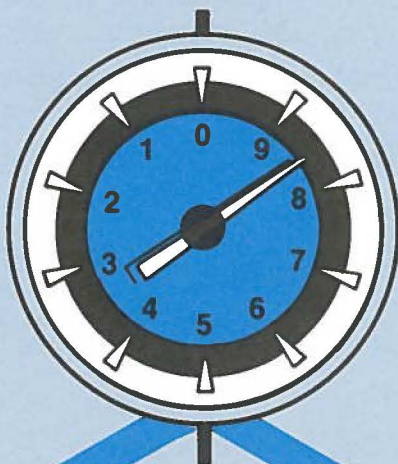


National Food Review

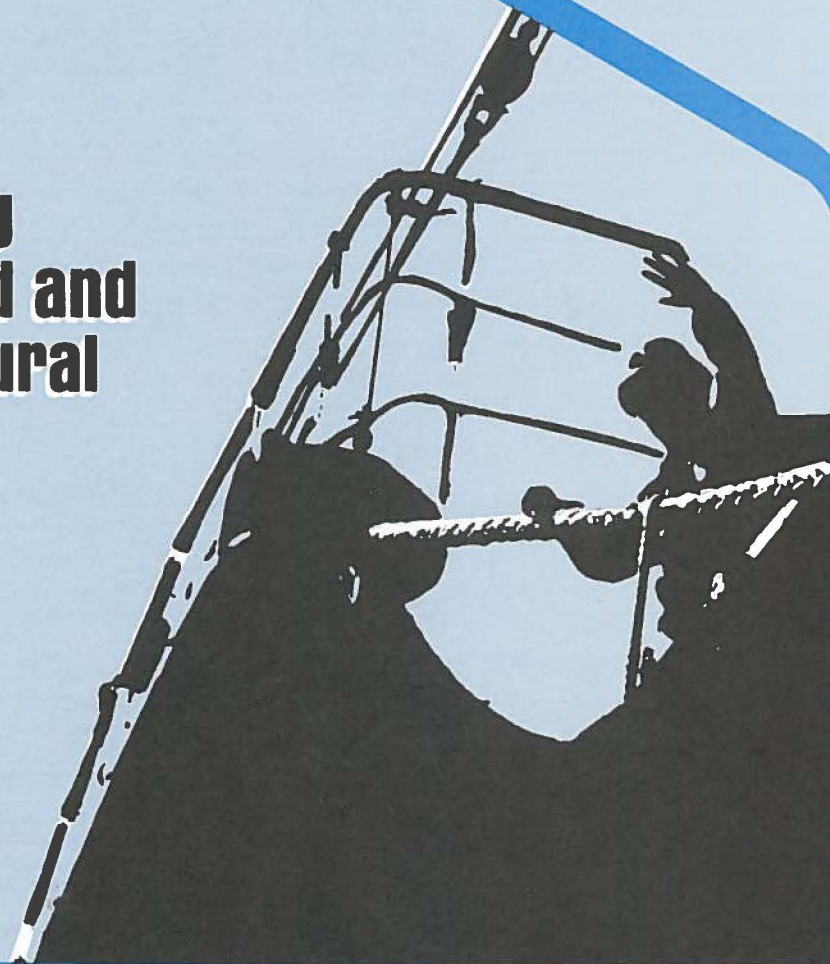
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Weighing U.S. Food and Agricultural Trade



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Are Agricultural Imports a Growing Concern?

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The U.S. agricultural trade surplus was a bright spot in a decade marked by rapid escalation of the nonagricultural trade deficit from \$19.8 billion in 1976 to \$167.4 billion last year. However, in recent years, growing imports and declining exports have eroded the agricultural trade surplus. Our farm exports fell from \$43.3 billion in 1981 to \$26.1 billion in 1986. At the same time, agricultural imports rose from \$16.8 billion to \$21.1 billion.

What's more, for the first time in 15 years, the United States ran an agricultural trade deficit in May and July 1986 (based on value at port of origin). While the agricultural trade balance still showed a surplus on an annual basis, the monthly deficits have sparked concern about trends in exports and imports. What led to the record high agricultural imports from 1984-86? Are they replacing or "penetrating" U.S. agricultural production? If not, how have they affected domestic industries?

The 1980's: Rapid Growth in Imports

Several factors, including the appreciation of the U.S. dollar, contributed to the rise in the value and volume of U.S. agricultural imports during 1981-86 (*table 1*). Because the dollar was worth more in foreign currency, the cost of buying foreign products fell. This contributed to an 18-percent gain in the volume of imports between 1981 and 1986.

Between 1981 and 1986, U.S. real (adjusted for inflation) per capita income grew about 1.4 percent annually. This continued the longer term trend of 2-3 percent annual gains in income since 1960. The rise in real per capita disposable



Bananas, a complementary product, cannot be grown in the United States on a large, profitable scale.

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Table 1. Rising Value of the Dollar Boosts U.S. Imports

| Country | Agricultural exports to the United States | |
|---------------------------------|---|--------|
| | 1981 | 1986 |
| <i>Million dollars</i> | | |
| Mexico | 1,102 | 2,018 |
| Canada | 1,150 | 2,010 |
| Brazil | 1,905 | 1,777 |
| Colombia | 601 | 981 |
| Australia | 1,061 | 788 |
| Country | Real exchange rate ¹ | |
| | 1981 | 1986 |
| <i>Currency per U.S. dollar</i> | | |
| Mexico | 21.200 | 40.800 |
| Canada | 1.178 | 1.242 |
| Brazil | 0.050 | 0.080 |
| Colombia | 47.180 | 79.390 |
| Australia | 1.157 | 0.550 |

¹Adjusted for inflation.

incomes over the long run encouraged demand for imported products, particularly those other than food and clothing. As we imported more durables, including cars and televisions, and nondurables, such as oil, agriculture's share of U.S. imports fell from one-fourth in 1960 to less than 6 percent in 1986.

The types of agricultural products imported also changed as incomes grew. The demand for commodities that compete directly with U.S. products increased, such as meats, vegetables, and tobacco. These and other competitive items rose from 44 percent of our imports in 1950-59 to 64 percent in 1980-86.

Periodic production shortfalls here also resulted in more imports. For example, a series of disastrous freezes in the last 5

years damaged Florida's orange crop and resulted in increased imports of Brazilian frozen concentrated orange juice. Brazilian imports rose from 34 million gallons in 1976 to 501 million gallons last year.

What and Why Do We Import?

The United States imports agricultural commodities that we cannot grow profitably on a large scale. These complementary products include such items as coffee, cocoa, rubber, and bananas. In 1986, the United States imported \$7.9 billion in complementary products (table 2).

U.S. imports also include supplementary products, such as vegetables, sugar, and meat, that compete to some degree with domestic production. While we can produce these products or close substitutes, import demand for them exists for several reasons. First, the United States simply cannot produce enough of certain commodities, like sugar, to meet domestic demand. Other products are not profitable for U.S. processors. One example is casein. Higher profits for nonfat dry milk, butter, and cheese make U.S. production of this alternative byproduct uneconomical.

Production in other countries, particularly fruits and vegetables from the Southern Hemisphere, often complement U.S. production. This enables U.S. consumers to buy peaches, plums, and grapes (from Peru) in January when domestic production is unavailable. Seasonal competition between Mexico and Florida also assures U.S. consumers low-priced tomatoes, peppers, and cucumbers during the winter months.

Imports also help meet consumer demand for "luxury" items that become more popular as incomes increase. Imported European wines, cheeses, and a host of other items have grown in popularity in recent years. In other cases, lower prices of foreign products make them attractive to U.S. shoppers. These include many fruits and vegetables.

Imported raw commodities, such as sugar, coffee, cocoa, and tobacco, may be processed or blended with other domestic inputs and sold to a third country. In 1986, 483,000 metric tons of raw sugar were processed in the United States and re-

exported. An additional 9,000 tons of cocoa imports and 13,000 tons of coffee also were exported after further refining.

ITC Monitors Trade Practices

As imports have grown, so have concerns about the possible impacts on U.S. agriculture. U.S. producers have filed a number of unfair trade practice complaints with the International Trade Commission (ITC) (see sidebar). These producers have argued that other countries have subsidized both production and export of certain commodities at the expense of U.S. output.

In 1980, for example, the ITC ruled that canned mushroom imports were threatening the domestic industry and recommended a 20-percent ad valorem duty. (An ad

Table 2. Value of U.S. Imports Nearly Doubles in a Decade

| Calendar year | Supplementary products | Complementary products | Total imports |
|------------------------|------------------------|------------------------|---------------|
| <i>Million dollars</i> | | | |
| 1970 | 3,609 | 2,161 | 5,770 |
| 1971 | 3,687 | 2,136 | 5,823 |
| 1972 | 4,284 | 2,183 | 6,467 |
| 1973 | 5,552 | 2,867 | 8,419 |
| 1974 | 6,977 | 3,244 | 10,221 |
| 1975 | 6,197 | 3,095 | 9,292 |
| 1976 | 6,255 | 4,710 | 10,965 |
| 1977 | 6,656 | 6,782 | 13,438 |
| 1978 | 7,785 | 7,020 | 14,805 |
| 1979 | 9,476 | 7,248 | 16,724 |
| 1980 | 10,374 | 6,992 | 17,366 |
| 1981 | 11,074 | 5,698 | 16,772 |
| 1982 | 10,025 | 5,361 | 15,386 |
| 1983 | 11,002 | 5,528 | 16,530 |
| 1984 | 12,619 | 6,716 | 19,335 |
| 1985 | 13,067 | 6,902 | 19,969 |
| 1986 | 13,165 | 7,885 | 21,050 |

¹May not add due to rounding.

valorem duty is a fixed percentage of the total value of the imported product.) This was in addition to the existing tariff of 3.2 cents a pound and a 10-percent ad valorem duty. The increased duty went into effect November 1, 1980, and was gradually reduced to the previous rate by October 31, 1983. The increased tariffs enabled the U.S. mushroom industry to adjust to a changing competitive situation. Now a greater percentage of domestic mushrooms are diverted into the fresh market (table 3).

Maine potato producers, for example, filed a complaint with the ITC against Canadian farmers after the United States became a net importer of fresh potatoes for the first time in 1980. Shipments from Canada increased from 24,000 metric tons in 1976 to 217,000 in 1982. Most of the Canadian potatoes were coming into Maine, our third-largest potato producing State.

In December 1983, the ITC ruled that Canada was not illegally "dumping" potatoes on the U.S. market. In fact, the Commission found that throughout the investigation period (1979-83) Canadian potatoes were more expensive at New York terminal markets than those from Maine. In addition, competition from growers outside the Northeast region of the United States (primarily Idaho and Washington) had a greater impact on price than Canadian imports.

Canada was again at the center of a dispute over market penetration in 1985. A surplus of hogs in Canada combined with a favorable exchange rate and government subsidies increased sales of live hogs to the United States from 163,000 head in 1981 to 1.5 million in 1985. Although this only represented 2 percent of the live hogs marketed here, the ITC ruled that "material damage" had been done to the domestic industry. According to the Commission, live hog exports from Canada were marketed unfairly in the United States because of

The International Trade Commission

The International Trade Commission (ITC) was established in 1916 as the U.S. Tariff Commission. It was created to monitor trade, provide economic analysis, and make recommendations to the President in cases of unfair trade practices. The ITC responds to the Senate Finance Committee, the House Ways and Means Committee, and the Executive Branch through the Office of the U.S. Trade Representative. In addition, interest groups, such as growers or trade associations, can petition the ITC to investigate the trade practices of other countries in order to determine whether "material harm" has been done to U.S. producers. In recent years, wheat (1978), mushrooms (1980), potatoes (1983), hogs (1985), and fresh vegetables (1987) have come under ITC scrutiny.

Canadian government subsidies. The ITC recommended that countervailing duties to offset Canadian export subsidies be applied to live hogs.

Quotas Support U.S. Sugar

Quotas and tariffs are often used to maintain the domestic price at a predetermined level. In the case of sugar, both of these tools have been used to help assure that U.S. growers are not adversely affected by imports that are generally subsidized by the producing country.

Most sugar producing countries insulate their farmers from global conditions by establishing some minimum support price. At the same time, these countries allow sugar to be sold below the support price, and often below the cost of production. In 1982, the Secretary of Agriculture determined that duties and fees applied to raw sugar imports (predominantly from cane) would not prevent the import price from falling below the domestic level which would result in a flood of imports.

Table 3. Value of U.S. Fresh Mushroom Production Has Grown

| Years | Domestic production ¹ | | | Imports ² | | |
|-----------------|----------------------------------|-----------|--------------------|----------------------|-----------|--------------------|
| | Fresh | Processed | Total ³ | Fresh | Processed | Total ³ |
| Million dollars | | | | | | |
| 1975-76 | 102.2 | 88.9 | 191.1 | — | 65.0 | 65.0 |
| 1976-77 | 124.6 | 131.1 | 255.7 | — | 73.5 | 73.5 |
| 1977-78 | 172.2 | 135.4 | 307.6 | — | 108.6 | 108.6 |
| 1978-79 | 217.8 | 144.0 | 361.8 | 0.3 | 101.7 | 102.0 |
| 1979-80 | 245.2 | 123.4 | 368.6 | 0.5 | 127.7 | 128.1 |
| 1980-81 | 260.4 | 114.1 | 374.5 | 0.4 | 100.3 | 100.7 |
| 1981-82 | 308.8 | 109.9 | 418.7 | 0.7 | 69.9 | 70.6 |
| 1982-83 | 338.0 | 93.4 | 431.4 | 0.6 | 26.6 | 27.2 |
| 1983-84 | 374.3 | 112.1 | 486.4 | 0.7 | 167.1 | 167.9 |
| 1984-85 | 392.8 | 100.9 | 493.6 | 0.5 | 149.4 | 150.0 |
| 1985-86 | 400.0 | 93.1 | 493.1 | 0.8 | 147.3 | 148.0 |

¹July-June. ²October-September. ³May not add due to rounding.

