



The Next WTO Round: What Does it Mean for California Agriculture?

by Colin A. Carter

The World Trade Organization (WTO) has been very much in the news lately, and contrary to premature reports by some labor unions and environmentalists, the WTO is not dead yet! This article discusses the relevance to California agriculture of further multilateral trade negotiations in the WTO. It is an understatement to say that trade is important for California agriculture, as about twenty percent of the value of agricultural commodities produced in California are exported abroad. I believe that the WTO's liberalization of agricultural trade will significantly improve global competition and strengthen California's opportunities for trade in agricultural products. The WTO will also help promote global prosperity and raise living standards in poor countries. The resulting higher incomes in developing countries (e.g., in East Asia and Latin America) will, in turn, lead to greater import demand for California's agricultural exports.

The WTO and the Seattle Conference

The WTO is an international organization and its goal is to establish rules of trade that give importers and exporters confidence in the system when trading with other WTO members. The WTO mediates when trade disputes arise, and generally works to reduce obstacles to freer trade. One reason that the WTO is so important for California farmers is that agricultural trade liberalization is far behind that for manufacturing, as illustrated by the fact that agricultural tariffs are currently at about the same level as manufacturing tariffs were 50 years ago!

Fortunately, the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) brought agriculture into the WTO. The WTO was established in 1995 as a successor to GATT, and now has 134 members, more than 100 of which are developing countries. The Uruguay Round Agreement

WTO—continued on page 2

In this issue...

The Evolution of Dairy Price Policy in California: Our Unique System for Distributing Milk Revenue

by Daniel A. Sumner and Norbert L. W. Wilson
.....page 3

Contract Usage in the California Winegrape Economy

by Rachael Goodhue, Dale Heien and Hyunok Leepage 7

In the next issue...

Putting Prices on Mother Nature

by James Wilen

WTO—continued from page 1

on Agriculture (URAA) set new rules for trade in agricultural products and initiated a modest reduction in protection. The URAA improved market access and disciplines on domestic support and export subsidies. Additional trade commitments were covered under the agreement on sanitary and phytosanitary measures.

The anti free-trade protestors at the WTO Ministerial Conference in Seattle this past December certainly heightened the debate over the labor and environmental effects of further trade liberalization. Those who took to the streets in Seattle to protest further globalization apparently fail to understand the large economic benefits that globalization has provided. Global trade has grown 17 fold since 1950, in part due to a decline in average import tariffs on manufacturers from 40 percent to 4 percent. At the same time, world per capita income has doubled. Rapid trade growth has facilitated the integration of developing countries in Asia and Latin America into the global economy. Strong economic growth in Asia and Latin America has resulted in large benefits to the California economy, through trade linkages.

As some street placards in Seattle correctly indicated, global economic growth has been uneven and individual developing countries have lagged behind. However, blocking further trade reform is not going

to solve this problem. The majority of the world's poor are in fact developing-country farmers, and it is now their turn to benefit from liberalized agricultural trade. It is for this very reason that the WTO's Director General, Mr. Mike Moore, has referred to the next WTO round of negotiations as the *Development Round*. For instance, there are about 300 million farmers in China and their per capita income is only \$300 per year. In India, there are at least 300 million living below the poverty line, with incomes lower than those in China.

The farmers in these poor countries are adversely affected by subsidies in rich countries such as the European Union (EU), Japan, and the United States that lead to over-production and depressed world commodity prices. Freer trade would help raise farmgate prices in countries like China and India. For instance, since 1995 India has exported 3-4 million metric tons (mmt) of rice each year. However, world rice trade is one of the many distorted commodity markets as rich nations' policies depress world rice prices. Unfortunately, the URAA left most agricultural subsidies in place. According to a recent report by the United Nations (UNCTAD), annual agricultural support for developed countries totals \$350 billion, double the value of total agricultural exports from developing countries. (United Nations Conference on Trade and

WTO—continued on page 10

Table 1. California's Major Export Markets and Commodities, 1998

Japan	EU	Canada	S.Korea	Hong Kong	Mexico	Taiwan
<i>(Million dollars)</i>						
Beef 182	Almonds 461	Tomatoes* 113	Cotton 202	Oranges 87	Milk&Cream 65	Cotton 37
Cotton 172	Wine 253	Lettuce 101	Beef 29	Cotton 45	Table Grapes 22	Peach-Nect 22
Wine 88	Raisins 85	Table Grapes 101	Oranges 22	Table Grapes 42	Beef 18	Milk&Cream 22
Oranges 80	Walnuts 75	Wine 85	Milk&Cream 13	Pistachios 29	Tomatoes* 14	Table Grapes 11
Hay 79	Prunes 61	Oranges 80	Almonds 9	Milk&Cream 10	Almonds 11	Oranges 11
All Others 572	All Others 195	All Others 540	All Others 23	All Others 81	All Others 56	All Others 73
Total 1,173	Total 1,130	Total 1,020	Total 298	Total 294	Total 186	Total 176

*Processing Tomatoes

Source: University of California Agricultural Issues Center

The Evolution of Dairy Price Policy in California: Our Unique System for Distributing Milk Revenue

by

Daniel A. Sumner and Norbert L. W. Wilson

The California dairy industry generates about \$4.5 billion in gross farm revenue, more than any other agricultural industry in the state. The dairy industry is also one of the most heavily regulated and supported agricultural industries in California. This article examines how the role of government has evolved in one part of the California milk marketing and pricing system. We describe the creation of the system in the 1930s, and some key transitions, before analyzing the current methods for distributing milk revenue among producers. The system currently revolves around a policy-created asset that is tradable among producers in a market that has many of the characteristics associated with financial markets.

