



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

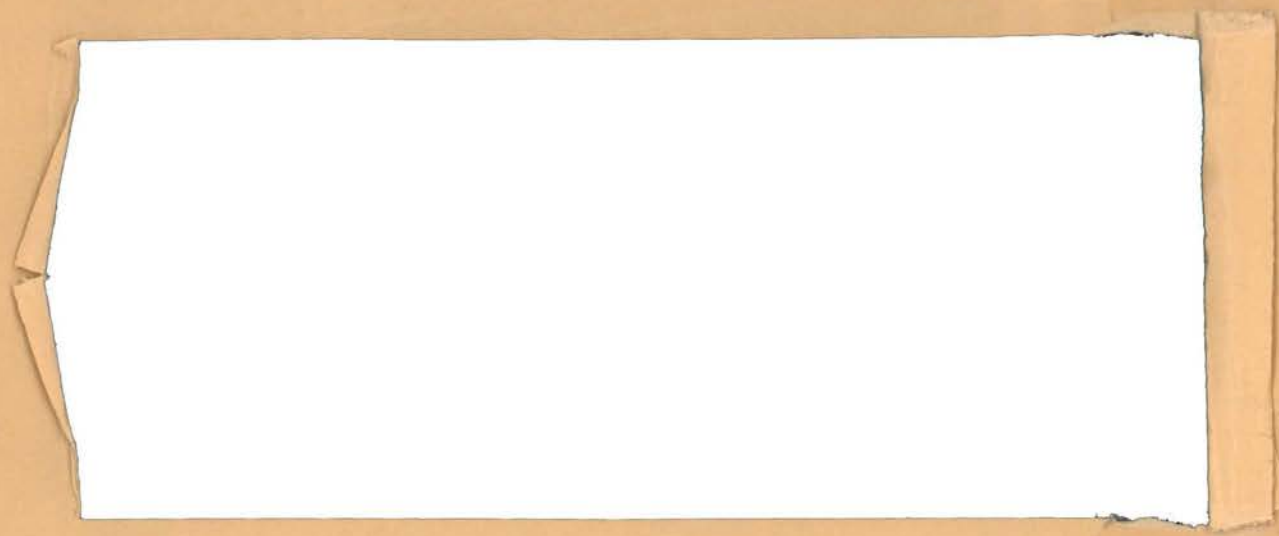
*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

1896

86-2

ch

UNIVERSITY OF CALIFORNIA
 DAVIS
 OCT 29 1986
 Agricultural Economics Library



1986 c



California - Commerce

Agricultural Issues Center
 University of California
 Davis, CA 95616

University of California
UC Agricultural Issues Center

EXPANDING CALIFORNIA AGRICULTURAL TRADE TO
PACIFIC RIM NATIONS: A LONG-TERM STRATEGY

by

Harold O. Carter and Elmer W. Learn*

UC AIC Working Paper No. 86-2, October 1986

Working papers are circulated by the authors without formal review. They should not be quoted without their permission. All inquiries should be addressed to the authors, UC Agricultural Issues Center, Davis, California 95616.

*Professors of Agricultural Economics, University of California, Davis.

EXPANDING CALIFORNIA AGRICULTURAL TRADE TO PACIFIC RIM NATIONS: A LONG-TERM STRATEGY

by

Harold O. Carter and Elmer W. Learn*

INTRODUCTION

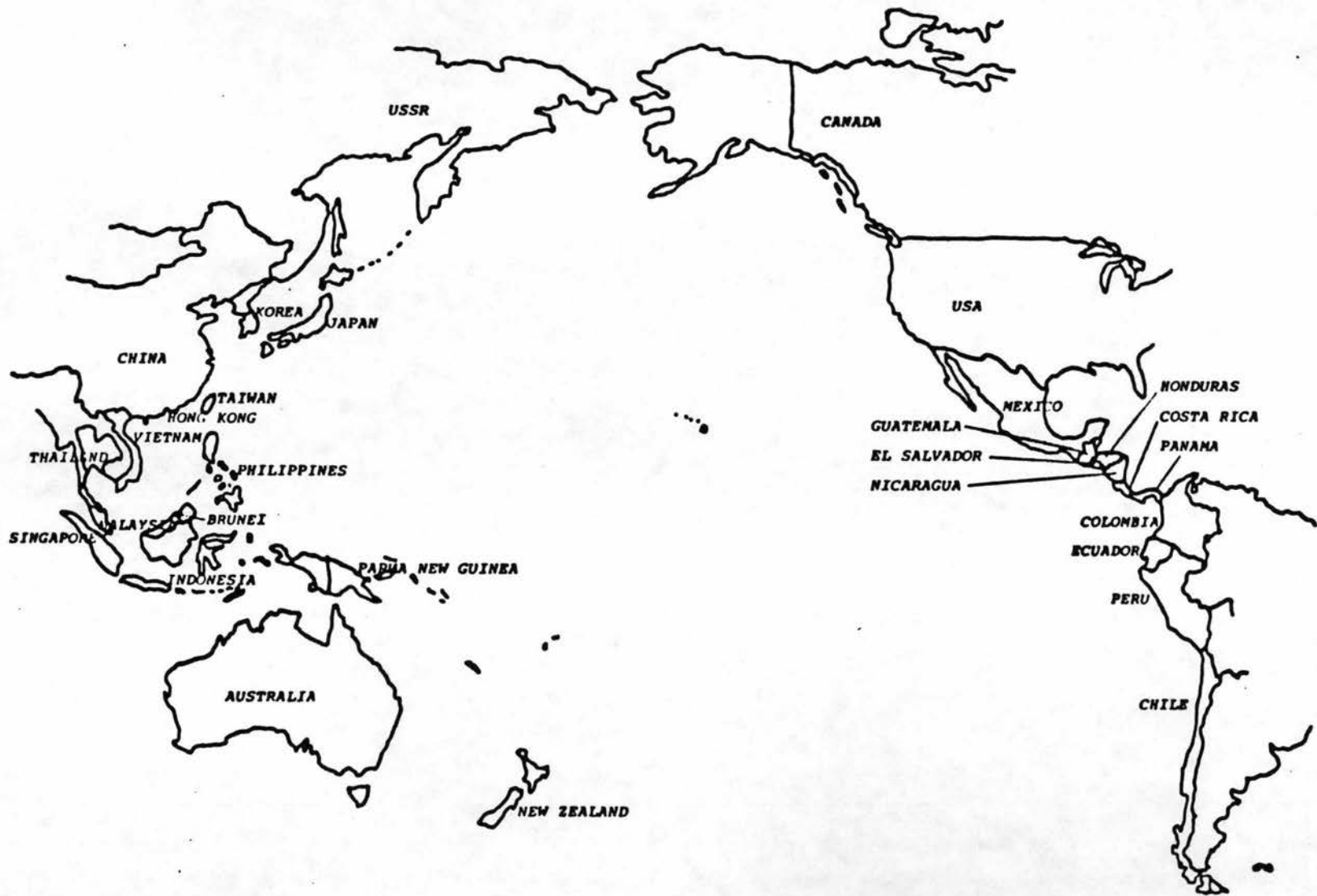
There is cause for excitement about the economic potential associated with the nations that border the Pacific, nations that in the aggregate have come to be known as the Pacific Rim (Figure 1). Population in these nations now comprises 60 percent of the world's total, and their economic growth over the past two decades has averaged about 7.5 percent. It is not surprising, therefore, that trade across the Pacific now exceeds that across the Atlantic and is expected to continue to do so for the indefinite future (California Economic Development Corporation, 1986).

