



Editors' Introduction

This is the first issue of the *Agricultural and Resource Economics Update*, published by the Department of Agricultural and Resource Economics (ARE) at the University of California, Davis. The newsletter will be published quarterly as part of the department's effort to disseminate information generated by ARE faculty to a broad audience. Our target audience includes agricultural producers, agribusiness and marketing professionals, policymakers, Cooperative Extension advisors and specialists, academics, department alumni, and others.

In this issue we present a series of articles which illustrates the research focus of some ARE faculty members on topical economic questions and policy issues in California. To begin we offer an analysis by **Roberta Cook** of the effects of NAFTA on trade and marketing in the fruit and vegetable industries of California.

Continuing with an international

perspective, we include a summary of **Philip Martin** and **Edward Taylor's** contribution to the Binational Study of Migration. They review the conditions that cause people to cross the Mexico-U.S. border and assess the factors which sustain migration over time.

Finally, a synopsis of **Karen Klonsky's** paper on organic wine grape production in California is presented. The data collected for this study reveal the actual methods used by successful wine grape producers without the inclusion of synthetic pesticides or fertilizers.

To introduce the ARE faculty to our audience we begin our Profile Series with Department Chair **Richard Sexton**.

The purpose of the UC Davis *ARE Update* is to provide insights and answers to important economic questions and issues in California. We hope you find this and forthcoming issues both informative and educational. We welcome all questions and comments.

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

Vol. 1 No. 1
Fall 1997

In this issue. . .

NAFTA: Neither Villain Nor Saviour
Roberta Cook..... 2

Prospects for Mexico-U.S. Migration
Philip L. Martin and J. Edward Taylor 5

Organic Wine Grape Production in California
Karen Klonsky..... 7

ARE Faculty Profile 10

ARE Research Briefs 11

In the next issue. . .

Higher Environmental Standards Can Enhance Competition and Welfare
Y. Hossein Farzin

NAFTA: Neither Villain Nor Saviour

by Roberta L. Cook

General Background

The Clinton administration recently released its official three-year assessment of NAFTA focusing on the U.S.-Mexico trading relationship. According to the Associated Press, the highlighted conclusions of the 100-plus page study are no surprise: The U.S. share of Mexico's total imports has risen to a sizable seventy-six percent, up from a seventy percent share prior to NAFTA. Trade is more vibrant than ever. Mexico is increasing its investment in environmental protection and restoration.

Similar conclusions were drawn by the State of California's NAFTA assessment earlier this year. Since the trade agreement took effect in January 1994, California exports to Mexico have grown by \$2.6 billion, reaching \$9.1 billion in 1996. California is now responsible for sixteen percent of all U.S. exports to Mexico.

Yet critics cite Labor Department reports that 7,211 California workers at seventy-one companies allegedly have lost their jobs due to free trade with Mexico. Nevertheless, the Department of Commerce asserts that thousands of job gains have also occurred. Recent research published by the North American Integration



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and Development Center at UCLA indicates that, to date, NAFTA's net effect on jobs has been almost nil, although slightly positive.

When all the emotion is removed from the NAFTA debate, the result is clear: There has not been a "giant sucking sound" of American jobs drawn to Mexico (as Ross Perot predicted) or major job creation in the U.S. (as many proponents of NAFTA predicted). In the third year of NAFTA's implementation Mexico remains the U.S.'s third largest trading partner, just as it was prior to NAFTA.

However, Mexico has been gaining ground relative to Japan, our second largest trading partner. In the first four months of 1997 U.S. exports to Mexico equaled exports to Japan despite Japan's economy being twelve times larger than Mexico's. Our geographic proximity to Mexico's burgeoning population, already at ninety million, bodes well for the future of U.S.-Mexico trade.

NAFTA Is Only Part of the Picture

It is important to understand that NAFTA is only one of many factors affecting trade flows within the North American region. Before attributing most of the recent changes in U.S.-Mexico trade flows directly to policy changes implemented under NAFTA, it is helpful to consider other factors and understand a few specifics.

U.S. Tariff Protection Was Already Minimal Prior to NAFTA

A major thrust of NAFTA is simply the eventual elimination of tariff and most non-tariff barriers (NTBs) such as quotas, licenses, and scientifically unfounded phytosanitary restrictions. Yet in general, U.S. tariffs and NTBs were already low before the agreement was signed. U.S. tariffs averaged only 2.07% on Mexican goods before NAFTA was implemented, while Mexico applied tariffs on U.S. goods at a rate averaging ten percent. Under NAFTA, Mexico has reduced its tariffs on U.S. goods by 7.1 percentage points to an average rate of 2.9%, while the U.S. reduction has been only 1.4 percentage points down to 0.65%. Mexico also continues to dismantle many significant NTBs benefiting U.S. exporters. Hence, the U.S. has received greater benefits from tariff and NTB reduction under NAFTA than has Mexico.