As a result, restrictive import quotas on raw sugar have been applied country by country since 1982. In 1986, the sugar quota was 2.3 million short tons, down from 5.1 million tons in 1981, a year without quotas. The administration determined, based on estimates of domestic production and demand, that the 1986 quota would support the market price for U.S. sugar at the desired level of 21 cents a pound. Meanwhile, domestic sugar production remained at around 6 million tons (table 4).

Another domestic industry that appears to be facing increased overseas competition is tobacco. Imports of burley and flue-cured accounted for approximately one-third of the tobacco used in U.S. cigarettes in 1986, up from 19 percent in 1975. Turkey, Greece, Thailand, and Yugoslavia supplied 63 percent of the shipments to the United States last year.

Part of the reason tobacco imports have risen is that the import price is below the domestic price established under Federal price supports. In 1984, support prices for burley and flue-cured tobacco were \$1.75 and \$1.70, respectively. The same products could be imported for \$1.03 and \$1.16 a pound (unstemmed). Support prices subsequently fell to \$1.49 a pound for burley tobacco and \$1.44 for flue-cured in 1986.

At the same time, tariffs on stemmed, flue-cured tobacco fell from 38 cents a pound in 1981 to 20 cents a pound this year following efforts to deregulate the tobacco industry. The result has been a 37-percent increase in imports.

Some agricultural products, such as wheat and corn, are supported at the unprocessed level. Support for other products, like milk and sugar, is applied at the processed level. But not every sector in U.S. agriculture

Table 4. World and U.S. Sugar Prices Diverge

| Calendar year | United States | | World price ² | U.S. price ³ |
|------------------|------------------------------------|----------------------|-----------------------------|----------------------------|
| | Production | Imports ¹ | | |
| | <i>1,000 short tons, raw value</i> | | <i>Cents per pound</i> | |
| 1980 | 5,736 | 4,673 | 29.02 | 30.11 |
| 1981 | 6,225 | 5,073 | 16.93 | 19.73 |
| 1982 | 5,936 | 3,044 | 8.42 | 19.92 |
| 1983 | 5,682 | 3,253 | 8.49 | 22.04 |
| 1984 | 5,890 | 3,583 | 5.18 | 21.74 |
| 1985 | 5,969 | 2,833 | 4.04 | 20.34 |
| 1986 | 6,257 | 2,254 | 6.05 | 20.95 |

¹Total offshore receipts. ²Free on board Caribbean, Contract No. 11. ³Cost, insurance, and freight duty/fee paid, Contract No. 12. For June-December 1985, prices are for No. 12 nearby futures. Starting in 1986, prices are for No. 14 nearby futures.

exists within a system of price supports, tariffs, and quotas. Domestic producers of vegetable oils are a case in point.

Domestic production and imports have expanded in the past 15 years. Imports jumped from \$149 million in 1970 to \$650 million in 1985—an increase of 10 percent annually. Meanwhile, the value of domestic soybean, cottonseed, corn, sunflower seed, linseed, and peanut oils rose from \$1.3 billion to \$3.8 billion.

The \$4 billion U.S. vegetable oil industry is able to meet a large portion of domestic demand. However, the supply is supplemented by approximately \$600 million in imported vegetable oils, such as castor, coconut, olive, palm kernel, palm, rape, and sesame. These oils cannot be produced profitably in the United States.

Fresh and processed fruit is a \$5 billion industry in this country. Yet, imports are making inroads into the U.S. market. Frozen concentrated orange juice imports

have climbed to \$600-700 million annually in recent years, from \$10 million to \$15 million in the mid-1970's.

Imports of fresh apples, melons, and grapes have also increased. Fresh apple imports have grown 7 percent annually since 1970 to an average of 109,000 metric tons in 1983-85. Domestic production grew 2 percent per year. In 1986, retail price for Red Delicious and Eastern Delicious apples averaged 77 and 42 cents a pound, respectively, compared with an average import price of 18 to 46 cents a pound. Nonetheless, domestic production still accounts for 95 percent of U.S. consumption.

Melon imports grew 5 percent annually since 1970 to 299,000 metric tons in 1986. Fresh grapes showed the largest increase, rising 18 percent annually. The retail price for grapes in major U.S. cities was \$1.14 a pound, compared to 48 cents a pound for Chilean grapes. Only 13 percent of U.S.

grape production goes into the fresh market. The remainder is used for wines, raisins, and juice.

The United States produced 23 million tons of fresh and processed vegetables worth \$4 billion in 1986. Nonetheless, nearly \$1.6 billion of fresh, frozen, canned, dried, brined, and pickled vegetables were imported. Is the 50-percent increase from \$1.1 billion in 1981 to \$1.6 billion in 1986 a signal that the vegetable industry in the United States is failing? Not likely since the

harvested area of both fresh and processed commodities has been stable.

The Outlook for U.S. Imports

Between 1981 and 1985, the appreciation of the U.S. dollar gave imports a competitive edge. However, that edge appears to be slipping since the dollar began to fall against most major foreign currencies in mid-1985. The question now is what will be the net result of other forces?

Weather, both here and abroad, international commodity agreements, such as for

coffee, cocoa, and sugar, domestic and foreign investment, and U.S. commodity programs all play a part in projecting imports. As the Uruguay Round of the Multilateral Trade Negotiations approaches in 1988, the United States has lowered certain trade barriers and raised others. The overall trend appears to be a lowering of duties. However, reduced duties or even the removal of all tariffs on one or more commodities can easily be offset by a freeze in Brazil or Florida. Taking into account all factors influencing trade, imports are likely to fall back to the \$16-18 billion level over the next 3 to 5 years. □



Domestic processors can import cheap, foreign raw sugar, process it, and re-export it.

Exporting U.S. Farm Products: Growth and Development in Major Markets

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As the world's largest exporter, the United States has the greatest stake in the changing world market. Developments in any major importing country ultimately affect U.S. agricultural exports and the economic health of related industries.

The importance of export markets was vividly illustrated by events of the 1970's and 1980's. Vigorous overseas economies spawned rapid export growth in the 1970's. During the 1980's, a worldwide recession followed by the weak recovery of many U.S. customers reined in our agricultural exports. Between 1981 and 1986, U.S. agricultural export volume dropped about 10 million tons and the value declined \$3.5 billion per year (*table 1*). As a result, the share of domestic acreage producing for export fell from nearly 40 percent to less than 25 percent.

With the weakening of the U.S. dollar since 1985, and implementation of a more market-oriented 1985 farm bill, the United States has taken major steps toward reversing its farm export decline. Whether such steps will be successful depends in large part on events in its major export markets in both industrial and developing countries.

Exports to Developed Countries Predominate

Despite the enormous growth in sales to the less developed and centrally planned countries, the industrial nations still purchase more than half of all U.S. agricultural exports. The United States' top three customers—Japan, the Netherlands, and Canada—are among the most developed countries in the world. Our agricultural exports to these nations reached \$8.6 billion in 1986, nearly equaling the \$10.7 billion exported to all less developed countries (*figure 1*).

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Table 1. Top Export Customers in 1986

| Country | U.S. Exports Million dollars | Percent change since 1981 ¹ |
|-------------|---------------------------------|--|
| Japan | 5,139 | -23.4 |
| Netherlands | 2,042 | -35.6 |
| Canada | 1,466 | -27.5 |
| Korea | 1,277 | -40.2 |
| Mexico | 1,115 | -59.1 |
| Taiwan | 1,108 | 0.3 |
| World | 26,325 | -39.9 |

¹Fiscal years.

Industrialized countries predominate for several reasons. While less important globally in terms of land mass or population, they account for the majority of the world's economic activity. The developed nations, with less than one-fifth the world's population, accounted for 60 percent of the world Gross National Product (GNP) in

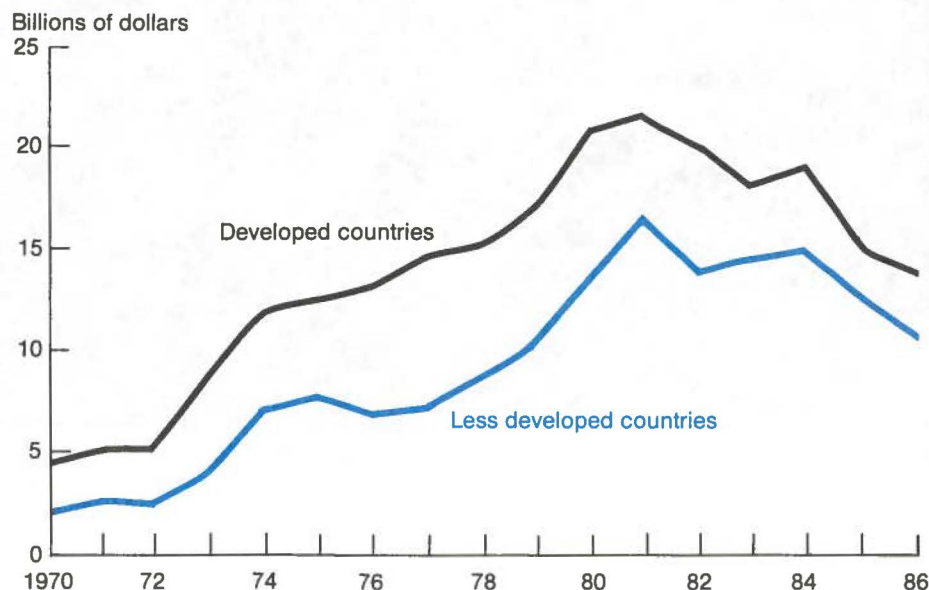
1985 and 70 percent of world merchandise trade.

Also playing a large role in U.S. agricultural exports is the similarity between the developed countries' cultural backgrounds and climates—important determinants of food preferences. The population of the United States, like that of Canada and Australia, for instance, is largely of European ancestry. At the same time, the temperate climate of most developed countries, including Japan, has meant similar patterns of agricultural production and consumption.

The citizens of these large, highly productive economies wield great purchasing power, assuring a large role in world trade. For example, per capita income in Japan, the Netherlands, and Canada averaged almost \$10,000, compared with about \$1,000 for the LDC's. High incomes mean greater consumption and increased use of highly processed products.

Developed countries also have complex and competitive food processing industries that trade inputs at many levels of processing. Greater similarity between econ-

Figure 1. U.S. Agricultural Exports to Developed and Less Developed Countries¹



¹Fiscal years.

omies and industries, extensive business links, and greater economies of scale in transportation present a wider cross-section of sales opportunities in developed countries. This is particularly true for high-value products, which have proven the most resilient group of U.S. agricultural exports of the 1980's. While U.S. prices, exports, and world market shares for bulk products plummeted in the first half of the 1980's, the value of high-value exports remained close to peak levels, largely on the strength of sales to developed customers.

Because importers in developed countries purchase a greater variety and volume of

high-value products, they generally pay a lower average price per unit. For example, Japan paid about \$3,700 per metric ton for meat and products purchased from the United States in 1986. Korea—the most important U.S. customer among the developing countries in 1986—paid almost \$4,600 per ton. Similarly, Japan paid \$2,000 per ton for U.S. nuts and nut products, compared with Korea's \$3,300 per ton.