California is particularly well situated to benefit from Pacific Rim developments. In addition to a favorable geographic location, the state is strong in both agricultural and industrial production, as well as in the service industries that are important components of current and anticipated trade. The importance of the Pacific Rim to California agricultural exports is illustrated in Figure 2.

Trade is a two-way street: Sellers must be prepared to buy. But products to be imported, in many cases, compete with those of domestic producers. However, the overall effect of trade benefits consumers generally and stimulates a higher level of economic activity that is of particular significance to transportation and other service industries. This increased activity at the point of export or import favors California. Thus, there is considerable cause for optimism within the United States generally and in California, particularly, about the growth potential inherent in the Pacific Rim.

It would be a mistake, however, to believe that the benefits are there for the taking. As we have learned during the first half of this decade, rapid economic growth, even in nations with such

*Professors of Agricultural Economics, University of California, Davis.

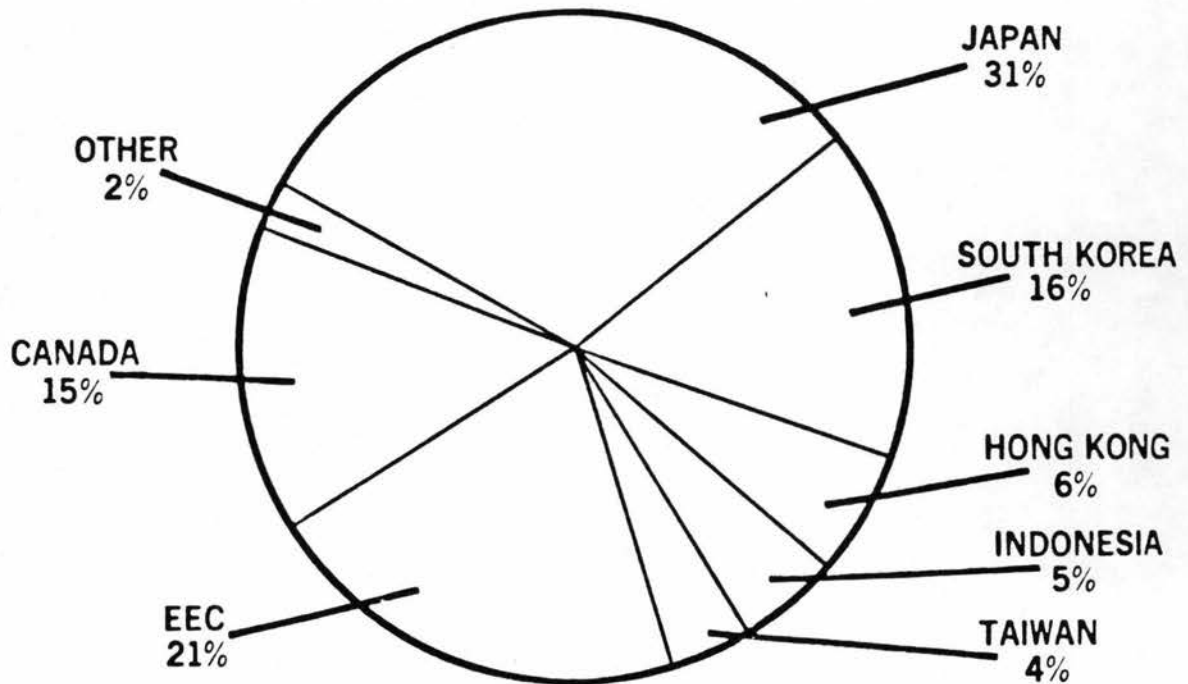


PACIFIC RIM

Figure 1

Figure 2

CALIFORNIA'S AGRICULTURAL EXPORT MARKETS, VALUE BASIS, CALENDAR YEAR 1984



Source: California Department of Food and Agriculture

outstanding records as Japan and Korea, is not automatic or continuous. Furthermore, growth may result in nations' switching from importing to exporting specific commodities, as happened recently in China with cotton, soybeans, and coarse grains. Of course, the reverse also happens, i.e., countries may also switch from exporting to importing some commodities.