The early history of milk market regulation in the United States parallels that for many agricultural commodities. The beginning of the Great Depression in 1929 brought a collapse of prices and market disruption. However, the milk pricing system that was created is quite different from other government-supported agricultural commodities and also quite different than the systems for horticultural commodities, most of which developed with much less direct government price and market regulation. The same forces that led to the federal milk marketing order system created the California system, but from the very early years California has had its own separate set of programs for dairy.

The Agricultural Adjustment Act and The Young Act of 1935

President F. D. Roosevelt signed the Agricultural Adjustment Act of 1933 into law during the famous first 100 days of his administration. However, as with other important parts of his original set of policies, several court rulings soon made it clear that the Agricultural Adjustment Act was facing serious legal challenges. One of the constitutional issues was that the law provided for local price regulations to be set and administered through federal statute, seemingly in violation of the Commerce Clause of the U.S. Constitution, which reserved such policy for state and local government. Dairy producers in California could see the Agricultural Adjustment Act crumbling. The

California Farm Bureau Federation, milk producer associations, and others pushed for state legislation that would accomplish the same ends. On June 1, the Young Act, which effectively codified the dairy title from the Agricultural Adjustment Act, became state law. By the time a new federal law that avoided constitutional problems became effective a bit later, the California program was up and running, and so the state never joined the federal milk marketing order system.

The Young Act granted eligible producer groups the opportunity to set minimum prices as part of a marketing plan for fluid milk in each marketing area. The plans defined marketing areas, minimum prices by end-use of milk, and fair trade practice requirements. The minimum price formulas, under the guidance of the Director of the California Department of Food and Agriculture, were to maintain an “economic relationship” between the fluid-use and manufacturing-use milk prices. Unlike the federal system, which also set minimum prices by end use and thus also accomplished price discrimination, the California milk marketing orders did not provide for revenue pooling among farmers.

Like most attempts to “stabilize” agricultural markets, the Young Act was an emergency response to the marketing conditions of the 1930s. Of course, the economics of milk marketing changed significantly over the three decades that the Young Act regulated milk pricing and marketing in California. These changes highlighted a tension that existed when the Act first took effect.

The lack of pooling meant that producers who had contracts to deliver milk for fluid use (Class 1) received a substantially higher price for milk that in many cases was identical to milk used for manufacturing purposes. If it would have been legal to do so, qualified producers without contracts would have found it profitable to supply milk at below the state-set minimum price, and bottlers would have found it profitable to accept such offers to sell.

Tension existed between producers with and without contracts, and bottlers were able to require their suppliers to comply with extraneous requirements in

DAIRY PRICING—*continued on page 4*

DAIRY PRICING—continued from page 3

order to keep their contracts. Even those producers able to maintain contracts to supply milk for the Class 1 price were vulnerable to contract termination because there were many producers willing to take their place. The Young Act was able to last through the end of the depression, the World War II era, and the early post-war period, but as milk production expanded even faster than Class 1 demand, pressure mounted for a change.

The Quota Approach to Milk Revenue Dispersal

A simple revenue pooling system as used in federal milk marketing orders seemed politically unacceptable in California because it would have imposed major losses on farmers who held Class 1 contracts. But, farmers who did not have Class 1 contracts wanted to share in the higher income from the lucrative fluid milk market. Both groups of farmers wanted an end to the vulnerability to what they considered to be unreasonable demands by processors.

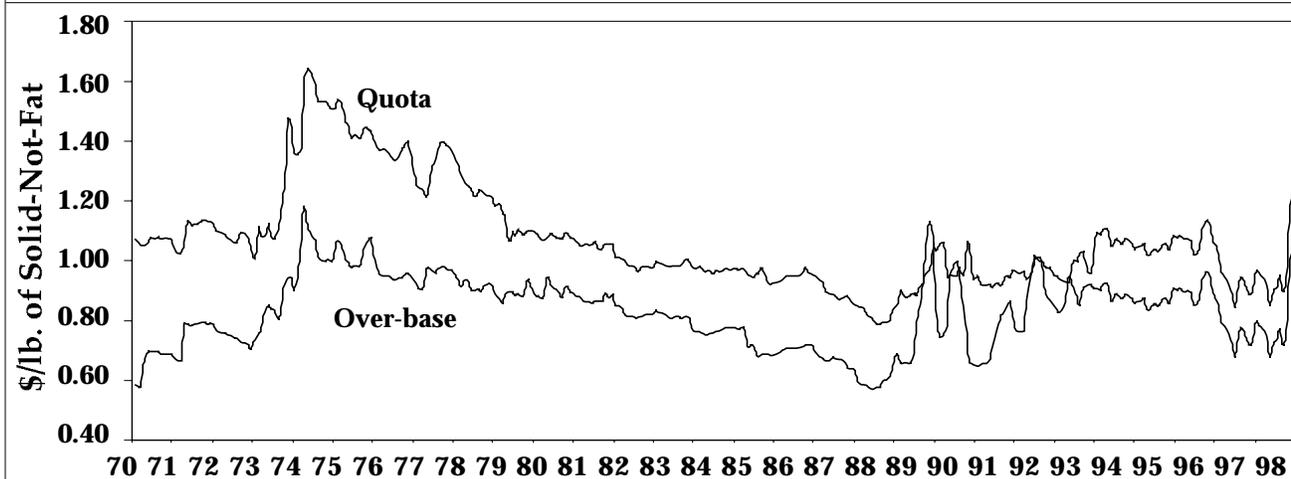
Finally after years of legislative effort, research from the University of California, and discussions among producers led to a program that adequately addressed the various farmer concerns. The Gonsalves Act of 1967 kept the system of higher prices based on fluid use of the milk, but ended the system requiring individual Class 1 contracts. Instead, the Gonsalves Act pooled milk revenues from these higher-priced-sales and distributed the revenues partly to producers who had held Class 1 contracts under the old system and partly to other producers.