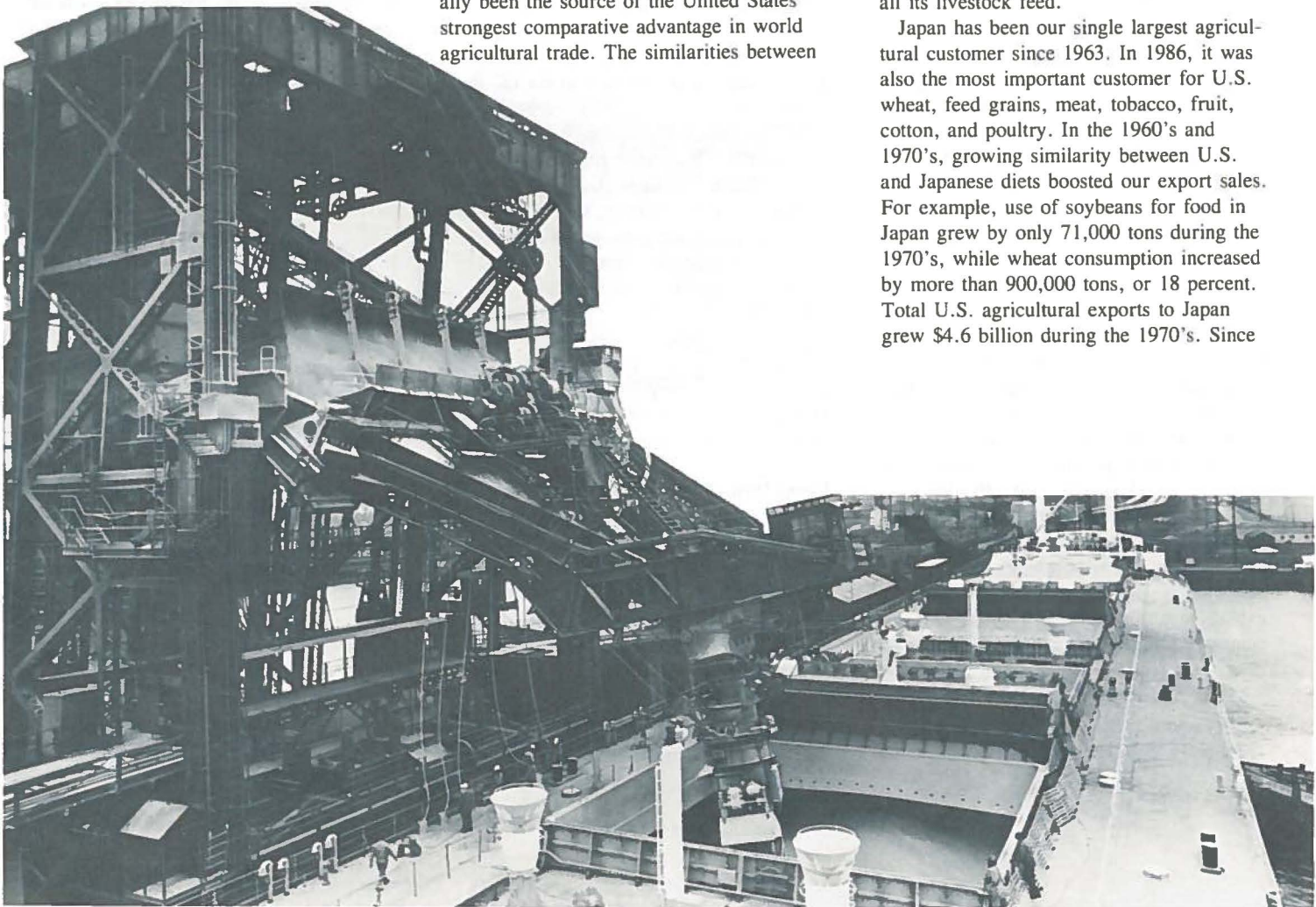
Bulk Exports to Developed Countries

While high-value products are important to U.S. exports, bulk products, such as grains and oilseeds, comprise the majority of shipments. These products have traditionally been the source of the United States' strongest comparative advantage in world agricultural trade. The similarities between

developed countries play a role in determining the amount of bulk exports. However, differences between the United States and its developed customers are perhaps more important.

Population density illustrates the most important difference between production potential of U.S. agriculture and that of its developed customers. The United States has 79 persons per square mile, one-third the population density of Europe and one-tenth of Japan's. Japan's denser population and extensive mountain ranges mean the amount of cultivatable land is about 1 percent of the area farmed in the United States. As a result, Japan produces only 2 percent of its feed grain needs and imports 70 percent of all its livestock feed.

Japan has been our single largest agricultural customer since 1963. In 1986, it was also the most important customer for U.S. wheat, feed grains, meat, tobacco, fruit, cotton, and poultry. In the 1960's and 1970's, growing similarity between U.S. and Japanese diets boosted our export sales. For example, use of soybeans for food in Japan grew by only 71,000 tons during the 1970's, while wheat consumption increased by more than 900,000 tons, or 18 percent. Total U.S. agricultural exports to Japan grew \$4.6 billion during the 1970's. Since



Bulk commodities still comprise the majority of U.S. shipments abroad.

then, the "westernization" of Japan's food consumption and U.S. exports have slowed.

Europe has been an importer of U.S. agricultural products since colonial times. In recent years, however, that market has been shrinking. This has increased the relative importance of Japan. At the beginning of the 1960's, the European Community (EC) imported 10 times as much U.S. corn as Japan did. While corn sales to Japan continued to grow through the 1970's, sales to the EC began falling. By 1981, Japan had surpassed the EC in volume of purchases. Last year, the U.S. sold Japan 9.2 million tons of corn and the EC, only 2.2 million.

The EC's greater land resources allowed its Common Agricultural Policy (CAP) to replace imported grains with domestic production. Grain prices within the EC are set well above world prices in order to boost farm incomes. Border taxes, in the form of variable levies, prevent lower-priced foreign grain from undermining these high prices. However, high prices have boosted EC farm production and the government must purchase some of the grain to remove the surplus from the market. Such buying, coupled with storage and export subsidies have pushed the cost of the CAP to 70 percent of the EC's budget. In 1986 alone, the EC spent \$21.8 billion for agricultural support.

Japan's agricultural policies are also protectionist, but with the exception of rice, their agricultural resources are not equal to the task of excluding imports. The Japanese consume substantially more rice than Europeans. Europe, however, is a major customer for U.S. rice while exports to Japan are negligible. In 1986, our rice exports to Europe reached 326,000 tons, compared with 400 tons to Japan.

Oilseed Exports Grow as Grain Exports Fall

The CAP has not only reduced the importance of the EC as a customer for U.S. grain, it has also made the EC a net exporter of grains. At the same time, sales of non-grain feeds to the EC have risen. Under the CAP, variable levies maintain EC grain prices above world market levels by raising the price of imported grains. The exception is soybeans. An international accord prevents major importers from taxing soybean imports. As a result, U.S. soybeans and other non-grain feeds are often cheaper than grains in the EC, creating a strong incentive to import non-grain feeds.

While U.S. corn sales to the region peaked and fell in the late 1970's, soybean exports expanded strongly. In 1986, the United States sold less corn to the EC than at any time since the 1950's. At 8.9 million tons, however, soybean exports to the EC remained above average annual shipments of the 1970's. Similarly, U.S. exports of non-grain feeds, excluding oilseed products (mostly corn gluten), reached a record in 1986. More than 70 percent of the \$1.3 billion of shipments went to the EC.

Currently, U.S. grain exports total \$1.00 for every \$6.00 of non-grain feeds sold to the EC. Ten years earlier, the ratio was 1 to 1. Japan currently purchases \$1.50 of U.S. grain for each \$1.00 of non-grain feeds purchased from the United States.

Long-term Trends Push LDC Imports Higher

Before 1986, agricultural exports to LDC's grew faster than those to developed countries. In the long run, LDC's are expected to remain the most important growth market for the United States. Although factors such as the debt crisis and the use of high-yielding varieties of grain

have reversed growth in U.S. agricultural exports to the LDC's since 1980, the value was \$3.8 billion higher in 1986 than 10 years before. In contrast, exports to developed countries grew less than \$900 million between 1976 and 1986. Sales to centrally planned countries fell more than \$1 billion.

In contrast to developed countries, where consumption patterns and populations have stabilized, developing countries have growing populations and changing consumption patterns. Consequently, food demand in LDC's often grows faster than domestic production. Similarly, an LDC's demand for imports often outpaces its acquisitions of foreign exchange through the sale of its own exports. As a result, U.S. assistance to foreign governments has played a role in expanding our agricultural exports to LDC's for humanitarian, market-building, and foreign policy reasons.

While agriculture is a sheltered industry in most industrialized nations, the World Bank's 1986 Development Report indicated that developing countries tend to tax their agricultural sectors and subsidize industry. The goal is to transfer domestic savings to the relatively inefficient industrial sector and accelerate the country's transformation to a modern, industrial society.

Government marketing boards often become the sole purchasing authority within a country. Therefore, they can enforce food-price ceilings and raise government revenue by paying farmers less than world prices. Because the prices of some manufactured products needed by farmers are supported by quotas or tariffs, they remain expensive. In addition, overvalued exchange rates reduce the cost of importing food and industrial inputs.

Not only do these policies restrain production, but consumption often

accelerates as migration swells urban populations. Growing consumption and high tariffs fuel inflation, often leading the government to offer consumer subsidies to restrain cost of living increases for industrial wage earners. The result is further increases in consumption, urban immigration, and imports.

During the 1970's, revenues from growing commodity exports and the ease of international borrowing sustained these expensive policies. Annual economic growth in the developing countries rose above 5 percent. In the industrialized countries, it rose about 3 percent. LDC agricultural imports grew even faster, rising more than 10 percent annually after adjusting for inflation.

World trade in agricultural products rose 150 percent between 1973 and 1981, when it peaked at \$254 billion. Farm product imports by all developing countries rose from \$17 billion to \$66 billion. Middle Eastern countries showed the largest proportional gain. Farm imports to these countries rose from \$2.8 billion in 1973 to \$16.9 billion in 1981.

Environment for LDC Growth Deteriorates

After 1981, the world economic environment changed dramatically. Commodity price growth slowed, while average real interest rates faced by LDC borrowers rose 20 percentage points from -3 percent to 17 percent. Reduced export earnings and

increased debt service necessitated still more borrowing. Debt climbed to at least \$700 billion in 1982.

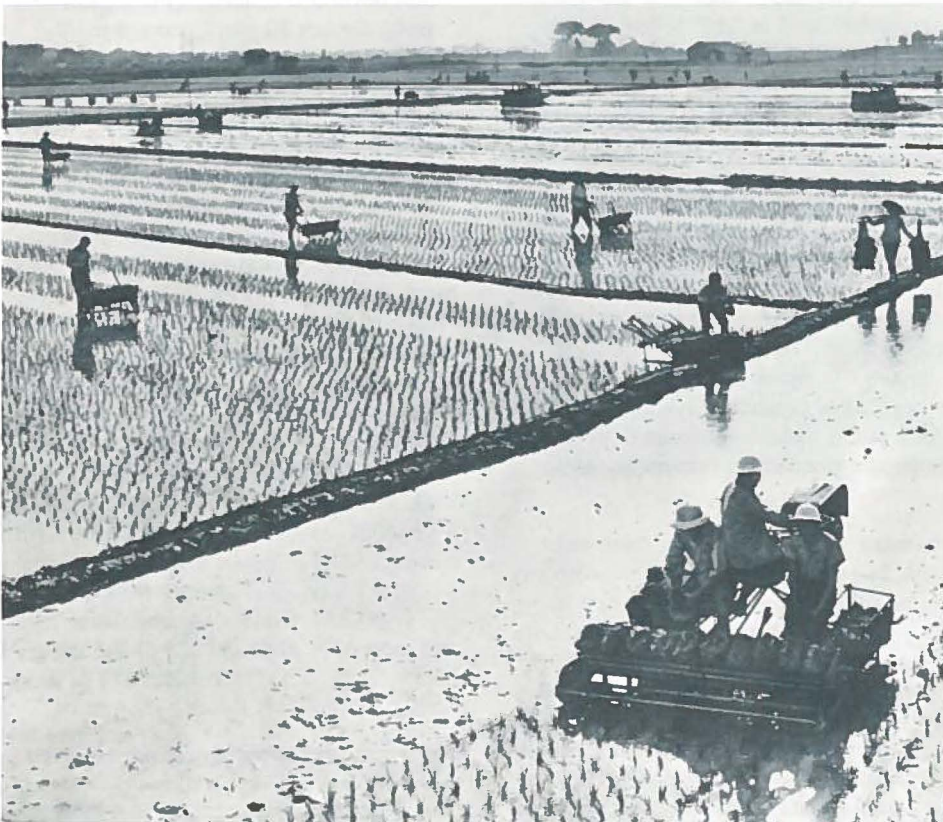
In 1982, Mexico was forced to reschedule its payments and the "debt crisis" had begun. Mexico was the United States' third most important customer in 1980 and 1981. However, as debt servicing reduced the hard currency available for exports, austerity slashed the stimulus of government spending, and reform deflated overvalued exchange rates, U.S. exports to Latin America fell. Exports to Mexico alone dropped \$1.6 billion. Total U.S. shipments to the region—which had increased tenfold between 1970 and 1981—declined \$3.3 billion to less than \$4 billion between 1981 and 1986.

From 1977 to 1984, Nigeria was among the top 10 purchasers of U.S. wheat, averaging \$175 million. Between 1984 and 1986, total U.S. agricultural exports to Nigeria fell \$400 million. In 1986, Nigeria's government banned wheat imports, cutting U.S. export prospects further. Other U.S. customers have taken similar drastic measures to conserve foreign exchange. Venezuela, for example, banned corn imports, cutting off U.S. sales which had grown from 15,000 to 692,000 tons during the 1970's.

Green Revolution Further Reduces Import Needs

LDC policies often encourage domestic production of manufactured products to be substituted for imports. Such policies are intended to help reduce foreign exchange expenditures and speed economic transformation and modernization. More recently, advances in plant breeding and widespread concern for food security in developing countries have led to increased agricultural production in what has become known as the "green revolution."

Some LDC's have expanded domestic agricultural production in order to reduce



The "green revolution" led to improved agricultural production in many developing countries.

imports. China, for example, after 20 years of stagnant farm production, suddenly boosted its output 49 percent in the 7 years ending in 1984. Fertilizer consumption doubled during this period as a 50-percent increase in crop procurement prices boosted incentives. In addition, production responsibility shifted from communes to households, linking an individual's returns more closely with their efforts.

In India, the introduction of high-yielding varieties resulted in record food grain harvests in the 1980's. An unusually high rate of domestic savings enabled India to maintain strong investment in irrigation, which in many cases extended the growing season and allowed double-cropping. India possesses large areas suited in climate and terrain to farming once they are irrigated.