Tariffs on the most import-sensitive items (both for Mexico and the U.S.) are being reduced gradually, with phaseout schedules varying from five to ten, and in some cases, up to fifteen years. A few sensitive commodities also continue to receive protection from tariff rate quotas (TRQs). TRQs require reversion to the pre-NAFTA tariff once seasonal/annual imports ex-

ceed a specified quota. In other words, for commodities covered by TRQs, the benefits of tariff reduction may be received by only a portion of total imports. All TRQs, as well as tariffs on those products with fifteen year phaseouts, will eventually be eliminated by the year 2009. Clearly the effects of tariff reduction on many sensitive goods are yet to come.

To Date, the Devaluation and Mexican Economic Crisis Outweigh NAFTA

At least so far, the devaluation of the Mexican *peso* relative to the dollar in December 1994 and Mexico's subsequent economic crisis have had a far greater influence on trade flows than has NAFTA. Prior to the devaluation the *peso* was substantially overvalued relative to the dollar, stimulating an artificially high level of import demand. Not surprisingly this level of Mexican import demand for many U.S. commodities could not be sustained under more realistic terms of trade.

Conversely, the devaluation greatly increased the competitiveness of Mexican export-quality goods and created record levels of exports. Mexican exports to the U.S. were further stimulated by a robust U.S. economy with strong import demand.

"La Crisis" and Recovery

The Mexican government moved swiftly in the aftermath of the devaluation to impose an economic austerity program designed to reduce the deficit in the current account (which had precipitated the devaluation), stabilize financial markets, and restore growth and investor confidence. As expected, Mexico experienced a major contraction in domestic demand, with real gross domestic product declining by over six percent in 1995. With an economic crisis of this magnitude taking place in the second year of NAFTA's implementation, it is clearly inappropriate to attribute changes in trade flows solely, or even primarily, to NAFTA.

The good news for both the Mexican population and U.S. exporters is that the economic recovery program is working and the Mexican economy is now estimated to be growing at about a six percent annual rate. Investors are regaining confidence in Mexico, as evidenced by the expected return of foreign investment

levels this year to the pre-devaluation level.

Furthermore, in 1996 the U.S. regained its traditional agricultural trade surplus with Mexico, temporarily lost in 1995 after the devaluation (see accompanying table). In 1996 the U.S. imported about \$3.8 billion dollars worth of food and agricultural products of all types from Mexico, over half of which were horticultural commodities. The U.S. sent \$5.3 billion dollars worth of food and agricultural products to Mexico in the same year, over half of which were high-value products including processed foods.

However, as always weather will continue to be a major factor affecting trade flows for agricultural commodities independent of NAFTA. We should still expect significant variation in seasonal/annual trade

TOTAL U.S.-MEXICO BILATERAL FOOD AND AG TRADE¹
(in constant 1995 dollars)

Year	U.S. Exports to Mexico	U.S. Imports from Mexico
1990	2,978,536,560	3,448,603,612
1991	3,380,165,296	3,201,885,839
1992	4,147,773,873	2,949,954,790
1993	3,877,098,079	3,278,925,488
1994	4,746,423,615	3,446,555,194
1995	3,500,391,097	4,407,869,349
1996	5,271,068,091	3,862,625,236

¹Includes crops, livestock, seafood, flowers, processed food, and beverages

Source: U.S. Customs, NAID Center, UCLA

flows on a commodity-by-commodity basis depending on crop yields and international prices. Agricultural producers can never afford to take any market for granted.

Some Specific Implications for U.S. and California Horticulture

Competitive relationships are always very dynamic but they become even more so as markets integrate internationally and trade is allowed to flow unimpaired or less impaired by tariff and non-tariff barriers. Technological change, as well as changes in wholesale/retail or consumer demand and preferences, can have sudden and important effects on trade flows. The U.S.-Mexico fruit and vegetable trading relationship is a case in point.

NAFTA - continued from page 3

On the Import Competition Side

Mexico's fruit and vegetable exports to the U.S. increased in value by twenty-eight percent between 1993 and 1995 despite average tariff reduction of only 2.8% over approximately the same period (1993-96) as provided for under NAFTA. Much of the expansion in exports has come in crops produced during the winter season in Sinaloa, competing with Florida rather than with California.