Farmers who had a history of Class 1 contracts were assigned enough quota to assure them the highest price for that portion of their milk that had previously been under contract. Other farmers were assigned the rights to new quota that was created as Class 1 sales expanded. Thus, over time, producers who had previously not had access to the high-priced market got a major share of the new Class 1 revenue. In addition, quota was marketable so any eligible producer could buy into the system. Also, since the right to the additional revenue through quota was not tied to the actual use of any producer's milk, bottlers could buy milk from any eligible producer but were required to pay into the pool based on the use of the milk. The new policy provided benefits to most California milk producers and only marginal losses to a few producers who had previously held contracts and expected to expand their Class 1 sales. Consumers and bottlers were essentially unaffected because the total revenue paid for milk was not affected, only the way in which it was dispersed among farmers.

The Quota Policy Evolved

The policy created in the late 1960s remains in place today. Significant changes have been rare, but a few are worth noting. First, because the expansion of total quota had proceeded more slowly than some had expected and many producers still held relatively little quota, in 1978 the California legislature distributed a substantial amount of new quota to existing producers. This improved milk revenue for those who got the new quota, but reduced returns per unit of quota. Second, in 1989, fluctuations in the national dairy market

Figure 1. Deflated Prices of Quota-Milk and Over-base Milk, by Month



Source: CDFA, Milk Stabilization Branch, Dairy Information Bulletin, various years.

Note: Prices in 1992 dollars.

caused the pool price for milk for manufactured products (the over-base price) to jump above the price of quota milk (Figure 1). The return to quota hinged on the differential between the quota-milk price and the price of over-base milk, therefore this price inversion meant that the monthly revenue associated with quota ownership experienced large swings and was even negative on occasion. In subsequent years, the CDFA attempted various *ad hoc* policies to prevent the price inversions. Finally, in 1994, the California legislature simply fixed the differential between the quota and over-base milk prices at \$0.195 per pound of solid-not-fat.

The milk revenue distributed to quota owners, which is shown as the difference between the quota-milk price and the over-base milk price in Figure 1, has naturally been capitalized into the value of the quota asset. We now turn to that asset market.

The Market for Quota as an Asset

By using a marketable quota to distribute revenue among dairy farmers, the California milk marketing policy is unlike the policy in other parts of the United States. The value of quota is significant. Annual flow returns to quota ownership are about five percent of total milk revenue, and the total capital value of quota is currently about \$900 million. About 80 percent of dairy farmers own some quota, but most produce milk far in excess of the amount of quota that they own.

The historical pattern of the deflated price of milk quota is displayed in Figure 2. Figure 2 shows that the price of quota has fluctuated from month to month, but there have been three distinct periods, 1973, 1978 and 1994 when the price of quota has fallen in deflated

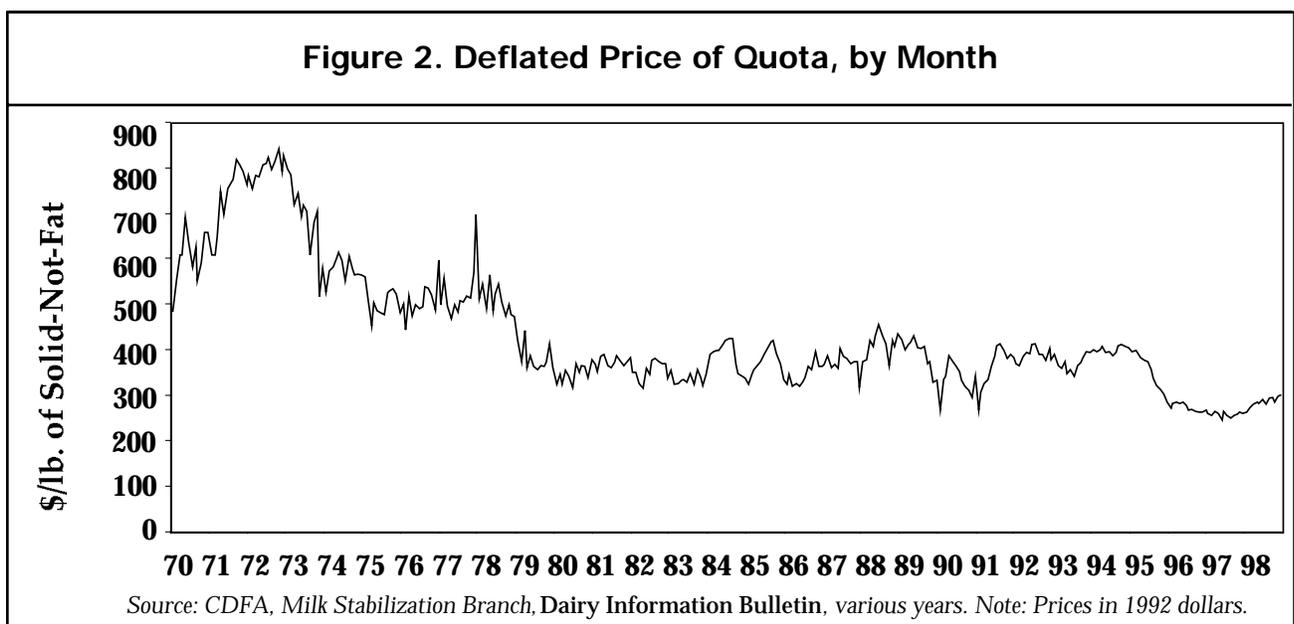
terms. The market price of quota has fallen from a peak of more than \$800 per pound of quota in 1973, to a low of about \$250 per pound of quota in 1997, measured in inflation-adjusted 1992 dollars. As with the price of other assets, the price of California milk quota depends on anticipated future revenues and on the anticipated future capital gains or losses. These expectations about the future can also be explored by comparing returns to quota ownership to returns from investments in other assets.