Economic incentives helped Saudi Arabia raise its wheat production from 141,000 tons to 1.4 million tons between 1980 and 1984. Farmers were eligible for free land and were paid \$1,000 per ton for wheat. About \$1 billion was spent subsidizing wheat production and distribution. By 1986, wheat production reached 2 million tons, 800,000 tons above domestic consumption.

The agricultural reforms in China, India, and Saudi Arabia dramatically changed U.S. trade with these countries. In 1981, India, China, and Saudi Arabia imported 8.3 million tons of U.S. wheat, costing \$1.5 billion. By 1986, sales to these countries totaled only 228,000 tons. China went from the most important U.S. wheat customer in

1981 to an insignificant purchaser in 1986. India began exporting wheat in the 1980's after being the world's largest recipient of food aid during the 1960's and 1970's. Saudi Arabia also became an exporter.

East Asia Remains Important U.S. Export Market

Not all LDC's share Mexico's and Nigeria's need to conserve foreign exchange, or China's, India's, and Saudi Arabia's ability to expand agricultural production. Some countries have sustained economic growth rates and foreign exchange reserves, while others lack agricultural resources. The newly industrialized countries (NIC's) of East Asia are examples of both.

Taiwan, Korea, and Hong Kong have been the most vigorous economies of the 1980's, consistently achieving the largest annual increases in GNP of any country. Per capita income is about \$2,000, compared with India's \$230, and an average of about \$1,000 for all LDC's. In addition, income is more equitably distributed, contributing to greater purchasing power and consumption levels.

Korea and Taiwan continue to rank among the United States' top 10 customers for total exports and for feed grains, wheat, soybeans, tobacco, and several other commodities. Taiwan and Korea, once significant recipients of U.S. food aid, have succeeded in expanding livestock industries. As a result, these countries have become important commercial markets for U.S.

feedstuffs. U.S. corn sales rose tenfold to 3 million tons during the 1970's and have continued high.

Despite the green revolution, the political economy of most LDC's is such that agricultural production will probably remain hampered by urban-oriented policies favoring industrial over agricultural sectors. In addition, urbanization of many U.S. export customers is unlikely to reverse. In 20 years, Mexico went from 60 percent rural to 60 percent urban. Egypt's population growth has been similarly urban-centered.

If other developing countries can return sustained economic growth like Korea and Taiwan, U.S. agricultural exports can be expected to grow. Food demand in the less developed countries responds to income growth 10 times as much as demand in the most developed countries. Furthermore, during the last 10 years, more than 70 percent of the world's population growth occurred in the less developed countries. Continued population growth alone will probably assure that the LDC's will become increasingly important major U.S. export markets. Rebounding economic growth overseas would offer even better prospects for U.S. agricultural exports. Unfortunately, such growth has proved elusive during much of the 1980's and is not expected soon. □

Bursting the Dollar's Balloon: Its Impact on U.S. Agricultural Trade

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The U.S. agricultural trade picture has changed significantly since the early 1980's. Several factors account for the decline in exports and rise in imports. Among them are U.S. and foreign government policies, production increases in competing and importing nations, slow growth in foreign incomes, and mounting external debt in developing countries.

The value of the U.S. dollar also has a significant impact on this country's trade. In the 1970's, it contributed to the record growth in agricultural exports. In contrast, the dollar's rapid rise in the early 1980's brought a significant downturn in our sales abroad. However, since 1985, another turnaround in the dollar's value has begun to contribute once again to the competitiveness of U.S. agricultural exports.

Tracking the Dollar

In the 1970's, the declining value of the dollar meant that the price of U.S. farm products dropped in terms of the currency of many importers. As a result, the volume of U.S. grain and oilseed exports more than doubled in the 1970's alone. The total value of our agricultural exports during that decade increased sixfold. At the same time, the declining dollar made foreign products more expensive for U.S. customers (*see sidebar*).

By the late 1970's, the trend in the value of the dollar began to reverse. The dollar appreciated an average of 46 percent from 1978 to 1985. Foreign importers had to spend more of their currency to buy American farm products (*see sidebar*). As the "price" of our exports rose, foreign buyers increasingly turned to other countries for their food imports or increased their own production. As a result, U.S. farm exports fell to \$26 billion in 1986 from the peak of \$44 billion in 1981.

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Understanding Changes in the Value of the Dollar

To understand how changes in the exchange rate of the U.S. dollar affect the "price" of U.S. exports and imports, consider the following two examples.

Assume that a dollar is worth 50 dracles in the hypothetical country of Ishbat. Ishbatans import their favorite U.S. food product for \$2, or 100 dracles a pound. However, international events cause a decline in the value of the dollar so that it is worth only 25 dracles. Assuming Ishbat is a small country, the price of the U.S. product falls to 50 dracles, encouraging Ishbatans to purchase more U.S. exports. Conversely, U.S. imports from Ishbat would decline because the falling value of the dollar raises the cost of an Ishbatan product costing 200 dracles from \$4 to \$8.

Now assume that international events raise the value of the dollar from 50 dracles to 100. Because it takes more dracles to "buy" a dollar, the price of U.S. exports increases. Ishbatans will likely buy less of their favorite U.S. food. In contrast, imports from Ishbat are cheaper. For Americans, the price of the same item that cost 200 dracles falls from \$4 to \$2.

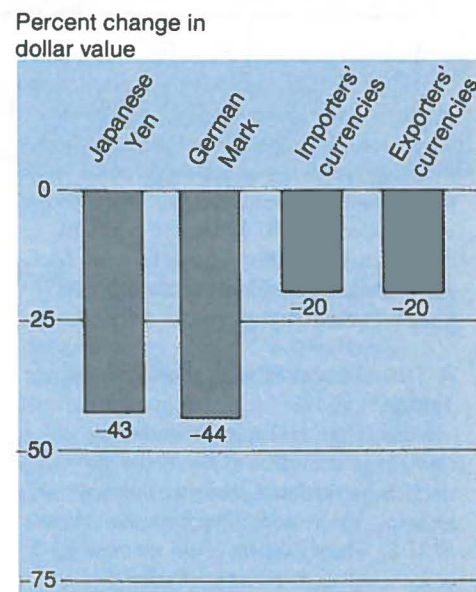
After rising nearly 7 years, the value of the dollar is again declining—a possible signal that exchange rates are no longer eroding the competitiveness of U.S. exports. Because exchange rates vary widely among countries, the drop in the dollar's value has been significant for some of our trading partners. Measured against the Japanese yen and the German mark, for example, the dollar depreciated approximately 45 percent between the first quarter of 1985 and April 1987 (*figure 1*).

Yet when considered against the currencies of all of our customers and competitors, the dollar has not depreciated nearly as much. After adjusting for inflation, the dollar, relative to currencies of countries importing U.S. farm goods, depreciated less than 20 percent between first quarter of 1985 and April 1987.

Compared with our competitors' currencies, the value of the dollar fell 20 percent over the same period. Looking at specific countries, the dollar changed only marginally against several of our most important competitors' currencies—the Canadian and Australian dollars and the Thai baht.

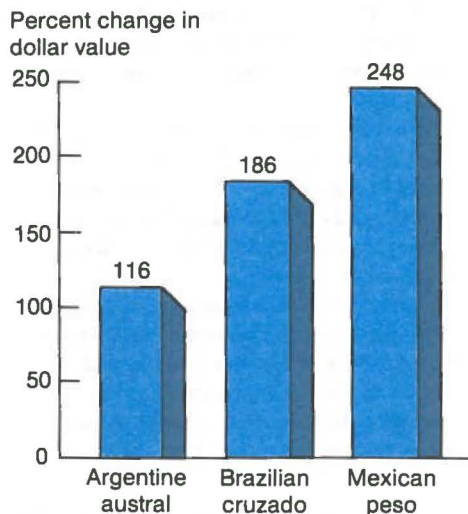
Moreover, some exporters' products may be helped by changes in the value of the dollar relative to their currency. For example, the dollar appreciated at least 100 percent against the Argentine austral,

Figure 1. Rate of Decline in Dollar's Value Varies¹



¹Percent change in dollar's value compared to currencies shown from the first quarter in 1985 to April 1987.

Figure 2. U.S. Dollar Appreciates Against the Currencies of Several Latin American Countries¹



¹Percent change in dollar's value compared to currencies shown from the first quarter of 1985 to April 1987.

Brazilian cruzado, and Mexican peso (figure 2). As a result, their food exports have become very competitive in world markets.

The appreciation of the dollar relative to these countries' currencies has placed downward pressure on U.S. import prices of coffee, cocoa, juices, vegetables, and beef. As a result, our imports of these products have remained strong.

A Turnaround in U.S. Agricultural Trade?

Recent ERS research indicates that changes in the value of the dollar do impact on U.S. agricultural trade performance. For instance, the research suggests the volume of U.S. wheat exports could increase by 5 percent for each 10-percent depreciation in the value of the dollar compared with our trading partners' currencies. The volume of corn exports are estimated to rise 8 percent and soybeans, 3 percent (other things remaining the same).

Extending the analysis to include both customers' and competitors' currencies, U.S. wheat exports could increase by as

Sketching the U.S. Trade Picture

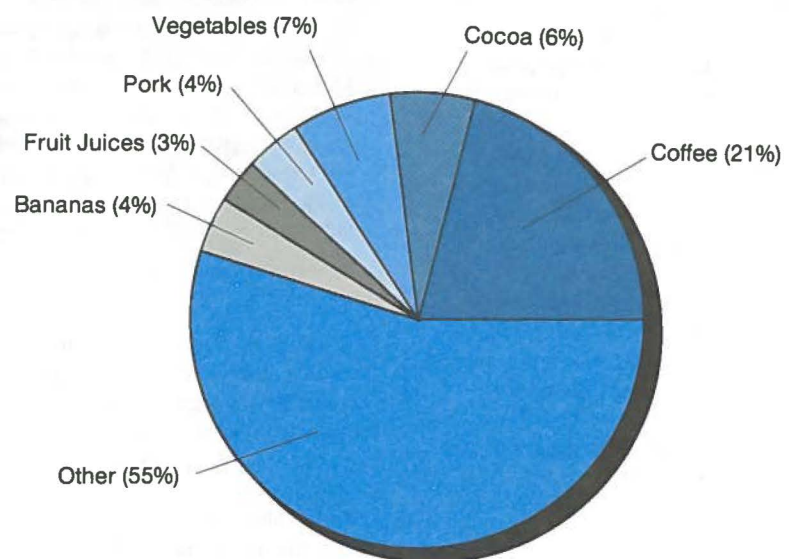
After increasing during the 1970's, U.S. farm exports plummeted 40 percent from the 1981 peak to \$26 billion by 1986. During the same time, we lost one-third of our export volume which fell to 108 million metric tons (mmt). This suggests a decline in unit values as well.

Between 1981 and 1986, the value of wheat and corn exports each fell 55 percent, and soybeans, 26 percent. These commodities accounted for nearly 65 percent of the value of total agricultural exports in 1975, but dropped to less than 50 percent a decade later. Animal product exports

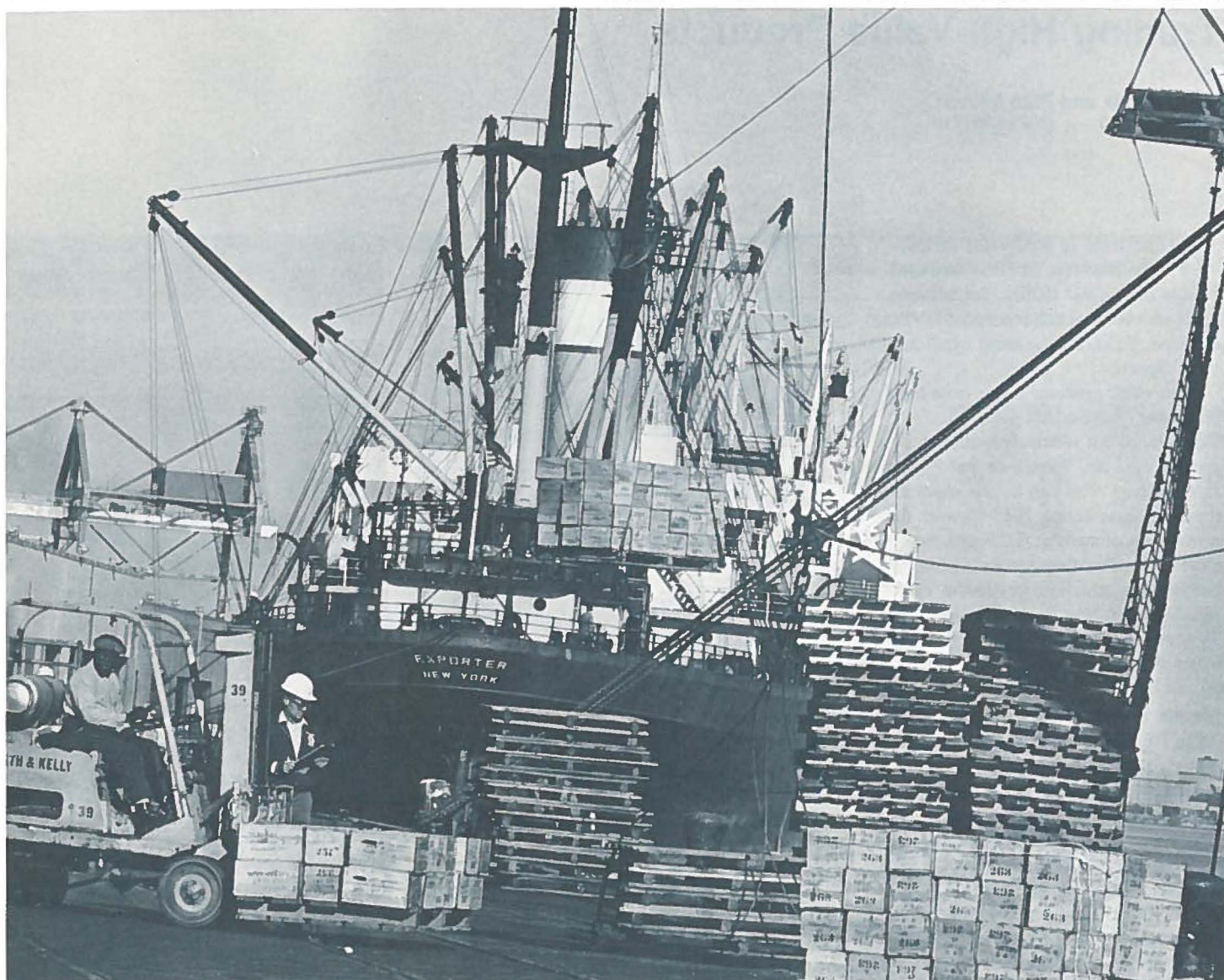
during 1981-86 rose 6 percent, vegetable exports declined 31 percent, and fruit dropped 18 percent.