This growth in exports is in large part due to the adoption by Mexican growers of new technology for producing vegetables, such as tomatoes and colored bell peppers, rather than being a direct effect of



California Agriculture

NAFTA. For example, Mexican fresh-market tomato exporters have adopted new extended shelf-life varieties of vine-ripe tomatoes with improved yields and physical attributes. These have been well-received in the U.S. market, capturing market share away from U.S.-grown mature green tomatoes. The Mexican horticultural export industry had embarked on a process of technological change prior to NAFTA and this ongoing process will likely extend to more crops and regions as we enter the next century.

Mexican exports to the U.S. were also stimulated by the contraction in domestic demand during the recession. Some fresh produce crops are dual-market and exporters can ship either to the national market or to

the U.S. depending on relative prices. This is especially true for fresh-market tomatoes, Mexico's number two agricultural export. Actually, since sixty to seventy percent of the production and marketing costs of many vegetable export crops are in dollar-denominated terms, they did not receive the full benefit of the devaluation. Increased exports to the U.S. likely have been stimulated just as much by plummeting demand in Mexico as by the cost advantages received by the devaluation.

Over the longer run, Mexico's ability to increase exports to the U.S. partly depends on its ability to attract foreign investment. Mexico's track record for attracting foreign investment to the agricultural sector is less than impressive. According to SECOFI, the Mexican Ministry of Commerce and Industry, during the 1994-96 period cumulative direct foreign investment in the agricultural and livestock sectors totaled only \$11.2 million including under \$8 million invested in the horticultural sector.

While these figures exclude investments in joint ventures of the type normally involved in financing fresh produce export deals, they nevertheless highlight the challenge faced by Mexico in modernizing its agriculture. Mexico also still has important legal barriers to large-scale farming with even greater barriers directed at foreign investors. These generate uncertainty, increase transaction costs, and reduce the attractiveness to foreigners of investing in the long-term future of the Mexican horticultural sector.

In contrast, the U.S. horticultural sector has many advantages relative to Mexico that help it to retain its competitiveness for most products. Despite the recent growth in Mexican horticultural exports to the U.S., they are still equivalent to under ten percent of U.S. horticultural production. U.S. advantages relative to Mexico include: Technology; capital; transportation; post-harvest handling facilities and other forms of infrastructure; efficient marketing channels and marketing acumen; marketing institutions including PACA and mandated-marketing programs; and the research and extension support of the land-grant university system. U.S., especially California producers, substitute capital and technology for labor, enabling them to compete in a relatively labor-intensive sector.

On the Export Side

On the other side of the equation, the market potential for California horticultural exports to Mexico was temporarily reduced by the *peso* devaluation. Mexican demand for stone fruit, grapes, tomatoes, and other fresh produce imports from the U.S. dropped by forty-nine percent in 1995 despite continued tariff and NTB reduction under NAFTA. This was predictable

NAFTA - continued on page 9

Prospects for Mexico-U.S. Migration

by Philip Martin and J. Edward Taylor

The Binational Study of Migration was released by the U.S. Government in August 1997. We contributed to the study, reviewing the factors that cause people to cross the Mexican-U.S. border to work temporarily or settle in the U.S. An assessment of the factors that sustain such migration over time was an integral contribution to the study.

In absolute terms the United States is the world's major country of immigration and Mexico is the world's major country of emigration. The best estimates suggest that there were 7 to 7.3 million Mexican-born residents in the U.S. in 1996, including 4.7 to 4.9 million Mexican-born residents authorized to be in the U.S., and 2.3 to 2.4 million unauthorized Mexican-born residents. The number of legal and unauthorized Mexican-born residents in the U.S. is increasing by 277,000 to 340,000 per year. In a typical year some four to five million Mexican nationals, the equivalent of one-eighth of Mexico's labor force and one third of those employed in formal sector jobs in Mexico, are employed in the U.S.; Mexican-born workers are about four percent of the total U.S. labor force.