Figure 3 on page 6 shows the annual average rate of return to investments in California milk-quota.

This rate of return includes: (1) the flow of additional milk revenue each year, plus (2) the value of new quota if any is allocated during the year, plus or minus (3) any change in the price of quota during the year, all divided by the price of quota at the beginning of the year. From 1970 to 1998, this rate of return to quota averaged 26 percent, although, as Figure 3 shows, the rate of return, has ranged from a negative return in three years to more than 40 percent in seven years. For comparison, Figure 3 also shows the annual rate of return to investments in stocks (the S&P 500) and bonds (the 10-Year U.S. Treasury security). The average return to quota far exceeded the average return to stocks (about 15 percent) and bonds (about 8 percent). As measured by the coefficient of variation, the variability of the quota return (3.2) was high relative to that for the 10-Year U. S. Treasury Security (0.3) but not relative to the S&P 500 (4.0). Unlike stocks, most of the observed return to quota, close to 90 percent, was from the current flow return during the year

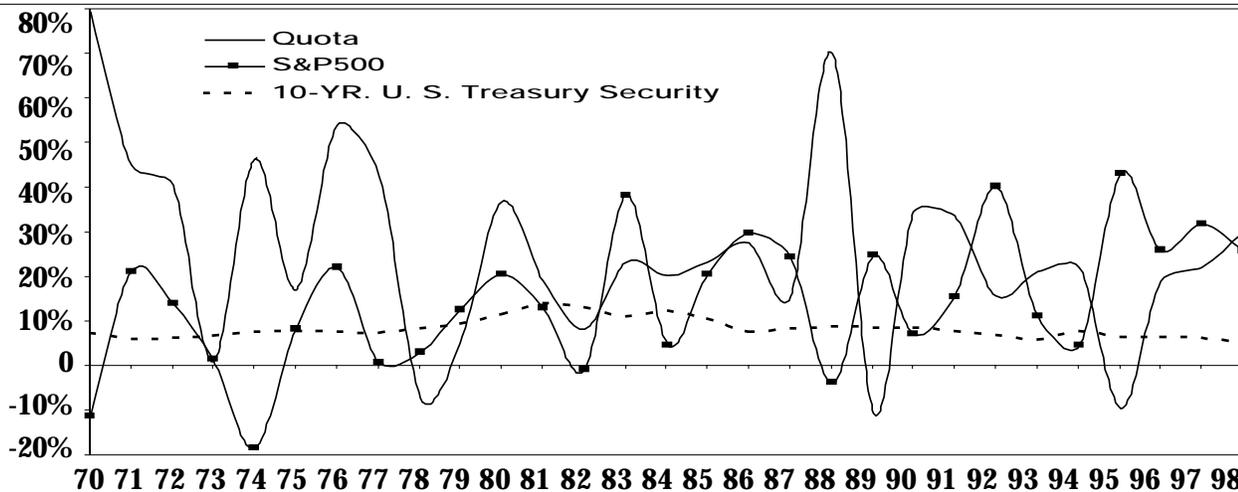
DAIRY PRICING—continued on page 6

Figure 2. Deflated Price of Quota, by Month



DAIRY PRICING—continued from page 5

Figure 3. Annualized Monthly Rate of Return to Milk-Quota Compared to Alternative Investments



Source: Authors' calculations from national and CDFA sources. Details provided upon request.

rather than capital gains or losses. However, as with stocks, the capital gain contributed most of the variability to annual quota return.

In evaluating the risk of a particular investment, one must evaluate how much that asset contributes to the overall risk of the relevant portfolio. In this regard, we note that the annual rate of return to quota has had a small negative correlation with returns to investments in the S&P 500 and the 10-Year U. S. Treasury Security. Therefore, ownership of milk-quota would have lowered variability of returns in a portfolio comprised mainly of these assets. Of more relevance we found that the returns to quota covaried negatively with net returns to milk production in California. Thus an investment in milk-quota has contributed to stabilizing total farm returns for producers who have invested in quota. This stabilizing effect means that the extremely high rate of return experienced by owners of milk-quota cannot be explained by added variability of overall returns to quota owners relative to other dairy farmers. Investments in quota have not been risky in the portfolio sense that quota adds to the variability of returns. In fact, just the opposite is true, and for this reason one might expect the rate of return to owning quota to be lower, not higher, than the average investment.

After examining the historical data, and discussing this issue with farmers and others, our conclusion is that the high rate of return to milk-quota reflects farmers' concern that the quota program itself may be unsustainable. That is, although the quota program has been operating for more than 30 years, farmers

still do not have confidence in the future of this government policy. This lack of confidence keeps the price of quota low relative to the flow return received in the milk check. This consequently keeps the rate of return high.

Summary

For sixty-five years California has operated a milk pricing policy that is separate from the program operated by the federal government for most of the rest of the United States. For the past 30 years California has used a quota system to distribute pooled revenue from milk sales. Most dairy farmers own some quota, and quota is traded in an active market that is much like that for other financial assets. The average annual rate of return, about 26 percent, is high relative to that for other assets. This high rate of return seems to reflect uncertainty that dairy farmers hold about the continued future operation of the program. Despite more than 30 years of experience, dairy farmers are not convinced that the program will continue to provide higher milk revenue and avoid severe capital loss. Thus they demand above-normal returns to investments in the policy-created asset.