If the United States and California are to maximize the benefits of the economic and demographic developments of the Pacific, these developments must be analyzed with a short- as well as a long-term view, and policies consistent with these analyses must be developed. The authors' purpose is to identify some of the important factors to be considered with reference to agriculture; to suggest some of the relationships that exist among agricultural production, consumption, and trade within the Pacific Rim; and to conclude with conjectures about the future.

Similarities and Differences Among Pacific Rim Nations

One of the issues that confronts any analyst of the Pacific Rim is its lack of homogeneity. Unlike the Atlantic community, the subject of so much attention three decades ago, the Pacific Rim nations as a group have relatively little in common except their linkage to the Pacific Ocean.

Economically they are extremely diverse. They include some of the most highly developed and some of the least developed nations in the world. Per capita gross national product (GNP) ranges from more than \$10,000 in the United States and Japan to less than \$1,000 in China and some of the developing nations of Southeast Asia and Central America. Besides these extremes, they include some of the most rapidly developing nations, often referred to as the newly industrialized countries (NICs)--South Korea, Taiwan, Hong Kong, and Singapore. Perhaps the enthusiasm for the Pacific Rim as a locus for future economic and political developments stems from the effects that growth in the NICs have had upon economic behavior on both sides of the Pacific. The optimists among us tend to project these developments of the past 15 years to the large populations of less-developed nations in the area, especially China. As we shall demonstrate shortly, not all factors support this optimistic view, at least in the short run.

Religious and cultural conditions cover a broad spectrum including the traditional oriental cultures associated with Japan, Korea, and other Asian nations; the indigenous cultures of the South Seas island nations; the dominant Latin influence of Central and South America; and the northern European influence characterizing the United States and, even more so, the nations of the British Commonwealth--Canada, Australia, and New Zealand. Experience of the past few decades suggests, however, that cultural considerations may be less of a constraint to changing food consumption patterns in response to rising incomes than was previously believed. For example, there has been a movement toward "western" style dietary habits in Japan and, more recently, in South Korea. As we shall see, changes in dietary behavior as incomes grow are some of the most important considerations in determining the pattern of production and trade in agricultural commodities.

Politically and economically, democracy and capitalism prevail but the exceptions are many and important--perhaps none more so than the socialistic philosophy of central planning governing both the political and economic behavior of 1 billion Chinese. But even in China, a grassroots reform of the rural economic structure has replaced the commune system with a family-based production responsibility system (Neri and Calkins, 1986).

Geographically, the Pacific Rim nations are found in both hemispheres and at latitudes that encompass climatic conditions ranging from the humid tropics to the semi-arid grain and grazing lands of temperate zone plains. However, in many of these countries, the people-to-land ratio limits the availability of arable land, impeding nationalistic efforts to become self-sufficient in food, let alone to achieve dietary patterns approaching those of developed nations.

The diversity of the Pacific Rim nations makes it extremely difficult to generalize. In what follows, therefore, we can do little more than illustrate the kinds of considerations and principles that are important in analyzing the agricultural and trade potential pertaining to specific nations and to their relationship with the United States, particularly California. Before turning to these specifics, however, it is appropriate to set the stage with a brief description of the conditions that characterize agricultural policy and trade during the last quarter of the 20th Century.

THE FRAMEWORK FOR AGRICULTURAL POLICY AND TRADE

The final quarter of the 20th Century opened under conditions that presaged a world agriculture remarkably different from that which had been experienced throughout most of the previous 75 years. For the first time since the early years of the century, the Malthusian theory of population growth outrunning food production capability became an issue of serious policy concern (Learn, 1986).

World agricultural trade expanded greatly in the 1970s due to many factors including changes in Russian policy and rapid rates of economic growth. From 1972 through 1974 terms of trade shifted quickly in favor of agriculture. Farmers in the United States and around the world rose to meet the challenge and the economic opportunities inherent in a world that they assumed would be characterized by shortages rather than surpluses of food.

We now realize that the events of the 1970s reflected a significant increase in worldwide economic interdependency, including a rapid expansion in the internationalization of the American economy. But, for agriculture here and throughout most of the world, what occurred in the early 1970s was likely an aberration from, not a reversal of, long-term trends in the relationship of worldwide agricultural supply and demand. With the exception of sub-Saharan Africa, all areas of the world are now experiencing a growth in food production capacity that outruns the growth in effective demand stemming from increases in population and incomes. And, except for unpredictable short-term deviations and barring major conflicts, this condition is expected to prevail at least until the end of the century.

In the United States, agricultural exports rose from less than \$10 billion a year in the 1960s to a high of \$43 billion in 1981. But in 1986 they have fallen to little more than \$25 billion and seem certain to fall further in the next year or two. Pacific Rim nations have figured importantly both in the export expansion of the 1970s and the decline that has characterized the first half of the 1980s.

Japan's market was of gradually increasing significance to American agribusiness throughout the 1950s and 1960s. And in the 1970s, the newly industrializing countries of South

Korea, Taiwan, and Singapore also became major outlets for America's burgeoning agricultural production. As a result, American agriculture's attention was increasingly directed to the Pacific. This western shift was reinforced by the negative influence on trade of the protectionist domestic agricultural policies of the European Economic Community as well as the expansion of the Community to include several additional Mediterranean countries.

The impressive growth in trade between the United States and Pacific Rim nations, especially those in East and Southeast Asia, was achieved (1) when the dollar had a relatively low value in foreign exchange, (2) when the rate of economic growth was increasing throughout the world, and especially in East Asia, and (3) when U.S. agricultural production capability had not yet been matched by competitors. In the early 1980s U.S. agricultural trade, including that within the Pacific Rim, declined as the dollar's value rose, the rate of economic growth in east Asia and throughout the world slowed, and competitors' productive capability rose. Several of these competitors were Pacific Rim nations.