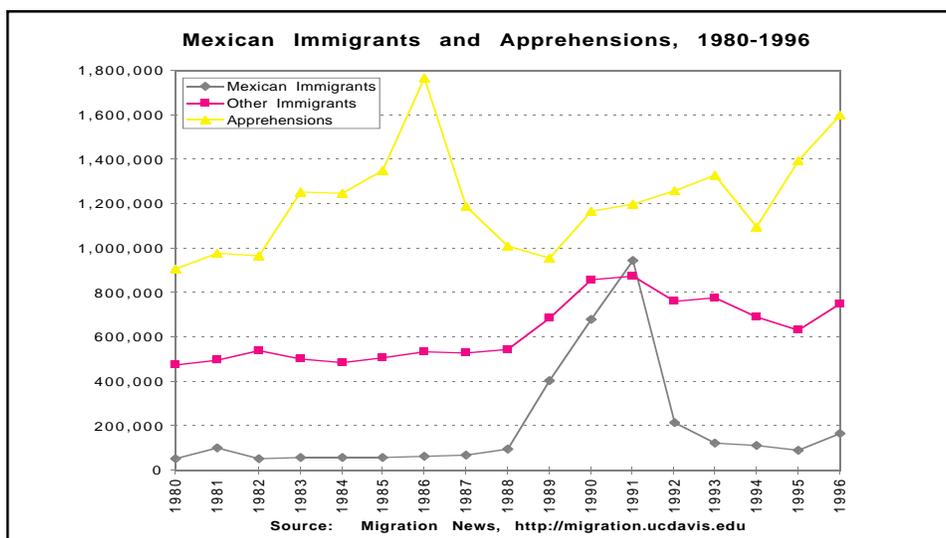
Mexico to the United States migration has a long history and has become one of the most important linkages between the two most populous countries in North America, affecting employment patterns, demographic trends, regional dynamics, and politics in both countries. "Go north for opportunity" is an idea deeply embedded in Mexican youth, especially in the rural areas of west central Mexico. Closer economic integra-

tion, including more trade and investment, is interacting with and affecting migration patterns in significant ways.

Three Key Findings

The factors that sustain Mexico-U.S. migration are grouped into three broad categories: Demand-pull factors in the U.S., supply-push factors in Mexico, and network factors that bridge the border. The analysis leads to a simple conclusion: The migration of persons from Mexico to the U.S. is a dynamic process; what began largely as the U.S.-approved or U.S.-tolerated recruitment of Mexican workers for mining, railroad, and seasonal U.S. farm jobs has become a far more complex migration relationship that is moving rural, and more recently urban, Mexicans into traditional and nontraditional industries, occupations, and areas of the U.S. The report is based on three key findings:

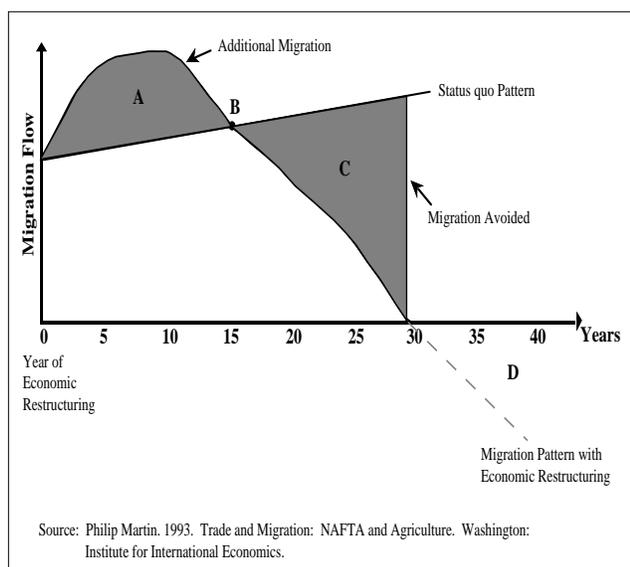
1. The origins of Mexico-U.S. migration lie largely inside the United States. Mexican workers were recruited earlier in the twentieth century for U.S. farm jobs, creating linkages between jobs in U.S. agriculture and workers in particular Mexican communities. Now the labor markets in which Mexican migrants are finding U.S. jobs are changing and may change even more. Already most Mexican-born workers (an estimated eighty percent) hold nonfarm U.S. jobs.
2. The factors that initiate migration flows are not necessarily the only ones that sustain Mexico-U.S. migration. There is still a demand-pull for Mexican workers in the U.S.; most recently-arrived legal and unauthorized Mexican migrants can find work in high turnover farm, manufacturing, and service jobs, in areas where Mexican-born work-



MIGRATION - continued from page 5

ers have traditionally played important roles as in southwestern agriculture, and in new industries in the Midwest, the Southeast, and East Coast including construction, meatpacking, and services. However, supply-push factors in Mexico have become more important in recent years as a result of recurring Mexican economic crises and policies aimed at economic modernization such as the privatization of government-owned industries and the restructuring of rural Mexico. New U.S. border enforcement strategies begun in 1994-95 have encouraged most (seventy percent) of Mexicans attempting unauthorized entry into the U.S. to hire *polleros* or “coyotes” to help them cross the border which reduces apprehensions despite stepped-up U.S. border controls. Also smuggling has increasingly become a business, with migrants offered various options to pay for the cost of getting into the U.S. illegally, including working in a “coyote”-provided or “coyote”-arranged job in the U.S.