Daniel A. Sumner is the Frank H. Buck, Jr. Professor in the Department of Agricultural and Resource Economics and the Director of the University of California Agricultural Issues Center. Dr. Sumner can be reached by telephone at (530)752-5002 or by e-mail at dasumner@ucdavis.edu.

Norbert Wilson received his Ph.D. in Agricultural Economics at UC Davis in 1999. He recently joined the faculty at Auburn University as an assistant professor. Dr. Wilson can be reached by e-mail at nwilson@cesag.auburn.edu.

Contract Usage in the California Winegrape Economy

by

Rachael Goodhue, Dale Heien and Hyunok Lee

Over the past quarter-century U.S. agriculture has witnessed a widespread increase in the use of contracts. This phenomenon is in keeping with the increased commercialization of agriculture. Contracts reduce and shift price and production risk as well as insure product uniformity and quality. The extent of contract usage varies in different sectors of agriculture. Broilers, processed vegetables, market eggs, and turkeys are virtually 100 percent under contract, fresh vegetables around half, and feed grains and hogs almost zero. Contract usage in fresh fruits is not uncommon but the extent is not known. However, winegrapes appear to be a leading candidate, given the characteristics of the product and its production.

In the winegrape market, contracts are often used to mitigate the effects of uncertainty and imperfect information. Winegrapes are an important crop, especially in California where 96 percent of the U.S. crop is grown. In terms of cash receipts, grapes are the largest fruit crop in the U.S. with over three-fourths of these receipts coming from winegrapes. Winegrapes are a high value crop with relatively steep entry costs. Initial investment, including land, can run upwards of \$40,000 or more per acre. After planting, there is virtually no crop for three years. Year-to-year fluctuations in yield are considerable, causing substantial price variation. Since time is required to recoup large initial investments, price variation and future price levels are major concerns. Both of these concerns are often handled in contracts.

There are several reasons why prices or pricing methods are stipulated in a contract. The first and most obvious is that it usually confirms the price to be paid upon delivery and thus avoids later conflicts and perhaps litigation. Growers enter into contracts because they are producing a perishable product and often do not have the facilities to crush the grapes, ferment the juice and store the wine. Hence, the growers' bargaining position becomes weaker as harvest time approaches. Also, contracts reduce grower marketing costs. It is possible for growers to have their grapes custom crushed, fermented and stored under their name for later marketing. This is another arbitrage mechanism and some growers engage in this process. Storage is expensive and limited and there are limits on how long wine, and especially grape juice, can be stored without being bottled. Growers generally prefer

to deal with marketing uncertainty through contracts, often long term. Planting contracts are often the key to securing loans for vineyard development.

From the winery's point of view, contracts are desirable because they assure a supply of grapes at a known cost. Also, contracts provide a vehicle for the implementation and monitoring of various viticultural practices which the winery may deem desirable. Also, contracts can stipulate bonuses and/or penalties for various performance attributes such as sugar or acid content, disease control, etc.

AIC Winegrape Contract Survey

In June 1999, the Agricultural Issues Center (AIC) conducted a survey to discover various facts about contract usage in the winegrape industry. The survey was based on a questionnaire mailed to 12,000 growers statewide. The CASS (California Agricultural Statistics Service) grape acreage data base was used for this mailing. Hence, the listing is comprehensive of all state grape growers.

The Center received over 2000 responses, an almost 20 percent response rate. Growers' time is valuable and we tried to keep the questionnaire simple (mostly yes or no) and short (one page). The survey results are given for all respondents and are also presented by the following four broad regions.

NC: North Coast - Napa, Sonoma, Mendocino, Lake and Solano counties.

CC: Central Coast - Monterey, San Luis Obispo, Santa Barbara, San Benito, Santa Clara, Santa Cruz, San Mateo, Contra Costa and Alameda counties.

CSJ: Central San Joaquin - Sacramento, San Joaquin, Yolo (south of I-80), Stanislaus, Merced and Foothills counties.

SSJ: Southern San Joaquin - Fresno, Tulare, Kings, Madera and all other counties.

Based on the CASS data base, the regional distribution of growers and respondents is given in Table 1.

Table 1. Characteristics of California Grape Growers

Region	All	NC	CC	CSJ	SSJ
Acreage	752,000	96,000	65,000	103,000	488,000
Growers	11,726	3430	1018	1834	5444
% Growers	(CASS)	29	9	16	46
% Response	(Survey)	26	12	25	37
Acres/grower	(CASS)	28	64	56	90
Acres/grower	(Survey)	64	99	104	165

From Table 1 it is clear that the percentage response from each region closely matches the population percentage in each region. This is one indication that the survey is representative of the population of growers. The other indication is from the rows for acres per grower for the whole state (CASS) and for the survey. The statistics indicate that survey respondents were generally operators of larger vineyards. However, the relative sizes (of CASS versus Survey) in each region were quite similar. This is important since there are difficulties in ascribing average size to intervals, making the overall average size computation somewhat problematical.

Of the respondents, 90 percent were growers only. The remaining 10 percent were either a winery only (7 percent) or a winery/grower (3 percent). This is ambiguous because we do not know how many wineries are not growers (in the sense that they sell to other wineries) and how many wineries define themselves as growers if they sell grapes. Based on CASS records for grower population, 93 percent are growers only and 7 percent are wineries. This again implies close congruence. As a further test of congruence we matched vineyard size from sample respondents with known vineyard sizes (from CASS) by region. Again we found a close congruence between the sample vineyard size by region and the CASS data on vineyard size.