Increased agricultural production was due more to the application of science to agriculture than to additional acreage. Furthermore, it was encouraged under the worldwide umbrella of price protection provided by U.S. domestic farm policy. Indeed, world agricultural trade, in general, is determined more by domestic policies of agricultural price and income support in exporting and importing countries than by governmental policies directed at trade per se.

The pervasive condition of surplus characterizing agriculture in developed countries, and even in many developing ones, has led everywhere to policies protecting domestic agricultural industry. A desire to insure that economic well-being of farm families has in many nations been accompanied by an attempt to achieve and maintain a high degree of food self-sufficiency. Furthermore, there is an understandable fear of becoming excessively dependent upon single sources of supply of certain foods or feeds. No government is more sensitive to this issue than the Japanese. The short-lived U.S. embargo on soybean exports in 1974 awakened this fear which still is contained in the rhetoric of Japanese policy makers.

One of the results of these prevailing domestic agricultural policies is a significant increase in world market price instability. As nations take measures to stabilize internal agricultural supplies and prices, the instability inherent in agricultural markets is transferred to the world market. As a result world agricultural trade during the 1970s and 1980s has taken on what has been characterized as a "wild roller-coaster price ride" due to weather, e.g., drought in the U.S. Corn Belt and the effects of el Nino in the early 1970s and policy changes, e.g., Russia's decision to enter world grain markets in 1972, various U.S. commodity embargoes, and, most recently, the U.S. Food Security Act of 1985 (Carter, 1986).

Also, because of almost universal use of domestic agricultural policies, agricultural trade has been almost immune from international agreements such as the GATT. The United States and several other nations are hopeful that this situation might be improved during the multilateral trade negotiations that began recently in Punta del Este, Uruguay.

Domestic agricultural policies in the United States and in most nations are directed at grains, oilseeds, cotton, and dairy products. However, border restrictions, constraints, and controls are also used with other commodities. Of particular importance to California is the widespread tendency of nations to employ nontariff barriers in an effort to protect domestic producers, e.g., restrictions on imports of fruits and vegetables ostensibly for health and safety considerations. The California World Trade Commission recently completed an extensive study of such restrictions employed by the nations of the Pacific Rim (Peltier, 1986).

In recent months increasing protectionist sentiment is being expressed in the United States and elsewhere. Such a mood translated to protectionist action could be extremely costly for American consumers generally and disastrous for California's already depressed agricultural economy. Perhaps of even greater importance, protectionism threatens growth among the nations of the Pacific Rim thereby negating its beneficial effects on trade across the Pacific.

In the next section we examine specifics relating to markets for California agricultural commodities and prospects for the future. First, we look at trends and changes in California's crop production as foreign markets have gained in importance. Then, looking toward the future,

we consider characteristics of the Pacific Rim market and some of the underlying factors that cause it to change. In the subsequent section, we discuss some of the major production and marketing obstacles in the way of California's gaining a greater share of these markets. We also consider possible long-range strategies for overcoming these obstacles. Finally, we offer some concluding comments.

CALIFORNIA'S RESPONSE TO DOMESTIC AND WORLD MARKET CHANGES

Changes in California Production

California agriculture is blessed with a favorable climate as well as an abundance of fertile land and water. Other features that distinguish the state's agriculture include: access to capital markets, a high level of management and business skills among its personnel, and a propensity toward early adoption of new technology. These attributes have been the underpinnings of a highly diversified, large scale, and efficient production/marketing system that has allowed California to excel in national and international market.

Table 1 shows changes in California harvested acreage of major crop groups (field crops, vegetable crops, and fruit and nut crops) since the early 1960s. During the decade of the 1960s, total harvested cropland remained almost constant at slightly over 8 million acres with slight gains in vegetables, fruit, and nut crops offsetting declines in field crops. Total harvested acreage expanded by about 1.5 million acres from the average for 1966-1970 to 1981. Since its 1981 peak, harvested cropland has decreased by about 900 thousand acres. This decline has been largely in grains, rice, cotton, and sugar beets which includes the considerable acreage idled by participants in federal commodity programs.

There has been some change in the relative proportions of harvested acres among field crops, vegetables, and fruit and nut crops over the last 25 years. Field crops accounted for three-fourths of total harvested acreage in the early 1960s but declined to about two-thirds; vegetable crops increased slightly, from 9 to 11 percent; while the share in fruit and nut crops went from

TABLE 1: CALIFORNIA HARVESTED ACREAGE OF MAJOR CROP
5-YEAR AVERAGES 1961-1980, ANNUAL 1981-85

	1961-65 (AVE)	1966-70 (AVE)	1971-75 (AVE)	1976-80 (AVE)	1981	1982	1983	1984	1985
FIELD CROPS									
FEDERAL PROGRAM CROPS	3,220,100	3,172,580	3,514,600	4,113,200	4,643,000	4,092,000	2,877,000	3,675,000	3,513,000
NON-PROGRAM FIELD CROPS	2,980,200	2,916,820	2,734,200	2,474,600	2,382,000	2,286,900	2,093,500	2,280,000	2,321,000
TOTAL FIELD CROPS	6,200,300	6,089,400	6,248,800	6,587,800	7,025,000	6,378,900	4,970,500	5,955,000	5,834,000
TOTAL VEGETABLE CROPS	692,934	729,646	827,458	846,199	870,360	941,847	952,706	997,071	979,128
TOTAL FRUIT & NUT CROPS	1,248,284	1,320,334	1,447,078	1,730,554	1,766,392	1,817,366	1,855,445	1,912,435	1,947,645
TOTAL ALL CROPS	8,141,518	8,139,380	8,523,336	9,164,553	9,661,752	9,138,113	7,778,651	8,864,506	8,760,773

15 to 22 percent. Thus, there has been a gradual expansion in vegetables and fruit and nut crops at the expense of field crops, probably indicating that California's long-run major comparative advantage lies in the specialty crop area.