3. There is currently a hump or peak in the volume of Mexico-U.S. migration that is likely to persist until at least 2000. One long-term supply-push factor explaining the mid-1990s migration hump is the fact that the number of job seekers in Mexico exceeds the number of jobs being created for new labor force entrants.



The report identifies demographic and economic indicators suggesting that, starting in five to fifteen years, population supply-side pressure for Mexico-U.S. migration should decline from current levels. Factors leading to this decline include reduced population

growth in Mexico and the recent trend toward growth and stabilization of the Mexican economy, which should increase job availability and wages.

Dynamics of Migration

Mexico-U.S. migration is a complex and dynamic process:

1. If the underlying demand-pull, supply-push, and network factors change in strength and relative importance, policies designed to deal with just one factor at one level of migration may lose their effectiveness over time.
2. Both the U.S. and Mexico took steps over the past decade that reinforced the network and supply-push factors that encourage Mexicans to go north for opportunity:
 - The U.S. legalized two million Mexicans in 1987-88 including almost one million unauthorized Mexican farm workers. Legalized Mexican Special Agricultural Workers (SAW), amounting to one-sixth of the adult men in rural Mexico, gained the right to settle in the U.S. and petition to bring their families to the U.S.
 - Mexico in the early 1990s undertook measures which resulted in a shrinking of employment in agriculture, including the elimination of most input subsidies and price guarantees, switching to direct payments to farmers and easing trade restrictions.
 - Extensive networks of private agents have developed to assist Mexicans wishing to migrate legally and illegally to the U.S., including a variety of advisors, smugglers, and transportation agents.
3. It should be kept in mind that some of the factors that today are producing high levels of Mexico-U.S. migration today should abate over the next five to fifteen years.
 - Mexico's population growth has slowed, which promises fewer new labor force entrants in the years ahead.
 - Workers can be displaced from agriculture only once. Thus after the Mexican farm labor force has been reduced from twenty-five percent of all workers in the mid-1990s to twelve to fifteen percent by 2015, supply-push emigration pressures from the areas that have some of the best network connections to the U.S. should diminish.
 - The destabilizing impacts of Mexican institu

MIGRATION - continued on page 10

Organic Wine Grape Production in California

by Karen Klonsky

The California grape industry ranks first in grape production in the nation with roughly 650,000 bearing acres. These produce about ninety percent of the total United States grape crop. Since 1992 grapes are the second largest contributor to farm income in California, with a combined gross value of between \$1.7 and \$1.8 billion for juice, raisin, table, and wine grapes.

Organic agriculture represents approximately 0.5% of the total farmed acres and total gross sales for all agriculture in California excluding dairy and livestock during the 1992-1993 time period. Fruit and nut crops represent forty-two percent of the total farmed acres and forty-four percent of total gross sales for organic agriculture. These organic industry statistics are from the analysis of organic registration data conducted by the UCD Department of Agricultural and Resource Economics in conjunction with the California Department of Food and Agriculture (CDFA).

There is increasing interest in integrated pest management (IPM) and sustainable agricultural practices in the farming community in general and in the wine grape industry in particular. Industry experts consider organic grapes to be a leading organic commodity in the state; the motivation has undoubtedly come from a variety of factors. These include general concerns about consumer attitudes and environmental contamination, more immediate issues such as resistance problems and secondary pest outbreaks in vineyards, and the potential loss of pest control materials through government regulation (currently these include Omite, Benlate, Rovral, Kelthane and Simazine).

Organic production is one indicator of a lower bound on the adoption of sustainable farming practices. Current estimates put organic wine grape acreage in California at about one per cent of total wine grape acreage, making it by far the largest organic acreage of any individual crop in California. Paradoxically, very little of the wine made from organically grown wine grapes is labeled as produced from organic grapes. This leads to the conclusion that the use of organic and sustainable practices is more a perception of quality and a concern for land stewardship than a marketing tactic in and of itself.