On the other hand, the value of imports increased to \$21 billion in 1986, up from \$15.5 billion 4 years earlier. Coffee imports rose \$1.5 billion, cocoa, \$500 million, and vegetables, \$440 million. Imports of pork jumped \$340 million and fruit juices increased \$310 million. We also imported \$160 million more in bananas and plantains. Together, these six food items constitute 45 percent of U.S. agricultural imports (figure 3). Many of these products come from our southern hemisphere neighbors. Brazil and Mexico, in particular, exported \$3.8 billion in agricultural products to the United States in 1986.

Figure 3. Coffee is a Major U.S. Agricultural Import¹



¹Percent of total, 1986.



The value of U.S. farm exports during the 1970's increased sixfold.

much as 8 percent for each 10-percent decline in the value of the dollar, corn by 12 percent, and soybeans by 4 percent. In addition to the volume increases, the U.S. share of world trade in these commodities would rise.

The ERS research also indicates that trade adjustments to currency changes can take 3 years. Since production decisions are generally made only once a year in agriculture, it can take at least that long before production adjusts to exchange rate and price changes. Production adjustments are also affected by the fact that much of the equipment and many of the buildings and facilities used in farming are specific to certain agricultural uses. Since the costs of these assets are often fixed over time, farmers may be slow to respond to new exchange rates and prices.

Because it is only one of several factors affecting U.S. trade, a change in the value of the dollar is not a panacea for U.S. agriculture. Farm policies of foreign governments tend to buffer producers and consumers from world price movements and discourage rapid supply and demand adjustments.

For example, the European Community (EC) has significantly altered its export subsidies to insulate its farmers from world price and exchange rate changes. When the dollar rose in value from 1980-84, the EC lowered its export subsidies. They were then increased following the recent decline in the dollar. Adjusting the subsidies in this way assures that the EC farmer receives a stable domestic price and is not provided with market incentives to alter production levels.

However, the cost of protecting domestic agriculture increases as the value of the dollar declines. The EC's spending for agriculture rose to \$23 billion in 1986. Such budgetary pressures are encouraging some countries, like the United States, to participate in multilateral trade negotiations aimed at reducing subsidies and other protection barriers. □

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Trading High-Value Products

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World trade in high value agricultural products (HVP's) increased rapidly during the 1970's. But between 1980 and 1985 world exports of HVP's declined, following the trend of all agricultural exports.

High value products range from highly processed, value-added goods to unprocessed but relatively expensive foods such as eggs and fresh fruit and vegetables (see sidebar). The two largest exporters of these products during 1980-85 were the European Community (EC)¹ and the United States. Together they accounted for 59 percent of world HVP exports in 1985. The EC, however, was far ahead with a 39-percent share of the total. The United States held 20 percent.

Trends in World HVP's Exports

The EC's high-value exports contain a higher percentage of highly processed products than those from the United States. In 1985, exports of highly processed products, such as wine and dairy products, comprised 62 percent of total EC HVP shipments. This compared with 35 percent for the United States. In contrast, 18 percent of all U.S. high-value exports were unprocessed HVP's like fruits, vegetables, and nuts. These types of commodities comprised only 6 percent of the HVP's exported by the EC.

Brazil exports a high percentage of semi-processed HVP's such as coffee, cocoa, and oilseed cake and meal. India, on the other hand, has a greater diversity among its

¹Belgium, France, Italy, Luxembourg, Netherlands, West Germany, Denmark, Ireland, United Kingdom, and Greece. Portugal and Spain joined the EC in 1986.

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High-Value Products

What exactly are high-value products? What distinguishes them from the more traditional low-value products like wheat, corn, and soybeans that are so important to U.S. agricultural trade? The dividing line is rather arbitrary. The degree of processing or services added to the raw product, its relative per unit value, its bulkiness and weight are important considerations. Some typical groupings and the common products in each are listed below.

Highly Processed Products

Prepared and preserved meats, milk, butter, cheese, cereal preparations, dried fruits, preserved or prepared vegetables, nonchocolate sugar preparations, chocolate, spices, beverages, and cigarettes.

Semiprocessed Products

Fresh, chilled, and frozen meat, wheat flour, refined sugar, coffee, cocoa, tea, animal feed, oilseed cake and meal, and vegetable oil.

Unprocessed High-Value Products

Eggs, fruits, nuts, and fresh vegetables.



Brand and label acceptability helps countries capture a large share of the HVP market.

major high value exports. They not only include coffee, tea, spices, oilseed cake and meal, but also fruits and nuts (fresh, dried, and processed) and a higher percentage of processed products.

The decline in world trade of HVP's since 1980 has occurred across commodity groups (table 1). Both temperate zone and tropical products shared in the decline. The sharp drop in the value of tropical products has adversely affected several of the less developed countries in Latin America. Declining coffee prices reflect rapidly rising Brazilian production, following severe frosts in 1975 and 1978-79 that destroyed many coffee trees. Because export earnings have decreased, many tropical countries have had to curtail imports and, in some cases, debt repayments. This has had a direct effect on U.S. agricultural exports since these countries were considered growth markets for U.S. products during the 1970's.

Looking at the U.S. Share

Traditionally, the United States has focused on shipping low-value bulk products (LVP's) which usually require little processing, packaging, or merchandising. We also ship a substantial amount of fruits, vegetables, and nuts but these exports are somewhat negated since we import these products when they are out of season.

The value of U.S. HVP exports steadily increased from \$5 billion in 1975 to \$12.3 billion in 1981, but has since declined to \$9.7 billion in 1985 (figure 1). The value of LVP exports also increased from \$17.3 billion in 1975 to \$32.3 billion in 1981. Since then the value of LVP's has dropped even more sharply than the value of HVP's, primarily because world prices for the high-value products have not fallen as sharply.

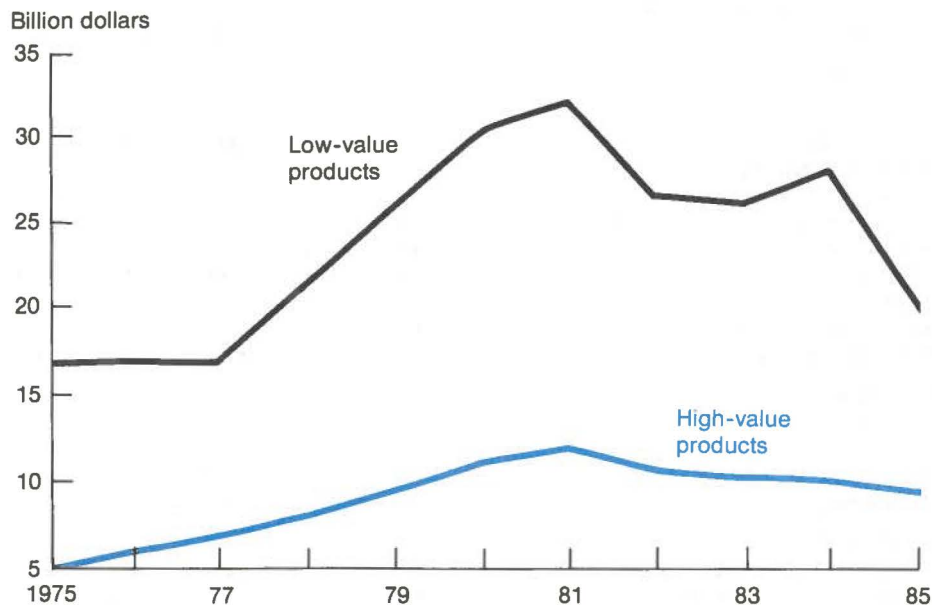
A review of world and U.S. trade in HVP's suggests:

- The EC has fared better than the United States in maintaining or increasing market shares in HVP's.

Table 1. World Trade of High Value Products Has Declined Since 1980^{1 2}

| Commodity | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 |
|---|-------|------|------|------|------|------|
| <i>Billion dollars</i> | | | | | | |
| Livestock products | 34.6 | 34.8 | 33.3 | 30.5 | 28.2 | 26.6 |
| Meat products (canned, frozen, dried, etc.) | 19.1 | 19.1 | 18.0 | 16.8 | 14.8 | 14.0 |
| Milk and cream | 4.9 | 5.0 | 5.0 | 4.5 | 4.4 | 4.4 |
| Butter | 3.3 | 3.7 | 3.5 | 2.8 | 2.4 | 2.1 |
| Cheese | 4.0 | 4.0 | 4.0 | 3.8 | 3.8 | 3.8 |
| Eggs | 1.0 | 1.0 | 0.9 | 0.8 | 0.8 | 0.6 |
| Animal oils and fats | 1.3 | 1.2 | 1.1 | 1.0 | 1.2 | 1.1 |
| Fish and fish meal | 1.0 | 0.8 | 0.8 | 0.8 | 0.8 | 0.5 |
| Fruits and vegetables | 20.5 | 20.6 | 19.8 | 17.8 | 17.2 | 14.5 |
| Fruits and nuts (fresh) | 8.1 | 7.9 | 7.7 | 6.6 | 6.0 | 5.4 |
| Fruits (canned) | 1.3 | 1.4 | 1.3 | 1.1 | 1.1 | 1.1 |
| Fruit juices | 1.4 | 1.8 | 1.7 | 1.7 | 1.2 | 0.9 |
| Vegetables | 9.7 | 9.5 | 9.1 | 8.4 | 8.9 | 7.1 |
| Tropical products | 19.4 | 16.2 | 15.4 | 13.7 | 10.8 | 8.2 |
| Refined sugar and preparations | 4.4 | 4.7 | 3.3 | 3.0 | 2.5 | 2.1 |
| Coffee, green or roasted | 9.1 | 5.8 | 6.6 | 5.6 | 3.4 | 1.6 |
| Cocoa beans, raw or roasted | 0.9 | 1.3 | 1.2 | 0.9 | 0.4 | 0.8 |
| Chocolate and products | 3.2 | 2.9 | 2.8 | 2.7 | 2.6 | 3.0 |
| Tea | 1.1 | 0.8 | 0.9 | 1.0 | 1.3 | 0.4 |
| Selected spices | 0.7 | 0.7 | 0.6 | 0.5 | 0.7 | 0.4 |
| Oilseed products | 12.5 | 12.8 | 11.0 | 10.8 | 11.5 | 6.4 |
| Vegetable oils | 7.5 | 7.0 | 6.0 | 5.2 | 8.3 | 4.4 |
| Oilseed cake and meal | 5.0 | 5.8 | 5.0 | 5.6 | 3.1 | 2.0 |
| Cereal products | 5.3 | 5.6 | 4.9 | 4.6 | 4.9 | 4.6 |
| Wheat flour | 1.7 | 1.9 | 1.4 | 1.1 | 1.3 | 1.2 |
| Cereal preparations | 3.2 | 3.3 | 3.2 | 3.1 | 3.2 | 3.2 |
| Bran | 0.4 | 0.4 | 0.3 | 0.4 | 0.4 | 0.2 |
| Miscellaneous products | 8.7 | 8.5 | 8.5 | 8.1 | 8.2 | 8.7 |
| Lard, fat, and margarine | 0.7 | 0.7 | 0.6 | 0.5 | 0.6 | 0.6 |
| Wine and beer | 5.1 | 4.7 | 4.8 | 4.6 | 4.7 | 5.0 |
| Cigarettes | 2.9 | 3.1 | 3.1 | 3.0 | 2.9 | 3.1 |
| Total | 101.0 | 98.5 | 92.9 | 85.5 | 80.8 | 69.0 |

¹Includes trade among EC member countries. ²Totals may not add due to rounding. Source: United Nations Trade Data.

Figure 1. Bulk Products Constitute Largest Share of U.S. Agricultural Exports

- The U.S. market for tea, coffee, spices, and tropical products is a major outlet for many exporters, especially developing countries.