California's comparative advantage in the nation for growing specialty crops can be seen also from production share trends (Table 2). California's share of U.S. production increased or remained constant for most specialty crops over the last quarter century but is more variable for most field crops. Rice is the exception remaining relatively constant with slightly over one-fifth of U.S. production. California cotton (lint) doubled its share of U.S. production from 12-13 percent in the 1960s to almost 23 percent. From these patterns, we conclude that California producers shift cropping patterns in response to changing national and worldwide markets, government programs, and technological forces.

Sources of Market Demand of the Future

While domestic sales are and will remain the major share of the market for most California commodities, most market expansion must come from abroad--in large part from the Pacific Rim nations. As noted earlier, these nations vary greatly in their stage of development, but several in Latin America (Chile, Peru) and Asia (China) are beginning the transformation from an agrarian to an industrialized economy. With this transformation comes marked changes in the importance and the size of the agricultural sector, in the pattern of trade, and in the mix of domestic food and nonfood products and services demanded. Understanding these underlying forces is a first step in devising long-term strategies in creating and capturing these important market.

Domestic Demand. First, we consider the more predictable portion of the market for California products--domestic demand--because it provides some insight into demand by other highly developed countries. Demand for food products in general is shifted over time mainly by population and per capita income growth. Population in the United States is growing at less than 1 percent per year and is not expected to change greatly over the remainder of the century. And

TABLE 2: CALIFORNIA SHARE OF U.S. PRODUCTION, SELECTED CROPS
5-YEAR AVERAGES 1961-1980, ANNUAL 1981-84

	1961-65 (AVE)	1966-70 (AVE)	1971-75 (AVE)	1976-80 (AVE)	1981	1982	1983	1984
FIELD CROPS								
FIELD CORN	0.2	0.4	0.6	0.5	0.4	0.5	0.8	0.7
BARLEY	18.0	16.5	13.1	12.6	8.4	7.4	5.7	4.9
WHEAT	0.7	0.9	1.8	2.7	3.8	2.9	2.0	2.4
RICE	22.4	21.9	22.0	21.2	23.5	23.8	23.2	22.1
DRY BEANS	16.7	16.5	16.3	16.6	12.6	12.8	15.5	14.9
COTTON, LINT	11.7	13.1	16.5	22.5	22.6	26.0	25.4	22.7
SUGAR BEETS	28.3	24.5	28.5	24.4	25.7	19.8	18.8	23.2
POTATOES	11.1	10.2	7.3	6.0	5.0	6.0	6.1	6.3
VEGETABLES CROPS								
BROCCOLI	74.2	84.4	91.0	96.0	91.5	89.9	89.9	91.8
CELERY	53.6	58.3	66.1	65.8	69.0	71.4	68.0	71.9
LETTUCE	58.6	64.4	70.4	73.4	74.0	72.3	69.4	71.3
TOMATOES, PROC.	59.0	66.9	79.4	84.6	85.8	84.2	84.9	89.9
STRAWBERRIES	42.8	50.1	66.3	76.0	72.9	71.4	69.2	76.2
FRUIT & NUT CROPS								
ALMONDS	100.0	99.9	99.9	98.9	99.9	99.9	99.9	100.0
WALNUTS	95.0	96.5	99.2	98.4	99.0	99.0	99.0	99.2
LEMONS	91.2	82.4	81.6	80.4	78.0	74.6	79.8	81.2
ORANGES	21.7	19.0	17.1	30.8	27.0	24.2	32.4	28.5
GRAPES	91.2	90.5	89.6	90.4	90.0	92.6	88.9	89.8
PEACHES	100.0	63.0	66.1	64.1	58.2	66.2	58.9	56.2
PRUNES	85.0	98.8	98.0	99.0	100.0	100.0	100.0	100.0

because of the limited influence of income on food consumption, future increase in the domestic demand for all food also is likely to be less than 1 percent per year. Total annual per capita consumption of food in the United States has changed less than 4 percent since 1960 (Kinsey, 1966).

As per capita incomes increase, however, people tend to substitute higher value, more nutritious food such as meat, fruits, and vegetables for lower-cost carbohydrate foods. For example, Americans over the last 10-15 years have been consuming more fresh and processed fruits and vegetables, vegetable oils, and sugar and sweets. They are eating less red meat, eggs, butter and lard, but more cheese, poultry and fish partly due to the concern about fat levels in the American diet.

Lifestyles play an important role in dietary habits and in demand shifts among foods. For example, the increased number of women working outside the home has contributed to increased expenditures on convenience foods and on food eaten away from home. Also, the changing composition of the population affects the demand for food and for particular types of food. The elderly who comprise a growing segment of the U.S. population tend to eat relatively less than other age groups and eat different types of food.

We can summarize the U.S. domestic food trends with the following observations: (1) The quantity of food eaten per person is not likely to increase in the foreseeable future and for some traditional commodities is likely to decrease. (2) Food expenditures in the household will increase as income rises but the relative share of the total household budget spent for food will decline. Most of the extra expenditures will be spent on convenience foods and food eaten away from home. The quality, diversity, healthfulness, and variety in foods are very important to U.S. consumers and to consumers in other high income countries.

The U.S. domestic market provides a rough guide to the types and variety of foods desired by foreign buyers in countries at about the same stage of development and with similar per capita income levels. However, cultural factors strongly influence consumption patterns creating large differences from the U.S. market and must be analyzed with care.

International Demand. Demand for agricultural products in other countries is also a function of population and income growth. But import food demand in many countries is also influenced by their own domestic policies, production, culture, international exchange rates, balance of payments, and trade policies.