Two research projects were initiated in response to the growing interest in organic wine grape production. The first is a 1992 study on organic wine grapes on the North Coast of California; the second is a study completed this year in cooperation with the Lodi-

Woodbridge Wine Grape Commission looking at the economic performance and organic adoption rates of their members.

The 1992 study was done by asking a group of successful organic wine grape producers about the practices they use to develop the "tool box" from which



Photodex Corporation

they work. A hypothetical vineyard was developed using a subset of these practices. The costs of production were generated using Budget Planner. This program was developed by the UCD Department of Agricultural and Resource Economics to do cost-and-return estimates, using general accounting equations for the interest on capital and capital recovery for long-term assets, and engineering equations for fuel, lube, and repairs.

The Lodi study was based on records of two years of specific practices by farmers whose goals were to reduce pesticide use, not necessarily to grow organically. The data collected for these two studies reveal the actual methods being used by successful wine grape producers without the inclusion of synthetic pesticides or fertilizers. These results were presented at a May 1997 conference in Sicily on organic farming in the Mediterranean. A synopsis of that paper follows.

Organic Production Practices

Overall organic wine grape yields are similar to those obtained in conventional vineyards for similar varieties under similar growing conditions. Many of

WINE GRAPES - continued from page 7

the production practices for organically grown grapes are similar to those of a conventionally grown crop: Pruning, suckering, brush removal, irrigation, and harvest are essentially the same for organic and conventional vineyards. The major differences occur in the area of vineyard floor management, fertility, and pest control.

Cover crops, a key component of any organic wine grape production system, contribute to pest control, soil fertility, water infiltration, weed suppression, and reduction of soil erosion in hilly areas. Cover crops have long been associated with increased abundance of generalist predators of insect pests and spider mites in perennial crops. Cover crops are usually planted in the fall to take advantage of winter rains for germination.

Although there are a number of diseases that affect California wine grapes, the most prevalent diseases that necessitate treatment are powdery mildew (*Uncinula necator*) and bunch rot (*Botrytis cinerea*). Powdery mildew is often controlled with sulfur applications. In conventional systems *Botrytis* is treated with sterol-inhibiting fungicides; in organic systems bunch rot infections can be reduced by canopy management (removal of leaves around clusters to open the canopy to sunlight and increase air circulation). This tactic also increases berry quality by increasing sugars.

Leafhoppers and mites are the most common arthropod pests found in California vineyards. Strategies such as winter cover crops are being used to con-

trol leafhoppers. Winter cover crops provide habitat for predators, such as spiders, and affect nutrient and water status in the vineyard. Naturally occurring blackberry patches also are being maintained as refuges for the grape leafhopper parasites (*Anagrus spp.*); prune trees have been planted in some vineyards for the same purpose. Organic growers use strategies including application of insecticidal soap or yellow sticky tape for trapping leafhoppers.

Spider mites are managed through a variety of techniques including water management to avoid vine stress, cover crops to reduce dust, and release of predatory mites to assist in spider mite control. Weeds in vine rows can be controlled without herbicides by mechanical cultivation with an in-row cultivator.

Certification and Registration of Organic Commodities

Growers who choose to produce and market their crops as organic must register on a yearly basis with the State of California under the California Organic Foods Act (COFA) of 1990; the law contains rules and regulations that must be adhered to by all producers, processors, and handlers of organic commodities. As of January 1, 1996, commodities must be produced on land where no prohibited substances have been applied for a minimum of three years immediately preceding harvest of the crop in order to qualify as organic. Annual registration fees are levied by the state and an initial registration fee is assessed. The state program is administered through the CDFA.



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WINE GRAPES - continued from page 8

A federal law, the Organic Foods Production Act, was passed in 1993 but still has not been implemented or enforced. Once it is in place it will override any state laws and will be administered by USDA. The federal law will require that all growers with over \$5,000 dollars in annual sales be certified by an accredited agency.

Organic Production Versus Organic Processing

California follows the standards and guidelines of the COFA to regulate processing of organic products including organic wine. Organic wines currently represent only a very small segment of the total wine market. At issue in the winemaking process are naturally

occurring versus added sulfites. Although sulfites are naturally produced at extremely low levels during wine fermentation, they are normally added during wine processing to decrease the risk of oxidation and microbial spoilage. Under the COFA sulfite additives are prohibited in organic wine production. Therefore, wines with added sulfites may not be labeled as organic regardless of whether or not the wine grapes used in processing were organically grown. However, these wines may be labeled as produced from organically grown wine grapes. When no sulfites are added wine can be labeled as organic provided all regulations governing organic commodities are met and that organically grown wine grapes are used.

