Consumers Union of U.S., Inc., West Coast Reg. Office, June 1997.

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Grading Error in the California Prune Industry

by

James A. Chalfant, Jennifer S. James, Nathalie Lavoie and Richard J. Sexton

Food demand in the U.S. is rather stable. As their incomes rise, most people do not consume more food; rather, they eat better, higher-quality foods. Thus, the quality dimension of the U.S. food industry has become increasingly important. The most successful growers and marketers have been those who are consistently able to provide high-quality products to consumers.

Grading of farm commodities is one way for the food industry to encourage production of high-quality products, since prices will vary according to grade. In the absence of grades, products of various quality levels are pooled and receive a common price based on the average quality. This discourages growers from adopting the costly production practices necessary to increase quality.

Unfortunately, grading is almost never done perfectly. Grading errors can emerge both as a consequence of sampling errors and from imperfect testing. In a recent study, we showed that grading with error can result in the same problems caused by the absence of grades, namely reduced incentive to produce high quality.

California produces nearly all U.S. prunes and about 70% of the world's supply. Size is the main quality criterion for dried prunes and is the crucial characteristic in determining prune value. Official grading is done by the Dried Fruit Association (DFA), for purposes of determining payments to growers, based on a 40-lb. sample collected at the time the prunes are graded by the processor. Prunes are graded by size into one of five categories, A (largest) through D (smallest) and U (undersized), and growers are paid based on a separate price negotiated for each grade, with the U grade valued at zero. The largest prunes can be sold in gourmet retail packs at a premium price. Moderately large prunes can be pitted and sold as pitted prunes, while the smallest prunes are useful only for juice, paste and other industrial products and sell for a lower price per pound.

Industry participants often complain of an "oversupply" of small prunes. Prune size may be enhanced through cultural practices, such as pruning, shaker thinning and delaying harvest. Field sizing may also be used to eliminate the smallest prunes and to avoid incurring the cost of handling them. Growers have been encouraged to adopt these practices, with limited success to date. Our study looks at the extent to which grading errors reduce the profitability of such practices.

Figure 1 represents the grader used for California prunes. As the figure suggests, small prunes may not fall into their designated screen and may, instead, travel on to screens for larger prunes, but large prunes cannot fall into the categories designated for smaller prunes. Thus, a portion of lower-quality prunes receives a higher-quality ranking, but the reverse cannot occur.

Grading Errors and Market Prices

Errors in grading prunes mean that the measured quantity of prunes in each grade is not the actual

Figure 1. DFA Prune Grading System

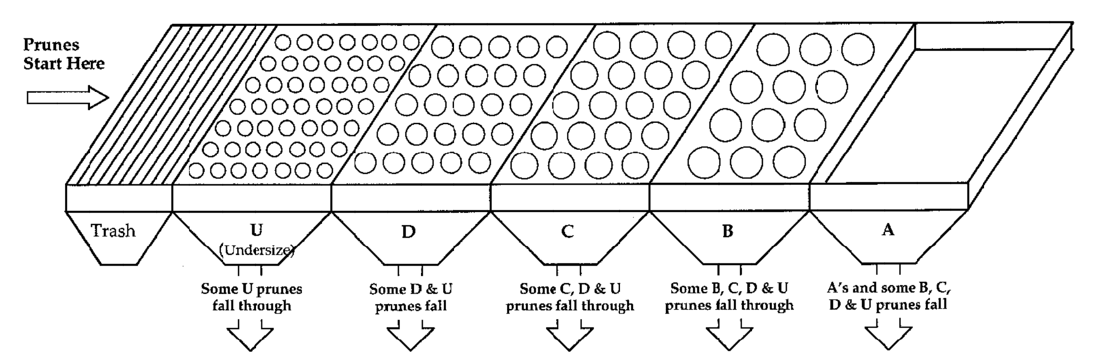

Table 1. Proportions of Shipments (by weight) Measured as and Actually belonging to each Grade

Grade	Measured	Actual
A	0.36	0.29
B	0.44	0.42
C	0.13	0.18
D	0.04	0.06
U	0.03	0.05

quantity of the prunes meeting the grade standard. As a result, the price paid to growers for all grades except the lowest will be less, because of the "contamination" by prunes from the lower grades.

We estimated the errors in valuation of prunes as the difference between the value of correctly graded prunes and the grower price for a particular measured grade. The undervaluation of a particular grade is determined by (a) the extent to which prunes from lower grades move up in grade, and (b) the difference in value between prunes that are correctly graded and prunes of lower grades. For example, the market price of grade B is discounted based on the relative amounts of grade C, D and U prunes that receive a grade of B, and the differences in value between grade B and these lower grades.

There is an offsetting effect on the revenue from grade B prunes—the grower is paid more than market value for grade B prunes that end up in grade A due to grading error. A similar effect occurs for the lower grades, which can also move up and receive the price associated with the higher grade. How do these effects play out on balance?