Table 3 compares some of the major demand variables parameters for country groupings in different stages of industrialization. Note that income, as measured by gross domestic product, and population have grown faster in the low income developing countries than in the developed countries. Also note that lower income, developing countries have a substantially higher income elasticity of demand with respect to total calories than do the higher income, developed nations.

The high income elasticities in the poorer countries mean that, for the same percentage increase in income, food demand will increase more in these countries than in the higher income countries with low elasticities. For example, a 10 percent per capita income increase in the LDCs will result in a 3.5 percent increase in per capita caloric intake, whereas the same increase in high income OECD countries results in only a 0.7 percent increase. The demand effect for the NICs falls somewhere in between: a 10 percent increase in per capita income in, for example, Taiwan or South Korea, results in 1.9 percent in per capita caloric intake. Income elasticities for animal calories are higher than the corresponding elasticities for total calories, reflecting the stronger demand for meat and livestock products as income rise.

Economic Growth and Agricultural Imports

In the early stages of the industrial transformation, incomes and population both tend to rise rapidly with a synergistic effect on food demand such that it often domestic farm production. In such cases and with the absence of government controls or rationing, import demand expands rapidly. This phenomenon was observed in Japan's recovery period following World War II and in Taiwan and South Korea in the late 1960s and 1970s.

TABLE 3: FACTORS AFFECTING NET REGIONAL FOOD DEMAND

REGION	Annual Average Growth		GDP	Income Elasticities		Average Annual Growth	Index of Food Production
	1970-1980			Total	Animal	of Agricultural GDP	Per Capita in 1978-1980
	Population	Urban Population	Calories			Calories	1970-1980
	----- Percent -----					----- Percent -----	1969-71 = 100
OECD	0.9	1.6	3.3	0.07	0.21	1.5	111
EC-9	.4	.8	2.8	.08 ^a	.28 ^a	1.6	114
EFTA	.5	1.7	2.5	--	--	.6	104
Other Western							
Europe	1.5	3.3	4.7	.09 ^b	.50 ^b	2.7	118
USA	1.0	1.5	3.0	-.01	.02	1.2	115
Canada	1.1	1.7	2.9	.00	.15	2.8	109
Japan	1.1	2.1	5.0	.13	.46	1.1	93
Australia	1.4	1.9	2.9	.02	.05	1.7	120
LDC's	2.4	4.2	6.1	.35 ^c	.70 ^c	2.7	102
Geographic groupings:							
Africa	2.7	5.6	4.8	.40 ^c	.81 ^c	1.3	90
North	2.7	4.9	5.5	.40 ^b	.73 ^b	2.6	93
Southern	2.7	5.8	4.3	.39 ^d	.94 ^d	.9	89
Latin America	2.5	3.9	5.6	.19 ^b	.40 ^b	3.5	109
West Asia	3.6	6.4	10.9	.42 ^b	.85 ^b	3.7	102
East Asia	2.3	3.8	6.2	.32 ^d	1.03 ^d	2.9	104
Economic groupings:							
OPEC	2.6	4.5	7.7	.48 ^b	.85 ^b	2.4	99
NIC's	2.3	4.0	6.4	.19 ^b	.63 ^b	3.4	115
Poorest LDC's	2.3	4.2	4.0	.38 ^d	.93 ^d	1.7	99
CPE's							
Eastern Europe	.6	1.6	6.0	.02	.29	--	114
USSR	.9	1.8	--	.01	.29	--	108
PRC	1.8	--	5.8	.45	1.21	3.2	116

-- = Not Available.

^aEEC-6.

^bMedian value.

^cPer capita income used to obtain a weighted average.

^dMedian value based on random sample.

Source: "Impacts of Policy on U.S. Agricultural Trade," by Philip L. Paarlberg, Alan J. Webb, Arthur Morey, and Jerry A. Sharples. International Economics Division, Economic Research Service, U.S. Department of Agriculture. Washington, D.C., December 1984. ERS Staff Report No. AGES840802.

The pattern of food consumption also changes as nations begin to industrialize. The first major shift, due to rapid urban population growth, is from domestically produced food staples (maize, sorghum, potatoes and rice which require long preparation time) to imported wheat and flour products. Later comes a trend away from cereals toward an increased consumption of fruits, vegetables, and livestock products, especially poultry and pork.

Thus, the import demand pattern that emerges is relatively consistent as countries are transformed from agrarian to industrial. First, wheat and flour products are required to replace maize, sorghum, casava, potatoes. Then feedstuffs (corn, soybeans) are needed for domestic meat production. Then, eventually, as per capita incomes continue to increase, imported meat products and specialty commodities are sought. Whether this potential growth pattern in import demand by the developing Pacific Rim nations can be realized and whether U.S. and California farmers can reap the benefits with an important share as the market grows depends on U.S. agricultural and trade policies, on the response of competing suppliers, and on the domestic policies of the importing nations.

This relationship between economic growth and agricultural imports for Japan, South Korea, and Hong Kong is shown in Table 4. As per capita GNP grows, first wheat imports and, later, imports of corn and soybeans used for livestock feed and fruits and vegetables for direct human consumption all increase. This pattern is strong even in Japan with its strong cultural identity and national desire to maintain a high degree of food self-sufficiency.