Table 2. Percentage of Respondents with Contract Usage

	All	NC	CC	CSJ	SSJ
Written Only	70	71	56	68	74
Oral Only	11	13	20	15	4
Both¹	9	12	13	11	4
Neither	10	4	11	6	18

¹ Many growers have more than one buyer and hence more than one contract. Some of these growers responded by checking both written and oral since some had both types of contracts. This phenomenon was present in other questions also. The only way to obtain clearer responses would be a more detailed questionnaire. This would have greatly reduced the response rate.

Survey Results

Table 2 gives the percentage of respondents (growers and wineries) who use contracts. The results indicate that contract usage is widespread in the winegrape industry and written contracts clearly dominate. A more interesting question is, how many growers have long-term contracts? One-year contracts are really spot market sales since few

growers wait until harvest to obtain a buyer. Analysis showed that 50 percent of respondents had contracts of more than one year with an average length of 3.5 years. The most frequent lengths for contracts were 3, 5 and 10 years. The 10-year contracts were generally planting contracts (Table 3).

Contracts with evergreen (renewal) clauses were quite popular as Table 3 also shows.

Price Determination

Another area of major interest is the manner in which prices are determined in these contracts. Table 4 gives the percentages of contracts using various methods for price determination.

The totals in Table 4 can sum to more than 100 percent since some contracts have overlapping price determination methods. For example, the base price could be stated in the contract. It could be moved year to year with the county average (reference price) for that variety or could be negotiated yearly within a max/min limit. The term 'Stated in Contract' simply means that the buyer and seller agree to a price or a payment schedule over time and incorporate it in the contract. The term 'Reference Price' means that the contract price is based on some widely available price such as the crush district average which is published annually by CASS. The 'max' and 'min' entries in Table 4 refer to the existence of maximum or minimum prices which will be paid.

The survey also showed that few (22 percent) contracts stipulated maximum tonnage although nearly half did note some expected level of tonnage or specified grapes from a certain acreage.

Bonuses and Penalties

The survey asked questions about the extent of bonuses and penalties for sugar, acids, MOG (material other than grapes) and defects (rot, mildew, etc.). As shown in Table 5, penalties are more prevalent than bonuses, although 33 percent of contracts in the Southern San Joaquin do provide for a sugar bonus. Overall, almost 20 percent of contracts have some bonus provisions. Penalties are more widespread with over 35 percent having some penalty provision.

Organizational Structure of Contract Respondents

The last main area of the survey related to the organizational aspect of winegrape growers. Most sellers have been in the grape growing business for some time. The average was nineteen years with little variation by region. The average time with the same buyer was 9 years, again with little regional variation. A small proportion of the contracts, 7 percent, was brokered by a third party. Lastly, almost half of the contracts for the North and Central coast contained conflict resolution clauses, such as arbitration. For the Central and Southern San Joaquin regions, the percentage of contracts with conflict resolution clauses were 33 percent and 22 percent respectively.

Summary

The purpose of this paper has been to communicate the findings of the AIC survey on the use of contracts in the California winegrape economy. The primary finding is that contract usage is widespread in the winegrape sector of the agricultural economy. Ninety percent of growers surveyed had contracts, 80 percent were written contracts and 10 percent were oral. The majority of the respondents had multi-year contracts. Those with one-year contracts were considered to be spot-market participants. Many of these contracts contained an evergreen clause.

The most important aspect of contracts is the price determination clause. The survey showed that price determination was roughly divided between a) a negotiated price stated in the contract, b) a price to be negotiated yearly, and c) contract price based on some reference price such as the crush district average. Bonuses were not widespread with the exception of sugar for the Central and Southern San Joaquin regions. Penalties for low sugar, MOG and defects were high in all regions, averaging 44 percent of the contracts.

R. Goodhue, D. Heien and H. Lee, "Contract Use in the California Winegrape Economy," AIC Issues Brief, No 11, December 1999, University of California Agricultural Issues Center.

Table 3. Percentage of Respondents with Planting Contracts and Evergreen Clauses

	All	NC	CC	CSJ	SSJ
Planting Contract	10	9	13	21	8
Evergreen Clause	30	45	34	8	9

Table 4. Percentage of Respondents with Price Determination Provisions

	All	NC	CC	CSJ	SSJ
Stated in Contract	31	27	30	29	36
Negotiated Yearly	27	28	25	27	24
Reference Price	35	50	41	34	11
Per Acre Price	2	3	3	1	1
Max	8	8	13	9	7
Min	15	13	14	24	14
Other	5	4	3	3	3