First, the average farm revenue for undersized prunes is higher than their actual value, because some undersized prunes end up being measured and paid as higher grades. Second, grade A prunes always earn less than their true value, because all grade A prunes receive the A-screen price, which is discounted due to the presence of smaller prunes misclassified as grade A. Offsetting effects of both types occur for the intermediate grades B, C and D. There is a gain in revenue obtained by a portion of grade B, C and D product migrating into higher grades and a loss in revenue from the reduction in grower prices relative to actual values.

Estimated Effects of Grading Errors

We estimated the differences between the actual value and the grower price, and between the average farm revenue and the actual value, for each grade of prunes for the 1996 crop year. These estimates were based on the grade sheets completed for all 1,487 samples graded by the DFA in 1996 and on detailed information for two 40-lb. samples of prunes provided by the Prune Bargaining Association (PBA). These samples consisted of prunes from a variety of Sacramento Valley sites and conformed closely in size distribution to the overall harvest.

After each PBA sample was graded, the weight of each individual prune was recorded. Thus, for each prune in the PBA samples, we knew which screen it fell through and its actual size. In other words, the measured and actual size distributions were known for these two samples.

We also obtained the grading sheets for all 1,487 actual shipments made in the 1996 crop year. Each sheet reports the total weight and the average prune size in each of the measured grades A, B, C, D and U based on the 40-lb. sample taken from each shipment after drying. We used the detailed information from our two 40-lb. PBA samples to infer the size distributions for each actual shipment.

We estimated the proportions of prunes of each grade that were measured in each of the five grades. The averages of these proportions over all 1996 shipments are reported in tables 1 and 2.

Table 2. Shares of Actual Grade Products Classified into each Measured Grade (by weight)

Actual Grade	Measured Grade A	B	C	D	U
A	1.00				
B	0.15	0.85			
C	0.02	0.42	0.56		
D	0.00	0.12	0.50	0.38	
U	0.00	0.02	0.17	0.25	0.56

Table 1 contains the measured and actual proportion of prunes in a grade for each grade. Differences between the actual and measured proportions are readily apparent, but the degree of measurement error is further clarified in table 2. Each row of table 2 refers to the actual prune grade, and each column refers to the measured prune grade. Individual cells in the table contain the proportion of the prunes actually belonging to a particular grade that received any other grade, so that the diagonal elements represent proportions of correctly graded prunes. The numbers below the diagonal represent the percentage of prunes of each actual grade migrating to higher grades.

Table 2 shows that the probability of grading errors is greatest in the lower grades. This result is not surprising, because products in these grades have the greatest opportunity to migrate into higher grades. All A-quality prunes were graded correctly by construction of the grading process, and 85% of B-quality prunes were graded correctly, with the remaining 15% masquerading as A-quality prunes. However, only 56% of C-quality prunes were graded correctly, with 42% masquerading as B prunes. Only 38% of true D-quality prunes were graded as D, with 50% and 12% migrating into the C and B screens, respectively.

The information contained in tables 1 and 2 and the actual grower prices for each grade, determined through negotiations between the handlers and the PBA, enable us to solve for the actual value of each grade. Grower prices, actual values, and average grower revenue for each grade are presented in columns 2, 3, and 4 of table 3. The differences between grower prices and actual values for each grade indicate the extent to which grower prices were discounted because of grading error and are listed in column 5 of table 3. For all grades except the lowest, U, the grower price is lower than the actual value. The price of grade A prunes is lower than its true value by 2.28 cents / lb., or 4%, while B-grade prunes are undervalued by 3.43 cents / lb., or 7.7%.

The difference between the average grower revenue and the actual value of prunes in each grade is shown in the last column of table 3. Since A-grade prunes cannot masquerade as any other grade, their average grower revenue equals their price, and the difference is again 2.28 cents / lb. The average grower revenue of undersized prunes is higher (by over 6 cents / lb.) than the actual value of zero. The average grower revenue is lower than the actual value for grade B (by 3.4%), but higher for grades C and D (by 16.7% and 73.2%, respectively). The negative spread for grade B indicates, for example, that the decrease in average grower revenue for grade B prunes associated with the migration of lower grades into grade B, more than offsets the gain in revenue associated with some of the B prunes being classified as grade A.

These findings are consistent with the pattern of "oversupply" of small prunes in recent years and illustrate that continuing to produce relatively greater numbers of small prunes, rather than, for example, shaker thinning to produce larger prunes, may well be a rational response to current incentives. The industry can partially address the problem of oversupply of small prunes by improving the accuracy of the grading process. Examples include increasing screen length or adding additional screens on the DFA grader. Alternatively, the industry might consider a graduated payment system that offers premiums and discounts based on average prune size within each measured grade, rather than a single price per grade, as is the current practice.