In recent decades, developing nations desiring to increase availability of livestock products move first to increase production of poultry meat. The relatively high feed efficiency of modern poultry operations and the relative ease with which the necessary technology can be adopted, support this development. But few nations have the capacity to produce the grains and high-protein feed ingredients required for a large scale poultry industry. Hence, what may start as a small market for American frozen poultry becomes transformed into a relatively large market for

TABLE 4: PER CAPITA GDP AND IMPORTS OF SELECTED AGRICULTURAL COMMODITIES;
JAPAN, KOREA AND HONG KONG, 1960-1980

YEAR	PER CAPITA GDP CONSTANT U.S. \$	WHEAT 000 M. TONS	TOTAL IMPORTS		FRUITS & VEG. 000 \$
			CORN 000 M. TONS	SOYBEANS 000 M. TONS	
----- JAPAN -----					
1960	1,536	2,783	1,354	1,128	33,300
1965	2,358	2,652	3,434	1,848	148,000
1970	3,805	4,685	6,018	3,244	318,516
1975	4,472	5,654	7,470	3,334	623,670
1980	5,447	5,682	12,830	4,401	1,395,860
----- SOUTH KOREA -----					
1960	233	290	14	36	0
1965	405	542	1	0	500
1970	583	1,216	214	62	1,696
1975	776	1,345	540	55	14,529
1980	817	1,879	2,351	543	26,804
----- HONG KONG -----					
1960	615	106	56	20	18,600
1965	934	141	74	3	70,400
1970	1,242	260	163	198	110,724
1975	1,558	142	163	169	257,257
1980	2,460	196	260	22	574,230

Source: Food and Agriculture Organization of the United Nations, "FAO Trade Yearbook" various issues.
International Bank for Reconstruction and Development, "World Tables" vol. I, third edition, 1984.

American corn and soybeans. This pattern was observed in Western Europe in the late 1950s and early 1960s, in Japan in the 1960s, and subsequently in South Korea and other NIC countries.

As incomes continue to rise, the desire to consume high-quality fruits, vegetables, and other specialty crops on a year-round basis increases as shown by the rising imports of fruits and vegetables in Table 4. But border restrictions pertaining to chemical residues, preservation techniques, etc. have constrained imports to a considerable degree in these countries. Although sometimes these restrictions have a legitimate basis in concern for consumer health and safety, often they are adopted as a device to protect domestic producer interests.

OBSTACLES TO GAINING A GREATER SHARE OF PACIFIC RIM MARKETS

The production and marketing systems for California specialty crops, have been remarkably successful in providing relatively low cost products throughout the United States on a year-round basis. Because of the massiveness of the U.S. market and the state's seasonal and scale advantages over most other domestic producing areas, California has frequently been able to create and sustain consumer acceptance of an available product. Iceberg lettuce provides one example of this kind of marketing accomplishment.

But in international markets, several new dimensions are added. Not only must the state compete with producers in the destination country (Figure 3), but also with other exporters. Success depends on being sensitive to differences in human wants and needs as well as in business practices in the various cultures. Regulations, institutions, and political situations differ widely from country to country and must be taken into account in all international transactions.

The size of a particular overseas market may seem small compared to traditional domestic market for a product. For example, Hong Kong's 5 million population is only a small fraction of the 250 million in the United States. Yet to a competing producer like Australia with its 15 million population, Hong Kong is a large market. Thus, it is easy to see why Australia has become a major competitor of the United States, for example, in broccoli sales to Hong Kong by producing a larger type of broccoli tailored to a unique preference of the Hong Kong consumer.