Karen Klonsky is a Cooperative Extension Specialist concentrating on economic comparisons of alternative farming systems.

NAFTA - continued from page 4

given the jump in the cost of imported U.S. fruits in peso-denominated terms.

Nevertheless, consumer demand is slowly beginning to recover and the rapid development of the supermarket industry in Mexico favors imports. Large Mexican retailers increasingly require imports to meet the growing demand for year-round availability of consistent quality fresh produce. Fortunately most California industries made a concerted effort to maintain ties with Mexican importers and retailers during the economic crisis. In the long run this good will should pay off for our exporters as the standard of living increases and Mexican consumers improve the quality of their diets, in part through greater consumption of imported fresh produce.

To Summarize

When considering the relative competitiveness of the Mexican and U.S. horticultural sectors, one can summarize as follows:

- So far the effects of the *peso* devaluation have been much more important than NAFTA in influencing trade flows.
- The devaluation has been more important in influencing short term trade flows than in fundamentally changing the relative competitiveness of the fruit and vegetable sectors.
- The U.S., Mexican, and Canadian fruit and vegetable industries are gradually evolving toward an integrated North American horticultural sector, simultaneously raising the performance standards for firms in all three countries.

- This integration is being driven by retail and food service demand for year-round supply of consistent quantities and qualities of fresh produce.

NAFTA Produces Other Benefits

Analysts should not lose sight of a less direct but nevertheless highly significant benefit of NAFTA. NAFTA (in conjunction with Mexico's 1986 entry into the GATT and later entrance into the OECD) has institutionalized many of the market reforms introduced over the last decade. Despite Mexico's recent economic crisis, Mexico has remained on the path of trade liberalization, not closing its borders as it did during the economic crisis in the early 1980s. Indeed, U.S. exports to Mexico have already rebounded to pre-NAFTA levels.

Conclusions

Mexico is likely to remain a major importer of U.S. processed food products and basic agricultural commodities. Major annual variation in U.S. exports of field corn, wheat, dry beans, and other basic commodities can be expected depending on annual weather conditions. Mexico's agricultural exports to the U.S. will remain dominated by horticultural products.

Trade liberalization, in conjunction with Mexico's geographic proximity to the U.S. and its expanding population of ninety million, insure that the long-standing U.S.-Mexico trading relationship will continue to grow.

Roberta Cook is a Cooperative Extension Specialist who focuses on fruit and vegetable marketing. More information on fresh fruit and vegetable marketing and trade is available at the following website: <http://www.agecon.ucdavis.edu/faculty/roberta.c/cookpg2.htm>

ARE Faculty Profile

Professor Richard J. Sexton joined the Department of Agricultural and Resource Economics in 1984 after receiving his Ph.D. from the University of Minnesota. He has served as the department chair since 1994. In addition to his administrative responsibilities, Rich is actively involved in teaching and research duties.

His research focuses primarily on the analysis of agricultural markets with special emphasis on the fruit, vegetable, and nut industries in California. A particular focus is the role that imperfect competition plays in agricultural markets. He explains that although these markets are sometimes offered as textbook examples of competitive markets, the reality is quite different. Agricultural markets often exhibit high levels of concentration at multiple points in the market chain from the farm gate to the consumer.

In particular, California markets often exhibit institutions and organizations of grower power, such as marketing cooperatives, bargaining associations, and marketing orders. These forces interact to influence market behavior in ways that may not be well captured by a basic competitive markets model.

Examples of Dr. Sexton's recent studies include: The effects of imperfect competition on the size and distribution of benefits from agricultural research; price determination for fresh produce with application to California lettuce; spatial competition and pricing in the California processing tomato industry; the role of buyer coalitions and exclusive contracts as a



Richard J. Sexton, Chair
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force to countervail market power; measurement of departures from perfect competition in multiproduct food industries; market integration and imperfect competition with application to U.S. celery; and behavior and decision making in water/irrigation districts.

MIGRATION - *continued from page 6*

tional and market reforms should soon run their course. With rapid growth, both in the rural sector and in the new export-oriented activities in Mexican urban areas, jobs and upward pressure on wages should encourage many potential migrants to remain in Mexico.

- The U.S. labor market is expected to absorb a large number of unskilled workers over the next few years, as the normal complement of new job seekers are joined by persons removed from welfare rolls. This increased supply of U.S. workers, as well as even more border and interior enforcement, may reduce the availability of jobs for newly-arrived Mexican workers.