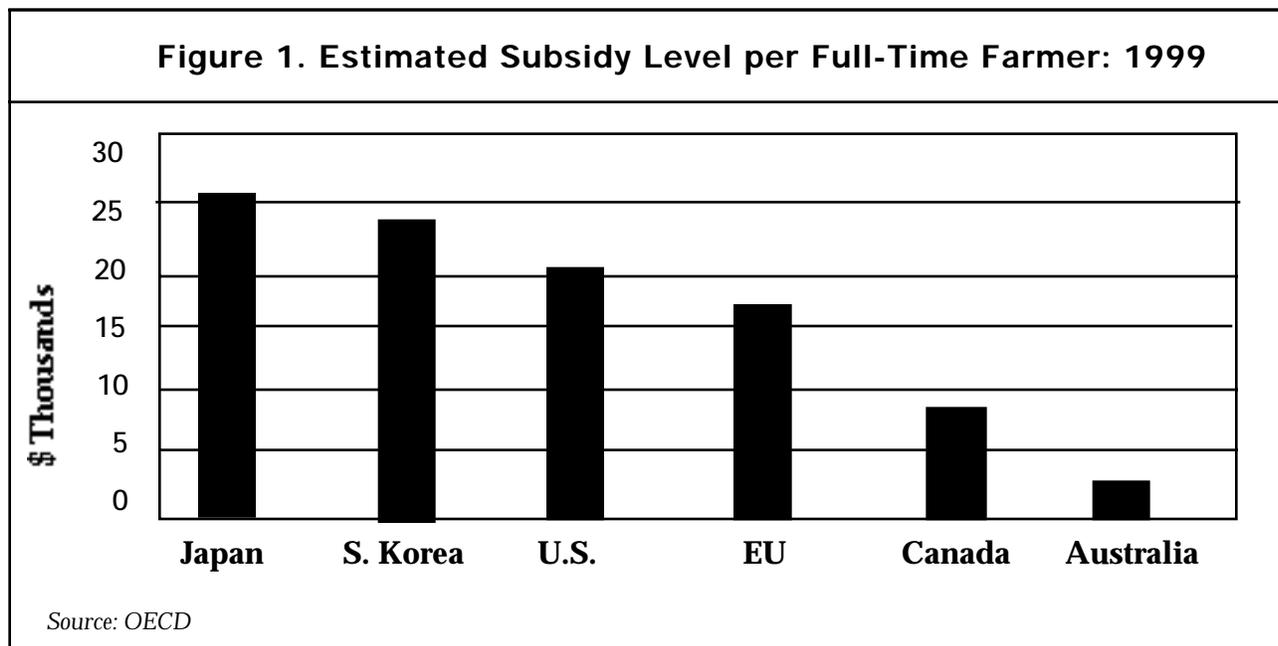
Table 5. Percentage of Respondents with Bonuses and Penalties

	All	NC	CC	CSJ	SSJ
Bonuses					
Sugar	18	11	7	17	33
Acids	4	3	3	3	6
MOG	9	7	5	10	13
Defects	10	8	10	10	15
Penalties					
Sugar	42	13	40	57	34
Acids	10	11	9	12	7
MOG	43	39	37	59	48
Defects	47	45	41	60	48

Acknowledgments: Dan Sumner, AIC director, provided useful comments and suggestions regarding the survey. Jim Tippett and his staff at CASS were very helpful and cooperative in preparing the mailing.

The authors are in the Department of Agricultural and Resource Economics at UC Davis. Rachael Goodhue is an assistant professor, who can be reached by e-mail at goodhue@primal.ucdavis.edu. Dale Heien is a professor and can be contacted at dale@primal.ucdavis.edu. Hyunok Lee is a research economist who can be reached at hunok@primal.ucdavis.edu. They can also be contacted by phone through the main ARE number at (530) 752-1517.

WTO - continued from page 2



Development (UNCTAD), *Trade and Development Report*, Geneva: 1999.) As shown in Figure 1, the annual subsidy per full-time farmer in developed countries ranges from \$17,000 to \$26,000 for the EU, the U.S., S. Korea and Japan.

The WTO offers the most hope for stopping this subsidization, as the WTO helps governments in the EU, Japan, and the United States to keep their own domestic special interest groups in check. For example, if there is further progress on trade liberalization, the U.S. would have to grant better access to its markets - including sugar, dairy products and peanuts - and to do so it must stand up to domestic lobby groups.

The meeting in Seattle failed to reach any agreement on goals for agriculture, but the talks will continue. The lack of immediate success in Seattle is not that surprising. After all, the unwillingness of the EU to make significant concessions on agriculture blocked the Uruguay Round agreement for several years. This next WTO round of talks will not be held for at least one year, as significant progress is not expected until after the next U.S. election.

Impact on California's Agriculture

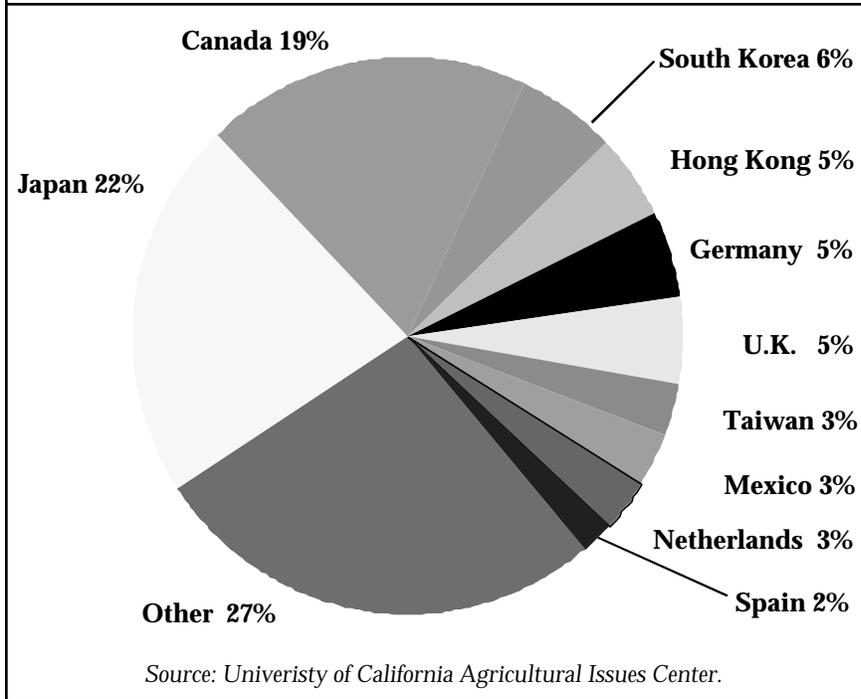
The University of California Agricultural Issues Center estimates that as of 1998, leading export destinations for California agricultural commodities included the EU (\$1.13 billion annually), Japan (\$1.17 billion), Canada (\$1.02 billion), South Korea (\$298 million), Hong Kong (\$294 million), Mexico (\$186 million) and Taiwan (\$176 million). See Table 1 and Figure 2. With the sole exception of Hong Kong, these countries