- The prospect of the United States capturing a greater share of the HVP market will likely depend on U.S. competitiveness, foreign agricultural policies, and changing economic conditions such as exchange rates and growth in foreign economies.

Strategies for Expanding U.S. Exports of HVP's

Successful marketing of HVP's depends on choosing products which can be profitably produced and marketed and have a potential for growth in foreign markets. More liberal trade policies and better access

to major world markets play an equally important role.

The U.S. Government offers domestic processors and exporters a number of tools to compete for market shares. The Export Enhancement Program provides bonuses—in the form of commodities owned by the Commodity Credit Corporation—to help exporters meet competitors' prices in specific markets. In 1986, bonuses averaged almost \$80 per ton on wheat flour. Other HVP's benefiting from this program include frozen poultry, poultry feed, eggs, and vegetable oils.

Other Federal programs provide short and medium-term commercial export credit guarantees and food aid. Export promotion is provided through the Targeted Export Assistance Program and support of organi-

zations representing producers and trade associations.

The United States has the potential to expand its high-value exports. Major factors in its favor are an abundant supply of high-quality, relatively low-priced raw bulk products, and the large U.S. domestic market that includes a well developed and technologically advanced processing sector. Therefore, the additional investment necessary to expand the production of high-value products for export would be minimal.

There are, however, limitations. First of all, the necessary port-to-port marketing system for HVP's is not as highly developed as for bulk products. In addition, ocean transportation costs from the United States to major European and African markets are relatively high compared to our EC competitors. The EC is closer to these markets, and distance and volume of traffic are key factors in setting ocean freight rates.

Secondly, other major HVP exporters, such as the EC, Australia, Canada, Brazil, Argentina, Mexico, and Greece, export well known and well established products. Danish hams, French and German wines, and Belgian chocolates are examples. This brand and label acceptability has helped them capture a large share of HVP markets.

Many of these countries also have very aggressive export marketing programs, many of which include export subsidies. The EC offers export and processing subsidies that directly lower the prices of their commodities on world markets. At the same time, many importing countries are protecting their domestic industries with subsidies and trade restrictions. The Japa-

nese protect their domestic rice and beef industries using these methods. These actions effectively bar entry or raise the cost of U.S. products.

Potential HVP Exports

According to ERS analysis, there are several groups of products that may offer the greatest export potential. They are:

- Semiprocessed and processed meats, especially poultry and pork to less developed countries. U.S. poultry feeding technology is very efficient and supplies of relatively cheap feed are abundant. Opportunities for large-scale beef exports are more limited because of differences between U.S. and foreign tastes, the costs of producing the leaner meat preferred abroad, and import restrictions by several major importers. However, beef exports could grow, particularly if import restrictions such as those imposed by Japan can be eased.
- Semiprocessed oilseed products. The United States has an abundant supply of oilseeds and the processing capacity that should give U.S. products a competitive edge in the meals and oils markets.
- Highly processed beverages. The increasingly high quality and relatively low cost of U.S. wine should improve competitiveness, particularly in the table wine market. An ample supply of raw materials and processing capacity should also provide profitable opportunities for exporting fruit juices.
- Cereal products, including whole-wheat flour, corn meal, pasta, and crackers. Growth in these markets is possible, particularly flour, if other nations reduce their protective subsidies.
- Fresh and processed fruits, vegetables, and nuts. Fresh fruits, vegetables, and nuts—such as deciduous and citrus fruits, pecans, and peanuts—are plentiful and of excellent quality in the United States.
- Improved and hybrid seeds. The U.S. investment in agricultural research and seed development should provide a clear cost and

quality advantage over many foreign suppliers.

- Tobacco products. Cigarettes and related items, where the quality of U.S. tobacco and processing provides a singular but not fully exploited market advantage, could be another opportunity.
- High-fructose corn sweetener. While the long-term potential for market penetration is unclear, the expanded use of this sweetener in U.S. products holds promise for foreign sales.

The United States will have difficulty increasing sales of the following:

- Most highly processed, consumer-ready products. Many foreign goods already have established brand names or quality advantages, making it more difficult for U.S. exports to break into these markets. American products will have to compete with established European wines and cheeses, and French and Swiss chocolates. An extended and costly market development campaign with questionable payoff potential would be involved in developing these markets.
- Tropical products, such as coffee and sugar. The United States is heavily dependent on imports of unprocessed or semiprocessed forms of these products. While there is some potential for importing, processing, and re-exporting, it would be difficult to be competitive without direct access to low-cost raw products. The rigid structure of the world coffee and sugar markets would also be prohibitive. Coffee is traded based on one multinational trade agreement. Sugar, on the other hand, is governed by many domestic programs and bilateral treaties.
- Dairy products. Because the Federal dairy program supports U.S. prices above world levels, our products are not very competitive. While many other exporters would also be less competitive if they sold at domestic support levels, they are heavily subsidized, and therefore able to move their products on the world market.

Future HVP Trade

The international market for HVP's is large. Foreign competition is strong and protection of domestic markets is widespread. Yet, the expansion of U.S. high-value exports should be possible, especially for agricultural products that are currently exported in lower valued bulk forms. The profitability of converting bulk products to HVP's for export depends greatly on the international trade environment and joint government/business strategies for marketing and promoting U.S. products.

The general levels of world economic growth and exchange rates are also important in determining the level of HVP trade. Recent trends in both worldwide economic activity and the relative value of the U.S. dollar could stimulate growth in both total HVP trade and the U.S. share of total trade.

U.S. exports of HVP's still depend greatly on effective marketing strategies. In most cases, U.S. agribusinesses will need to use both price and non-price competition to successfully promote U.S. high-value exports. Aggressive advertising and promotion may be effective in convincing foreign buyers that the United States can provide quality products at fair and competitive prices.

Finally, the international market for HVP's also depends on successfully liberalizing world trade policies and reducing domestic subsidies. The United States is a major party to the current multilateral trade negotiations. With our abundant supplies of high-quality bulk agricultural products and modern processing capacity, we should benefit on the whole from less restrictive international trade practices. □

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Comparing International Food Expenditures

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The share of total spending devoted to food varies around the world, reaching more than 60 percent in some nations. But U.S. consumers spent the least, with food accounting for just 11 percent of total personal consumption expenditures in 1984 (the most recent year for which global data are available). That was also the smallest share ever spent by any country for food.

Canada was second at 13.4 percent of expenditures for food (*table 1*). The United Kingdom, the Netherlands, and Australia ranked close behind. In contrast, residents of Niger spent an average of 61.6 percent. Consumers in Sierra Leone spent 53 percent.

Food Spending Around the World

In Western European countries, an average of 21 percent of total personal expenditures went for food. The range extended from 14.5 percent in the United Kingdom to almost 37 percent in Greece. The Soviet Union had the smallest share among Eastern European countries—25.6 percent versus an average of 30 percent for the region. Poland devoted almost 37 percent of spending to food, topping the list of Eastern European nations.

In Latin America, Bahamians spent the least, 22.3 percent, and Hondurans the most, 41.4 percent. The average for all Latin American countries was 35 percent.

The range of food spending was widest in the African and Middle Eastern regions. In Zimbabwe, consumers devoted just under

13 percent of expenditures to food, while in Niger the share was almost 62 percent. Zimbabweans were unique in that they spent more for beverages and tobacco (19.3 percent) than for food.

The Asian and Oceanian countries fall into two distinct groups. In the developed countries of Australia, Japan, and Hong Kong, food averaged less than 20 percent of expenditures. In contrast, the share in the developing Asian nations was 43 percent. Singapore had the lowest share of expenditures for food, 22.6 percent. In the Philippines, China, Papua, and India, food accounted for over half of consumers' spending.

Assessing Food Expenditures

Despite wide regional variations in food spending, the data generally support the theory that as personal income grows, the amount spent for food also increases, but at a slower rate. Therefore, food expenditures as a percent of income decline. Because a uniform, worldwide data base is unavailable for income, total personal consumption expenditures were used as a proxy (*see sidebar*).

Food expenditures are commonly used as a measure of a country's well-being and stage of development. In developed countries, for example, food takes a smaller share of income and total family expenses,

Understanding the Data

Food spending as a share of total disposable or after-tax income is a familiar and often-quoted statistic. However, that data base is small. Only about 25 countries supply total disposable income figures for the System of National Accounts reported by the United Nations (UN).

In contrast, 57 countries compare food expenditures with total personal consumption expenditures, or total spending. The expenditure data includes nondurable goods, such as food, durables, such as automobiles, and services, such as rent and entertainment.

Therefore, to provide the most consistent and broadest data base for comparison, we reported food spending as a share of total personal consumption expenditures. The data in this article come from the Organization for Economic Cooperation and Development and the United Nations. The UN information is based on its system of national accounts. This system includes a category for total food, beverage, and tobacco spending, as well as subcategories for food, nonalcoholic beverages, alcoholic beverages, and tobacco. Because some countries report only the total for food, beverages, and tobacco, the corresponding subtotals were estimated. The estimated data are indicated by brackets in the tables.

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leaving consumers more money for entertainment and other purchases, such as cars.

Most of the countries surveyed experienced steady declines in the percent of expenditures devoted to food between 1970 and 1984 (table 2). The biggest drop

occurred in the Sudan, where food's share went from 70 percent in 1970 to 36 percent in 1980. The Sudan and other nations have been trying hard to become self sufficient in food production and are finally reaping the benefits. Between 1970 and 1984, food as a share of total spending fell around 10 to 12

percentage points each in India, Hong Kong, and South Korea.

There are countries, however, where the standard of living is eroding, and food is taking a bigger chunk of expenditures. In Venezuela, for example, food accounted for 31 percent of expenditures in 1970. By

Table 1. United States Allocated Smallest Share of Spending for Food in 1984

| Country | Food | Nonalcoholic beverages | Alcoholic beverages | Tobacco | Food, beverages and tobacco ¹ | Expenditures | |
|---------------------------|-------|---------------------------|------------------------|---------|---|-------------------------|---------------------------------|
| | | | | | | Personal consumption | Food, beverages, and tobacco |
| | | | | | | | |
| Percent | | | | | Dollars per person | | |
| Niger ⁵ | 61.6 | 0.8 | 1.0 | 2.3 | 65.7 | NA | NA |
| Ghana ⁷ | 53.6 | 0.8 | 3.0 | 1.2 | 58.6 | 953 | 558 |
| India | 53.1 | 1.5 | 1.3 | 1.9 | 57.9 | 167 | 97 |
| Sierra Leone ⁵ | 53.0 | [1.8 | 3.8 | 1.9] | 60.5 | NA | NA |
| China | 52.6 | NA | 5.4 ⁸ | NA | 58.0 | NA | NA |
| Philippines | 51.7 | [0.7 | 1.7] | 2.1 | 56.2 | 436 | 245 |
| Sri Lanka | 49.2 | 0.6 | 2.9 | 5.1 | 57.8 | 264 | 153 |
| Kenya ⁵ | 41.4 | 1.0 | 4.1 | 2.6 | 49.3 | 132 | 65 |
| Honduras ² | 41.4 | [1.1 | 2.1] | 0.6 | 45.2 | 517 | 234 |
| Venezuela | 39.6 | 1.9 | 10.6 | 1.3 | 53.4 | 1,763 | 941 |
| Thailand | 38.7 | 2.2 | 4.8 | 2.7 | 48.5 | 547 | 265 |
| Jordan ² | 38.0 | 1.5 | 0 | 1.9 | 41.3 | 150 | 62 |
| Greece | 36.9 | 1.1 | 2.4 | 2.9 | 43.3 | 2,181 | 945 |
| Poland ³ | 36.8 | [2.0 | 11.4] | 2.2 | 52.4 | NA | NA |
| Jamaica ³ | 36.8 | 1.2 | 4.3 | 5.6 | 47.9 | 998 | 477 |
| Korea | 36.1 | 1.0 | 3.0 | 3.6 | 43.8 | 1,193 | 522 |
| Sudan ⁵ | 35.8 | 0.1 | 0.9 | 1.5 | 38.3 | NA | NA |
| Bolivia ⁶ | 35.5 | 1.6 | 4.4 | 1.3 | 42.6 | 572 | 244 |
| El Salvador ⁷ | 35.2 | 1.3 | 3.1 | 1.5 | 41.2 | 477 | 196 |
| Ecuador | 34.5 | 1.6 | 3.1 | 1.6 | 40.8 | 911 | 372 |
| Malaysia ⁷ | 33.8 | 0.8 | 2.0 | 3.8 | 40.4 | 644 | 260 |
| Portugal ⁴ | 33.1 | 0.2 | 2.6 | 2.2 | 38.2 | 1,672 | 638 |
| Mexico | [31.7 | 1.1 | 2.2 | 1.7] | 36.7 | 1,340 | 491 |
| Yugoslavia ² | 31.2 | [1.5 | 5.0] | 2.3 | 40.0 | NA | NA |
| Colombia ² | 31.2 | 1.1 | 3.5 | 1.1 | 36.9 | 977 | 360 |
| Spain ³ | 29.2 | 0.4 | 1.1 | 0.9 | 31.7 | 3,325 | 1,053 |
| Malta | 29.0 | 3.2 | 4.4 | 3.8 | 41.3 | 1,933 | 798 |

Cont.