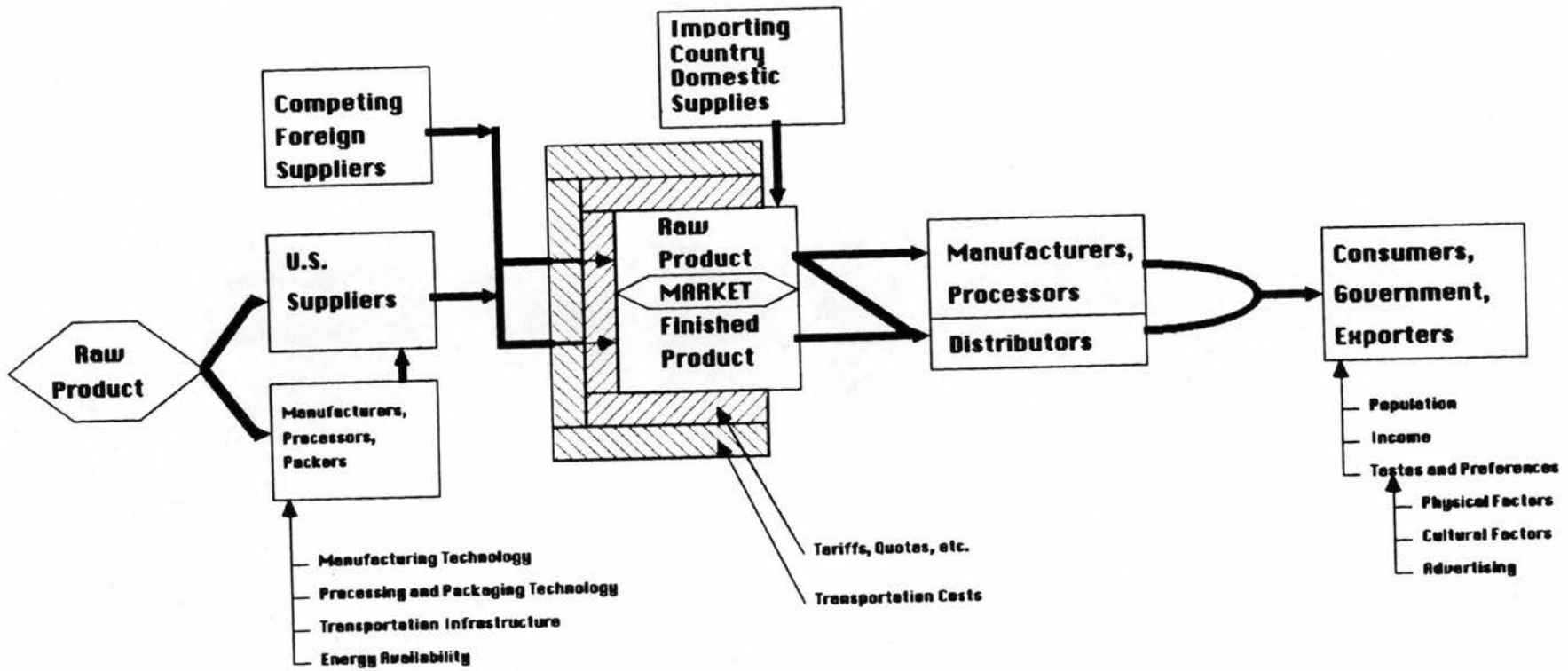


Figure 3

The Pacific Rim nations contain numerous illustrations of this type--relatively small (compared to the United States) markets with preferences that differ from those in the United States. If the United States or California, in particular, hopes to compete effectively in these "small" markets, these peculiarities in tastes and preferences must be learned and wherever feasible production/marketing techniques must be modified and adapted in response. Almonds are perhaps the best example of a California commodity that has been highly successful in export markets by specifically catering to the needs of individual importing nations.

Unfortunately, too often the uniqueness and complexity of foreign markets are ignored. Too often production is viewed as completely separate from marketing and distribution. In this mistaken view, the farmers' job is to produce. What happens to the product beyond the farm gate is a marketing problem. Progressive exporters gaining some success in overseas markets turn this process around. They seek the market first, or they develop a "window" in a market, and then determine whether they can profitably produce (or contract) and deliver a product to meet the demand. This approach involves knowledge of the culture, buying habits, preferences, lifestyle, and income levels of the importing country. It also requires knowledge of their health standards, chemical tolerances, import regulations, and local business practices. And methods of quality control in production, processing, handling, and distribution to meet the required specifications must be understood and followed. Success may involve new product development (e.g., a larger broccoli for the Hong Kong market) or a different method of preservation or product delivery, say, in a particular off-season period.

Then, of course, the question of competition must be considered. When all costs are included, how does the delivered product compare in price to its nearest competitor at current and expected exchange rates? In California, almost all agricultural commodities can be produced, but many are not competitive in certain markets. Therefore, before commodities are produced for a particular market, a careful cost analysis is essential. And consideration must be given to the long-term situation. In a world dominated by surplus agricultural capacity, the traditional practices of

many commodity groups must be avoided--namely, using export markets as an outlet for the surplus production that cannot be marketed domestically.

To summarize, any long-term strategy to expand trade to Pacific Rim nations, must be built upon a thorough knowledge of the international food production/marketing system. This includes not only basic agricultural production and postharvest handling, processing, and distribution, but also understanding the culture, political environment, and institutions of the importing countries. It means tailoring food and food products to meet specific needs and markets--in a sense, producing "designer foods." The technology necessary is at hand, for processing tomatoes were "redesigned" for the mechanical harvester and strawberries have been developed to bear over a longer period to extend and even out the marketing season.

In the 1980s, the technological prospects for product design are even brighter; the biotechnology and information era has dawned. The capacity to genetically engineer new agricultural inputs, new varieties, and new food products has emerged. New information systems are being developed that will enable quicker and better management decisions regarding all phases of the production/marketing system. The challenge will be to integrate the biotechnology research with information and management systems and aim them directly at market development abroad.

CONCLUDING COMMENTS

The thrust of our comments on California agricultural trade prospects with Pacific Rim nations is on the long-term potential, problems, and strategies. We emphasize the "long term" because by the very nature and dimensions of the undertaking, quick and easy approaches are unrealistic and simply divert attention and effort away from the task at hand.

The international production/marketing complex is a vast system with physical, biological, political, sociological, and economic interrelationships. While there are some similarities with its domestic counterpart, there are important differences. Much is unknown at all levels of the international system, so considerable investment in research and development is needed. Many of the rules, regulations, and institutions of the system are determined by agencies and governments

where U.S. influence is limited. Yet a thorough understanding of these institutions is necessary for success in the trade arena.

The traditional preoccupation with agricultural production should be reversed in recognition that the international food system is driven by the preferences, wants, and tastes of the consumers in the importing countries. The objective should not be to sell surplus production, but to market products that are in demand--either existing demand or demand that can be created or stimulated for a particular product.

The growth in trade among nations is closely tied to world economic conditions. By the year 2000, more than four-fifths of the world's population will live in developing regions. In spite of current surpluses, food exporters should recognize that their major potential markets are in these developing nations and in the middle-income countries. The United States and other developed-nation food exporters will ultimately benefit from technical assistance given to further the development process and from actions taken to remove obstacles in international trade channels.

REFERENCES

- California Economic Development Corporation. California and the Pacific Rim: A Policy Agenda. The Pacific Rim Task Force Report, May 1986.
- Carter, Harold O., ed., The Impact of Farm Policy and Technological Change on U.S. and California Agriculture, Proceedings of a Symposium sponsored by the University of California Agricultural Issues Center, June 2-3, 1986 (In Press).
- Kinsey, Jean. "Demographic and Lifestyle Trends that Impact Food Consumption Patterns." Consumer Demand and Welfare: Implications for Food and Agricultural Policy. North Central Regional Research Publication No. 311, March 1986, pp. 32-43.
- Learn, Elmer. "Agricultural Price and Income Policy: A Need for Change." Contemporary Policy Issues, Vol. IV, No. 1, January 1986, pp. 49-61.
- Neri, Ruofenz, and Peter H. Calkins. "Towards an Agricultural Economy for China in a New Age: Progress, Problems, Response, and Prospects." American Journal of Agricultural Economics, Vol. 68, No. 2, May 1986, pp. 445-457.
- Peltier, Jean-Mari, project director. California Agriculture: Barriers to Trade, Vol. 1 Pacific Rim. California State World Trade Commission, June 1986, p. 381.