are protectionist when it comes to agriculture. For example, under the appearance of phytosanitary concerns, Japan continues to restrict the importation of several U.S. fresh fruits, vegetables and other horticultural crops. The EU (which includes Germany and the United Kingdom) offers export subsidies on beef, cheese, other dairy products, and processed fruit, in competition with California. South Korea and Taiwan impose import tariff rates of 35-50 percent on California products such as walnuts, table grapes, processed vegetables, beef and fruit. Canada has non-tariff barriers on horticultural products and it severely limits imports of dairy products, eggs and poultry and, in turn, offers export subsidies on eggs and dairy products. (National Trade Estimate Report on Foreign Trade Barriers, Washington, D.C.: U.S. Trade Representative, 1999.)

California is different from other major agricultural states in the nation in that California tends to export numerous high-valued food commodities. This is relevant to the WTO discussion, because import tariffs in important markets such as Japan and in the EU are generally higher on processed agricultural products than on their primary commodities. This tariff wedge between a processed commodity (e.g., processed fruit) and its corresponding primary commodity (e.g., fresh fruit) is referred to as *tariff escalation*, and this is an important obstacle for California agriculture. Tariff escalation produces a trade bias against processed agricultural products.

As traditional agricultural trade barriers are lowered, food safety and animal and plant quarantine

Figure 2. California Export Markets for Agricultural Products in 1998



has reduced its trade activity. China has high import tariffs (exceeding 40 percent) on certain agricultural commodities currently exported by California, such as table grapes, wine, beef and dairy products. China's accession to the WTO would result in a lowering of these tariffs. In addition, if the WTO liberalizes world trade in clothing and textiles (e.g., removes restrictive U.S. import quotas), then China will undoubtedly expand exports of clothing and textiles. This would result in increased imports of cotton into China.

Conclusion

California agriculture has a major stake in the process of global agricultural trade policy reform continuing and this is not a time for U.S. policy makers to hesitate in their approach to trade negotiations. Issues such as labor and environment standards are

measures are increasingly used as obstacles to international trade. This is particularly important for California, an exporter of high valued and exotic foods. The Uruguay Round agreement on Sanitary and Phytosanitary Measures (SPS) established some basic rules for countries to set standards for food safety and the protection of domestic animal and plant species. It allows countries to set their own standards, but it also says regulations must be based on science. California's agriculture stands to benefit from further progress on the strengthening of WTO rules against arbitrary use of sanitary and phytosanitary measures to restrict trade.

China is working toward WTO membership, and progress on this front is being carefully watched by the world and by California. Trade is expected to take on a greater importance for China in coming years once it joins the WTO. In agriculture, China accounts for a relatively small share of global trade and most of China's agricultural trade is controlled by State Trading Enterprises (STEs). Given China's rich agricultural resources and its large population, it has great potential to play a much more prominent role in agricultural trade in the coming years, as both an exporter and an importer. To date, China has maintained a policy of (near) self-sufficiency in agricultural products and this

not trade issues, but rather are domestic issues best dealt with outside of the WTO.

Income growth (and import demand growth) has great potential in developing countries and, to assist in reaching this potential, the next round of WTO is aimed to give developing countries greater access to markets in rich countries. This means the United States should also lower its protectionist trade barriers in agriculture. The 1994 North American Free Trade Agreement (NAFTA) drew criticism from some groups in U.S. agriculture hiding behind trade barriers. However, NAFTA has led to significant gains for California agriculture and, once again, proved the free trade critics wrong. With agricultural trade liberalization a priority in the WTO, economic benefits like those from NAFTA are just the beginning of more to come.

Colin A. Carter is a professor and department chair of agricultural and resource economics at UC Davis. Colin is also associate director (for International Trade) of the UC Agricultural Issues Center. His fields of interest include agricultural marketing and international trade. Dr. Carter can be contacted by telephone at (530) 752-6054 or by e-mail at colin@primal.ucdavis.edu. You can visit his Web page at <http://ccarter.ucdavis.edu>.

Agricultural and Resource Economics Update

Steve Blank and Richard Sexton, Co-Editors
Julie McNamara, Managing Editor

ARE Update is published quarterly by the Department of Agricultural and Resource Economics at UC Davis. Subscriptions are available free of charge to interested parties.

To subscribe to ARE Update, contact:
Julie McNamara, Outreach Coordinator
Department of Agricultural and Resource Economics
University of California
One Shields Avenue, Davis, CA 95616
e-mail: julie@primal.ucdavis.edu phone: 530-752-5346

Articles published herein may be reprinted with the authors' or editors' permission. Please credit the Department of Agricultural and Resource Economics at UC Davis.

ARE Update is available online at www.agecon.ucdavis.edu/outreach/outreach.htm

The University of California, in accordance with applicable Federal and State law and University policy, does not discriminate on the basis of race, color, national origin, religion, sex, disability, age, medical condition (cancer-related), ancestry, marital status, citizenship, sexual orientation, or status as a Vietnam-era veteran or special disabled veteran. The University also prohibits sexual harassment. This nondiscrimination policy covers admission, access, and treatment in University programs and activities. Inquiries regarding the University's student-related nondiscrimination policies may be directed to Student Judicial Affairs Director Jeanne Wilson, 308 North Hall, 530-752-1128.



Department of Agricultural and Resource Economics
University of California
One Shields Avenue
Davis, CA 95616
#0205