Table 1. United States Allocated Smallest Share of Spending for Food in 1984, Cont.

| Country | Food | Nonalcoholic beverages | Alcoholic beverages | Tobacco | Food, beverages and tobacco ¹ | Expenditures | |
|-----------------------|-------|---------------------------|------------------------|---------|---|-------------------------|---------------------------------|
| | | | | | | Personal consumption | Food, beverages, and tobacco |
| | | | | | | | |
| Percent | | | | | Dollars per person | | |
| Cyprus | 28.6 | 1.7 | 2.2 | 2.2 | 34.7 | 2,119 | 735 |
| Hungary ³ | 27.9 | [1.5 | 12.0 | 2.5 | 43.9 | NA | NA |
| South Africa | 26.4 | 1.4 | 5.0 | 1.8 | 34.6 | 1,209 | 418 |
| Iran ² | NA | NA | NA | NA | 42.1 | 1,964 | 827 |
| Fiji ² | 25.8 | 1.6 | 3.5 | 2.3 | 33.3 | 1,082 | 360 |
| USSR ⁵ | 25.6 | [1.0 | 10.0 | 4.0] | 40.6 | NA | NA |
| Italy | 25.6 | 0.3 | 1.8 | 2.2 | 29.9 | 3,776 | 1,128 |
| Ireland ³ | 23.8 | 1.3 | 12.2 | 4.4 | 41.8 | 3,360 | 1,403 |
| Israel | 23.1 | 1.8 | 0.6 | 1.2 | 26.8 | 3,590 | 961 |
| Singapore | 22.6 | 1.3 | 2.9 | 3.1 | 29.8 | 3,222 | 961 |
| Puerto Rico | 22.6 | NA | 4.7 | 2.0 | 29.2 | 4,414 | 1,289 |
| Bahamas ³ | 22.3 | 2.0 | 7.6 | 0.7 | 32.5 | 3,830 | 1,243 |
| Switzerland | 20.2 | [1.2 | 4.1 | 2.1] | 27.6 | 8,843 | 2,440 |
| Finland | 20.1 | 0.5 | 4.0 | 2.2 | 27.0 | 5,413 | 1,459 |
| Norway | 20.0 | 0.9 | 3.2 | 2.1 | 26.3 | 6,156 | 1,618 |
| Japan | [19.9 | 0.6 | 1.3 | 1.2] | 22.9 | 6,096 | 1,397 |
| Belgium | 19.1 | 1.1 | 3.1 | 1.8 | 25.2 | 5,146 | 1,296 |
| Sweden | 18.8 | 0.4 | 3.6 | 2.1 | 24.9 | 5,720 | 1,424 |
| Hong Kong | [18.8 | 1.0] | 1.1 | 1.1 | 22.0 | 3,580 | 789 |
| Austria | 18.5 | 0.6 | 2.4 | 2.5 | 24.1 | 4,851 | 1,170 |
| France | 17.9 | 0.5 | 2.0 | 1.2 | 21.5 | 5,695 | 1,224 |
| West Germany | [17.6 | 0.7 | 3.3] | 2.2 | 23.7 | 5,591 | 1,327 |
| Denmark | 17.2 | 0.6 | 3.8 | 3.3 | 24.9 | 5,709 | 1,420 |
| Luxembourg | 16.1 | 0.5 | 1.6 | 6.6 | 24.8 | 5,295 | 1,314 |
| Australia | [15.5 | 0.3] | 5.0 | 1.9 | 22.6 | 7,147 | 1,618 |
| Netherlands | 15.0 | 0.6 | 2.0 | 2.0 | 19.5 | 5,051 | 984 |
| United Kingdom | 14.5 | 0.6 | 2.0 | 3.0 | 20.0 | 4,466 | 892 |
| Canada | [13.4 | 0.7] | 3.3 | 2.3 | 19.6 | 7,493 | 1,472 |
| Zimbabwe ² | 12.7 | 8.3 | [6.6 | 4.4] | 32.0 | 512 | 164 |
| United States | 11.0 | 0.6 | 1.4 | 1.2 | 14.3 | 10,217 | 1,459 |

NA = Not available.

[] = Indicates that distribution within group was estimated.

¹May not add due to rounding. ²1983. ³1982. ⁴1981. ⁵1980. ⁶1979. ⁷1978. ⁸Includes tobacco.Sources: *Yearbook of National Accounts Statistics, 1985. Vol. II and III.* United Nations; *National Accounts, 1972-84. Vol II.* Organization for Economic Cooperation and Development; and various country yearbooks.

Table 2. Share of Spending for Food Declined in Most Countries

| Country | 1970 | 1984 | Country | 1970 | 1984 |
|-------------|-------------------|-------------------|----------------|-------------------|-------------------|
| Percent | | | Percent | | |
| Australia | 18.3 | 15.5 | South Korea | 47.4 | 36.1 |
| Austria | 26.1 | 18.5 | Luxembourg | 23.8 | 16.1 |
| Belgium | 24.1 | 19.1 | Malaysia | 37.7 | 33.8 ⁵ |
| Canada | 15.1 | 13.4 | Malta | 31.7 | 29.0 |
| Colombia | 33.4 | 31.2 ¹ | Mexico | 34.9 | 31.7 |
| Cyprus | 34.9 ⁷ | 28.6 | Netherlands | 22.0 | 15.0 |
| Denmark | 20.6 | 17.2 | Norway | 24.4 | 20.0 |
| Ecuador | 38.0 | 34.5 | Philippines | 51.9 | 51.7 |
| El Salvador | 36.4 | 35.2 ⁵ | Poland | 37.2 | 36.8 ² |
| Fiji | 24.0 | 25.8 ¹ | Portugal | 41.7 | 33.1 ³ |
| Finland | 24.0 | 20.1 | Puerto Rico | 23.3 | 22.6 |
| France | 22.0 | 17.9 | Singapore | 27.7 | 22.6 |
| Ghana | 53.6 | 53.6 ⁵ | South Africa | 23.2 | 26.4 |
| Greece | 35.5 | 36.9 | Spain | 33.2 | 29.2 ² |
| Honduras | 40.8 | 41.4 | Sri Lanka | 54.2 | 49.2 |
| Hong Kong | 31.2 | 18.8 | Sudan | 70.1 | 35.8 ⁴ |
| Hungary | 33.3 | 27.9 ² | Sweden | 20.8 | 18.8 |
| India | 63.0 | 53.1 | Switzerland | 21.8 | 20.2 |
| Ireland | 27.2 | 23.8 ² | Thailand | 46.4 | 38.7 |
| Israel | 23.6 | 23.1 | United Kingdom | 19.5 | 14.5 |
| Italy | 32.2 | 25.6 | United States | 14.3 | 11.0 |
| Jamaica | 46.5 | 36.8 ² | USSR | 35.0 ⁶ | 25.6 ⁴ |
| Japan | 26.4 | 19.9 | Venezuela | 31.1 | 39.6 |
| Jordan | 50.0 | 38.0 ¹ | West Germany | 22.0 | 17.6 |
| Kenya | 41.3 | 41.4 ⁴ | Zimbabwe | 24.3 | 12.7 ¹ |

¹1983. ²1982. ³1981. ⁴1980. ⁵1978. ⁶1975. ⁷1972.

1984, the share had risen to almost 40 percent. Other countries showing a similar trend include South Africa, Fiji, Greece, Honduras, El Salvador, and Kenya.

Spending for Tobacco, Alcohol, and Eating Out

Expanding the analysis to include spending on alcohol and tobacco, reveals wide variations among countries. In 1984, the biggest tobacco expenditures were found in Luxembourg where tobacco reached 6 percent of all spending. Jamaicans spent 5.6 percent and Sri Lankans, 5.1 percent. Americans spent a relatively modest 1.2

percent of their total expenditures on tobacco.

The U.S. share of spending on alcohol was also relatively low—1.4 percent. In contrast, the Irish spent 12.2 percent of expenditures on alcohol, the largest share among the countries surveyed. Hungarians spent 12 percent, Poles 11.4 percent and the Soviets, 10 percent.

While U.S. food spending away-from-home has grown considerably (*see NFR-37*), dining out as a share of total expenditures only places the United States about midway in a list of 30 countries (*table 3*). Topping the list are Cyprus, the United Kingdom,

Table 3. Share of Spending for Food-Away-From-Home Varies Worldwide

| Country | Percent |
|--------------------------|---------|
| Cyprus | 13.6 |
| United Kingdom | 12.0 |
| Austria | 11.0 |
| Colombia ¹ | 9.8 |
| Zimbabwe ¹ | 9.5 |
| Jamaica ² | 8.5 |
| Singapore | 8.4 |
| Italy | 8.4 |
| France | 7.1 |
| Finland | 6.7 |
| Greece | 6.3 |
| Thailand | 6.2 |
| Canada | 6.1 |
| United States | 6.0 |
| Netherlands | 5.0 |
| Denmark | 4.9 |
| Belgium | 4.5 |
| Norway | 4.2 |
| Ecuador | 4.1 |
| Malaysia ⁵ | 4.1 |
| Kenya ³ | 3.8 |
| Puerto Rico | 3.1 |
| Sweden | 3.0 |
| South Korea | 2.9 |
| Togo ⁶ | 1.9 |
| El Salvador ⁵ | 1.7 |
| Bolivia ⁴ | 1.6 |
| Ireland ² | 1.4 |
| Sri Lanka | 1.3 |
| India | 1.3 |

¹1983. ²1982. ³1980. ⁴1979. ⁵1978. ⁶1972.

and Austria, where between 11 and nearly 14 percent of expenditures are spent in restaurants, cafes, and hotels. Healthy tourist and travel environments most likely account for the large share of spending away-from-home in these countries. In contrast, Indians and Sri Lankans spent the least away-from-home—about 1.3 percent of total expenditures in 1984. □

USDA Technology Offers New Hope in Combating Vitamin A Deficiency Abroad

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To most of us, monosodium glutamate (MSG) is simply an additive that enhances the flavor of many foods. But to millions of people in Indonesia, MSG will soon mean better health and protection against xerophthalmia, an eye disease caused by the lack of vitamin A.

The disease is manifested by night blindness when vitamin A deficiency is mild. When it is more severe, the eyes become dry causing scarring of the cornea. Under extreme conditions, it leads to ulceration of the cornea and eventually blindness. Thanks in part, to technical assistance provided to the Government of Indonesia by USDA's Office of International Cooperation and Development (*see sidebar*), the MSG used by most rural households in Indonesia will be fortified with beneficial amounts of vitamin A.

Vitamin A Deficiencies and Disease

While xerophthalmia has essentially disappeared from the developed world because diets generally meet minimum needs for vitamin A, in Indonesia half of all preschoolers do not get enough vitamin A. Over 50,000 preschoolers annually are afflicted with severe, potentially blinding xerophthalmia. Many more suffer the lesser and reversible debility of night blindness. Also known locally as "chicken eye", this disease results in faulty vision under poor lighting conditions.

USDA's Office of International Cooperation and Development (OICD) and Helen Keller International (HKI) helped the Government of Indonesia identify foods which could be fortified with vitamin A. MSG was chosen because it is used regularly by 80 to 90 percent of rural Indonesians, the group most vulnerable to vitamin A deficiency.

However, serious technical problems had to be solved. Specifically, vitamin A, which

is deep yellow, discolored the white MSG crystals. Manufacturers initially refused to manufacture fortified MSG because of concerns about consumer acceptance of the discolored product.

Vitamin A also tended to separate physically from the MSG during processing. As a result, the nutrient was not uniformly distributed. The Government of Indonesia was unwilling to sponsor a program unless a uniform amount of vitamin A could be assured in the MSG.

Developing and Testing a New MSG

OICD and a Wisconsin-based firm, Coating Place, Inc., solved the discoloration and separation problems using an innovative technique that embeds the vitamin A particles in a matrix of fine MSG powder.

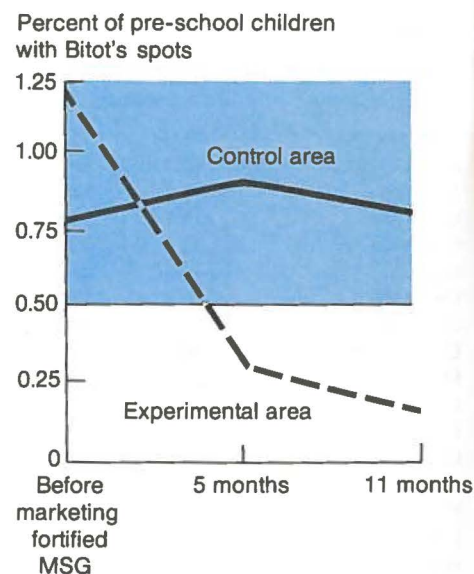
To test the effectiveness and consumer acceptance of the fortified MSG, Indonesia conducted field trials in 1985. Sixty thousand rural Indonesians were divided into an experimental group which received fortified MSG and a control group which was given unfortified MSG. The trials clearly established that fortified MSG is acceptable to consumers and that it significantly reduces vitamin A deficiency.

Before the trials, 1.24 percent of the children in the experimental group suffered from Bitot's Spots, rough areas on the cornea of the eye often found in children with vitamin A deficiency. (The World Health Organization considers 0.5 percent or more occurrence to be a community health problem.)

After 5 months of the trials, the incidence of Bitot's Spots dropped to 0.32 percent. After 11 months, the rate fell to 0.15 percent (*figure 1*). The control group showed essentially no change over the entire period.