ARE Professor Philip Martin has interests in farm labor, immigration, and agricultural policy. Professor J. Edward Taylor specializes in economic development, population and resources, technology adoption, and applied econometrics.

Their report, including policy recommendations, is included in the final report of the Binational Study of Migration, which is available on the following websites: <http://migration.ucdavis.edu> or <http://www.utexas.edu/lbj/uscir/>. Or contact the authors directly at: martin@primal.ucdavis.edu (916-752-1530) or taylor@primal.ucdavis.edu (916-752-0213).

ARE Research Briefs

Mandated Marketing Programs for California

by Hyunok Lee, Julian M. Alston, Hoy F. Carman, and William Sutton

Federal marketing orders and state marketing programs are an important part of California agriculture. As of May 1995, there were forty-eight state marketing programs and thirteen federal marketing orders in California.

This study is a comprehensive status report on California marketing programs from a historical perspective. After a background in marketing program operations and history, the study investigates their growing role in California with an emphasis on state programs. Historical program budget figures are used for this investigation. The analysis shows that specific patterns emerge across commodity categories and different time periods. Over time promotion budgets grew quickly along with total budgets, but research budgets remained relatively constant. Fruit crops are found to have a greater share of production value devoted to marketing programs than vegetables. Further, fruit crop programs tended to focus on promotion while those for field crops and vegetables focused more on research.

California Agriculture: Issues and Challenges

edited by Jerome Siebert

The Giannini Foundation and the Division of Agriculture and Natural Resources published *California Agriculture: Issues and Challenges* in conjunction with the XXIII International Conference of Agricultural Economists (August 10-16, 1997, Sacramento, CA). The book is a collaborative effort of UC Berkeley and UC Davis agricultural and resource economists.

The book's eleven chapters comprehensively summarize California agriculture from an economic and policy perspective. They provide both a foundation and a reference point for evaluation and analysis of change in the agricultural and agribusiness sectors. The book's topics cover the many issues and challenges faced by California by an overview of their complexity, development, present status, and future.

The California Table Grape Commission's Promotion Program: An Evaluation

by Julian M. Alston, James A. Chalfant, Jason E. Christian, Erika Meng, and Nicholas E. Piggott

This study analyzes demand relationships for California table grapes and evaluates the promotional expenditures of the California Table Grape Commission (CTGC). The postwar history of the table grape industry is reviewed; several econometric models are estimated for both demand in North America and in several export markets in Asia; and the results of the econometric models are used in benefit-cost analyses of CTGC programs, both from the point of view of the industry, which funds the programs through a check-off, and from the point of view of society as a whole.

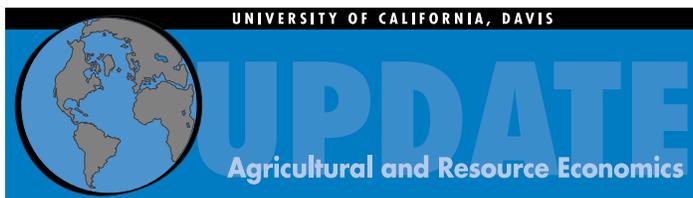
Promotional expenditures by the CTGC, including advertising in print and electronic media, marketing activities to wholesalers and retailers, and public relations and communications activities have significantly increased demand relationships in the table grape industry. This result was found in a variety of model specifications including: Long annual time series for the U.S. and Canada taken as one market, monthly observations of U.S. and Canadian demand, monthly observations for a number of individual cities in the United States, annual data for the largest export markets, and monthly data for individual countries importing the largest volumes of fresh grapes from California.

To use the econometric estimates of the demand shifts associated with CTGC promotional expenditures in a benefit-cost analysis, a full model of the industry was constructed with simulations for various assumed elasticities of supply. Even when supply was highly elastic with respect to price, the benefits to producers far exceeded either the total cost of the program (by a factor of ten), or the incidence on producers of the checkoff (by a factor of over 150). While these benefit-cost ratios appear enormous, they are the consequence of an increase in per capita table grape consumption in North America of about twenty percent realized over twenty-five years. Export promotions in the table grape industry were also substantially greater than costs.

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Agricultural and Resource Economics Update

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



Published by:

**Dept. of Agricultural and Resource Economics
University of California, Davis**

Steven Blank and Richard Sexton, *Co-Editors*

Julie McNamara, *Managing Editor*

Kim Brobeck, *Desktop Publishing*



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