Table 3. Grower Price, Actual Value and Average Farm Revenue for Each Grade

Grade	1. Grower Price	2. Actual Value	3. Ave. Farm Revenue	4. Grower Price-Actual Value	5. Farm Value-Actual Value
	Cents per Pound				
A	54.25	56.53	54.25	-2.28 (-4%)	-2.28 (-4%)
B	41.00	44.43	42.96	-3.43 (-8%)	-1.47 (-3%)
C	21.75	26.09	30.45	-4.34 (-17%)	4.36 (-17%)
D	7.00	10.70	18.54	-3.70 (-35%)	7.84 (-73%)
U	0.00	0.00	6.21	0.00	6.21

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demonstrated that excessive foliage prevents sunlight from reaching both the grapes and the leaves on the interior of the vine. Hence trellises are now designed with wires to guide the shoots as they grow during the season. This also enables trimming of the shoots so there is minimal shading. Leaf thinning is also done to give greater exposure to sunlight. The net result is better quality grapes with no reduction in yield.

Modern herbicides and pesticides have done a great deal to ease the burdensome work involved in maintaining a vineyard. New rootstock types have been developed. It is now possible to choose a rootstock having characteristics such as disease resistance or drought tolerance that match the soil and climate characteristics of the vineyard in question. Some growers are now experimenting with organic farming for grapes.

Current emphasis is on finding appropriate areas for growing new varieties, especially French Rhone varieties such as Syrah and Italian ones such as Sangiovesi. California appears to be gradually evolving toward the system that exists in France, where different areas are associated with specific grape varieties. Napa Valley has established a reputation for excellent Cabernet. The same is true for Chardonnay from the Carneros area in Napa and Sonoma counties. The foothill counties have long been known for fine Zinfandels. New areas such as Lodi-Woodbridge and the Central Coast, to mention only two, are also gaining recognition for certain varieties.

The California wine economy got another shot in the arm in November 1991 when the CBS show *60 Minutes* aired a section entitled “The French Paradox”. This show popularized the discovery, known to the medical research community for some time, that wine taken in moderation reduces the chance of coronary artery disease. Dissemination of this finding has boosted red wine demand and led to increased plantings of red wine grapes, especially Merlot, throughout the state. Moderate use of wine in a family setting with good food has long been the mantra of California vintners.

The fascinating history of California wine has been enriched by the achievements of dynamic and innovative individuals. The ascendancy to “world class“ status in a relatively short time is remarkable, remembering that Europeans have been at winemaking for centuries. In an era when many yearn for excellence in this field, California winemaking is a clear example that it can be achieved.

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Professor Sumner participates in research, teaching and outreach programs related to public issues facing agriculture. He has published broadly in academic journals, books and industry outlets. Sumner's research includes all aspects of agricultural policy, including commodity programs and trade policy. His areas of emphasis include agricultural trade in the Pacific Rim (especially Korea), dairy industry issues and rice policy.

Professor Sumner has recently taught courses in agricultural policy economics to undergraduate and graduate students, including a course for Chinese Ph.D. students in Beijing. Public outreach is a major component of his work, especially through the Agricultural Issues Center. Sumner gives dozens of public presentations each year and has prepared several AIC Issues Briefs, most recently on "Agricultural Impacts of the Asian Economic Turmoil: A California Focus."

Sumner was raised on a fruit farm in Suisun Valley, California, where he was active in 4-H and Future Farmers of America (FFA) activities as a youth. He was the Star State Farmer for California in his final year in FFA.

After a bachelor's degree in agricultural management from California Polytechnic University in San Luis Obispo, Sumner went on to a master's degree from Michigan State in 1973 and a Ph.D. in economics from the University of Chicago in 1978.

From 1978 to 1992, Sumner was a professor in the Division of Economics and Business at North Carolina State University. He spent much of the period after 1986 on leave for government service in Washington, D.C., at the President's Council of Economic Advisers and the United States Department of Agriculture.

Before beginning his current position at UC Davis in January 1993, Sumner was the Assistant Secretary for Economics at the U.S. Department of Agriculture, where he was involved in policy formulation and analysis on the whole range of topics facing agriculture and rural America. In his role as supervisor of Agriculture's economics and statistics agencies, Sumner was also responsible for data collection, outlook and economic research, and he supervised about 2,000 employees.

Daniel A. Sumner
Frank H. Buck, Jr., Professor
Department of Agricultural and Resource Economics

Sumner's professional work has been honored with awards for quality of research discovery, quality of communication, and distinguished policy contribution. In August 1999, the American Agricultural Economics Association will name Dr. Sumner as a distinguished Fellow in recognition of his career achievements.

Professor Sumner lives two blocks from campus with his wife Hyunok Lee and three-year-old daughter Han-ah Lee Sumner.

Dan Sumner can be reached by telephone at (530)752-5002 or by e-mail at dan@primal.ucdavis.edu. For more information about Professor Sumner's research or the Agricultural Issues Center, visit his Web page at www.agecon.ucdavis.edu/Faculty/Dan.S/Sumner.html

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