Although the study focused on fortification's effect on vitamin A deficiency and xerophthalmia, the trials also revealed that fewer children died in the area where fortified MSG was distributed. The mortality rate of children 1 to 5 years old was 19.4

Figure 1. Prevalence of Xerophthalmia Declines in Indonesia



Shaded Area: World Health Organization defines problem areas as those with 0.5 percent or more of preschool children having Bitot's spots. Source: Muhilal, et al. *A Pioneering Project for Combatting Vitamin A Deficiency and Xerophthalmia with MSG Fortified with Vitamin A*. Dept. of Health, Republic of Indonesia, and Helen Keller International, Indonesia-1986.

percent in the control group, versus 13.4 among those receiving fortified MSG. The difference reinforces findings from earlier studies in Indonesia suggesting that vitamin A may be instrumental in reducing death rates among young children. Based on the results of the field trials, it has been estimated that fortification of MSG can save up to 100,000 lives and prevent as many as 10,000 cases of blindness per year in Indonesia.

Additional results indicated increased levels of vitamin A in the blood of test group participants and more vitamin A in the milk of lactating mothers. This further supports the conclusion that foods fortified with vita-

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min A may improve the overall health status of millions of people, not only in Indonesia, but throughout the developing world.

Following the trials, researchers further refined the technique to fortify MSG with vitamin A. The result was an improved method in which the particles of vitamin A are coated with an edible white "paint". The process completely masks the yellow color, prevents physical separation, and simplifies production.

Due to the success of the trials and the improved fortification methods, the Government of Indonesia announced this year it will begin fortifying MSG in three districts where vitamin A deficiency is most severe. The government intends to gradually extend the program throughout the country to reach a total of more than 50 million people.

Additional Interest in Vitamin A Fortification

The success in Indonesia led other countries to request similar technical assistance from OICD. In Bangladesh, the agency again worked with Helen Keller International to develop a project for fortifying whole wheat with vitamin A. This project is expected to start in 1988. When fully implemented, it could increase vitamin A consumption among 20-25 million destitute and low-income people throughout Bangladesh. A similar project in the Philippines focused on fortification of rice.

Fortified food supplements used in child feeding programs are another way governments can cope with nutritional problems. In the past 3 years, OICD worked with the Agency for International Development to

Alleviating Vitamin A Deficiencies

Vitamin A deficiency is one of the major health problems in the Third World, causing blindness in up to 500,000 children annually. Recent research findings also suggest that even moderate Vitamin A deficiency may contribute significantly to higher mortality rates and morbidity among children in developing countries.

For this reason, the U.S. Government has taken a leading position in sponsoring special programs aimed at alleviating vitamin A deficiency in the Third World. Through initiatives by the Agency for International Development (AID), projects have been started in a number of countries where vitamin A deficiency is particularly severe. AID has arranged support for these projects through other U.S. Government agencies, private

voluntary organizations, and universities.

USDA's Office of International Cooperation and Development (OICD), which oversees the Department's efforts to combat world hunger and malnutrition, is also actively participating in the program. For several years, OICD and AID have provided technical assistance to countries that want to reduce vitamin A deficiency by fortifying various foods.

OICD's Food Technology Branch received USDA's 1987 Distinguished Service Group Achievement Award for International Agricultural Affairs. The Award is the highest given by USDA for excellence.

The activities described in this article were funded by AID's Office of Nutrition through a Resources Support Service Agreement.

provide technical assistance for manufacturing special food supplements for children in Sri Lanka, Guyana, and Zaire.

These programs produced cereal-based food supplements for children which contain significant levels of vitamin A. The Guyana supplement (CEREX) is sold commercially and reaches 60 percent of all children under 2 years old and 40 percent of 2 to 5 year olds. The Sri Lankan product (THRIPOSHA) is distributed through government food programs and regularly

reaches 500,000 young children and pregnant and lactating women. In Zaire, the product (CEREVAP) will be sold in urban areas to low-income families.

When fully implemented, the planned programs can provide beneficial amounts of vitamin A to at least 75 million children and adults. If the results in Indonesia are duplicated, the impact on nutritional blindness and childhood mortality will be enormous. □

Domestic Food Programs: An Update

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This article compares food program participation and costs for the second quarter (January through March) of fiscal year 1987 with the same 3 months of 1986. Preliminary data are reported as of May and are subject to revision.

Federal expenditures for the domestic food assistance programs rose from \$4.93 billion in the second quarter of fiscal 1986 to \$5.08 billion a year later, according

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to preliminary data from USDA's Food and Nutrition Service (table 1). Costs for all programs, except the special milk program, increased from the previous year.

Food Stamp Program

The number of Food Stamp Program participants declined by 1 percent from 19.7 million to 19.5 million. However, monthly FSP benefits averaged \$46.27 per person, compared with \$45.51 a year earlier. Total benefits paid to participants rose from \$2.69 billion to \$2.70 billion, while total program costs, including administrative and other expenses, rose from \$2.96 billion to \$2.99 billion.

Child Nutrition Programs

A daily average of 24 million students participated in the National School Lunch Program, an increase of 1.7 percent over the 23.6 million who participated in 1986. The average number of participants who received free and reduced price lunches rose about 0.7 percent and 1.7 percent, respectively. Those who paid full price increased by 2.3 percent. During this quarter, free lunch recipients represented 42.3 percent of the total, reduced price 6.8 percent, and full price 50.9 percent.

Cash, entitlement commodities, and cash-in-lieu of commodities for the National School Lunch Program totaled \$1,041 mil-

Table 1. Federal Benefit Cost of USDA Food Programs¹

| Programs | 1985 | 1986 ² | FY 1986 (Quarters) ² | | | | FY 1987 ² | |
|--|--------|-------------------|---------------------------------|-------|-------|-------|----------------------|-------|
| | | | I | II | III | IV | I | II |
| Million dollars | | | | | | | | |
| Family Food | | | | | | | | |
| Food Stamps | 10,743 | 10,605 | 2,662 | 2,691 | 2,665 | 2,587 | 2,647 | 2,700 |
| Nutr. Asst. Prog. in Puerto Rico ³ | 825 | 824 | 206 | 206 | 206 | 206 | 214 | 214 |
| Food Distribution | | | | | | | | |
| Indian Reservations | 48 | 47 | 11 | 12 | 12 | 12 | 12 | 12 |
| Schools ⁴ | 835 | 846 | 273 | 266 | 157 | 150 | 273 | 279 |
| Other ⁵ | 216 | 281 | 44 | 50 | 88 | 99 | 50 | 51 |
| Temporary Emergency Assistance ⁶ | 972 | 846 | 206 | 209 | 220 | 211 | 218 | 210 |
| Cash-in-lieu of Commodities ⁷ | 136 | 145 | 37 | 36 | 36 | 36 | 38 | 39 |
| Child Nutrition ⁸ | | | | | | | | |
| School Lunch | 2,579 | 2,716 | 831 | 827 | 693 | 365 | 868 | 896 |
| School Breakfast | 385 | 412 | 125 | 123 | 107 | 58 | 139 | 142 |
| Child Care and Summer Food | 491 | 548 | 107 | 111 | 134 | 196 | 118 | 122 |
| Special Milk | 16 | 16 | 4 | 4 | 4 | 4 | 4 | 4 |
| WIC ⁹ | 1,489 | 1,579 | 387 | 394 | 393 | 405 | 406 | 417 |
| Total ¹⁰ | 18,735 | 18,864 | 4,892 | 4,930 | 4,715 | 4,328 | 4,987 | 5,085 |

¹Fiscal years, administrative costs are excluded unless noted. ²Preliminary, quarterly data may not add to annual total due to rounding. ³Puerto Rico transferred from the Food Stamp Program to a substitute nutrition assistance program on July 1, 1982. Represents appropriated amount. ⁴National School Lunch, Child Care Food and Summer Food Service programs, and commodity schools. ⁵Commodity Supplemental Food Program, Elderly Feeding Pilot Project, Nutrition Program for the Elderly, and donations to charitable institutions. ⁶Initiated December 1981. ⁷Child nutrition programs and the Nutrition Program for the Elderly. ⁸Cash expenditures. ⁹Special Supplemental Food Program for Women, Infants, and Children, including administrative costs. ¹⁰May not add to total because of rounding.

Source: Monthly data from the Food and Nutrition Service, USDA.

lion, an increase of 7.1 percent over the 1986 outlay of \$972 million. Higher per-meal reimbursement rates accounted for over half of the increase (table 2). In addition, schools received bonus commodities valued at \$131 million in the second quarter of 1987, compared to \$118.6 million during the same period in 1986.

The School Breakfast Program provided subsidized meals to an average 3.65 million children per day January through March, a 4.3-percent increase from 1986. Average participation among students receiving free and reduced price meals rose 3.6 percent and 7.0 percent, respectively. Federal expenditures for the program 15.7 percent from \$122.5 million to \$141.7 million.

An average of 61.9 million meals were served under the Child Care Food Program during the second quarter, a 5.5-percent increase over a year earlier. Approximately 78 percent of the meals were served free, 6 percent at reduced price, and 16 percent at full price. Meal costs rose 10 percent from \$110.7 million to \$121.8 million. Commodities valued at \$7.2 million were distributed, compared to \$8.1 million in the same quarter of 1986.

The total number of half-pints of milk served under the Special Milk Program declined slightly, from 42.2 million in 1986 to 42.1 million in 1987. Federal expenditures totaled \$4.0 million, compared to \$4.1 million the previous year.

Supplemental Food Program

The Special Supplemental Food Program for Women, Infants, and Children (WIC) served an average of 3.43 million persons per month in the second quarter of fiscal year 1987 compared with 3.31 million in January, February, and March 1986. Children accounted for 49.0 percent of the participants in 1987, infants, 29.6 percent and women, 21.4 percent. Food costs totaled \$335.7 million, compared to \$316.3 the previous year, a 6.1-percent increase.

The Commodity Supplemental Food Program (CSFP) helped an average of 143,500 persons each month, an increase of 1.9 percent over the same quarter in 1986. The distribution of participants in 1987 was 67.1 percent children, 19.0 percent women, and

13.9 percent infants. Food costs for the CSFP, including bonus commodities, stayed nearly constant at \$8.9 million.

Average participation in the Elderly Feeding Pilot Project, which is operated under the auspices of the CSFP, increased by 121 percent from 19,600 in the second quarter of fiscal 1986 to 43,300 in 1987. Total costs increased from \$739,000 to \$1.54 million in January—March.

Food Distribution Programs

Participants in the Food Distribution Program on Indian Reservations received \$12.1 million in food during the second quarter of 1987, a slight increase from \$11.9 a year earlier. This program provided



An average of 24 million students participated daily in the National School Lunch Program during the second quarter of 1987.

Table 2. School Meal Reimbursement Rates¹

| Programs and Category | School year ² | |
|------------------------------------|--------------------------|-------------|
| | 1985/86 | 1986/87 |
| <i>Cents per meal</i> | | |
| National School Lunch | | |
| Paid | 12.50 | 13.00 |
| Reduced | 90.25 | 95.50 |
| Free | 130.25 | 135.50 |
| Commodities | 11.75 | 11.25 |
| School Breakfast | | |
| Paid | 9.75 | 13.25 |
| Reduced | 38.00 | 43.75 |
| Reduced (Severe Need) ³ | 51.75 | 58.00 |
| Free | 68.00 | 73.75 |
| Free (Severe Need) ³ | 81.75 | 88.00 |
| Special Milk | | |
| Paid | 9.50 | 9.25 |
| Free | actual cost | actual cost |

¹Rates are higher in Alaska and Hawaii. ²The school year runs from July 1 to June 30. ³Schools can receive a "Severe Need" designation if 40 percent or more of their lunches are served at a free or reduced price and they have unusually high preparation costs.

food assistance to an average of 149,600 persons per month, up from 146,300 the previous year. About 3.5 percent of the participants were needy persons living in the Trust Territories.

Average daily attendance at centers participating in the Nutrition Program for the Elderly dropped slightly, from 857,500 in the second quarter of 1986 to 856,900 in 1987. During the second quarter of 1987 period, the Federal Government spent \$36.1 million (excluding bonus commodities), an increase of 10 percent from \$32.8 in 1986.

Food valued at \$210.3 million was distributed under the Temporary Emergency Food Assistance Program in the second quarter of 1987, up a little from \$209.0 million in the same quarter of 1986. This program provides food to needy persons while reducing Government stocks of surplus commodities. □

Food and Nutrition Legislation

Peter Beruk
(202) 786-1780

Since the beginning of the 100th Congress in January 1987, numerous food and nutrition bills have been introduced in the House and the Senate. One recently passed law and several proposals are briefly described below.

Food Assistance

P.L. 100-77

The Urgent Relief for the Homeless Act was passed by Congress on July 9 and signed by the President on July 22. The act provides aid to the homeless through emergency food and shelter grants and housing assistance to private nonprofit organizations and local governments. Emergency assistance for the mentally ill, alcohol and drug abuse services, and adult literacy and basic remedial skill programs will also be offered to homeless persons. P.L. 100-77 puts special emphasis on families and children by establishing an interagency council on the homeless and coordinating public resources and programs. The act authorizes \$442 million in fiscal year 1987 and \$616 million in fiscal 1988 for these purposes.

H.R. 910—Rep. Edward Feighan (OH)

The Self-Sufficiency for the Poor Act of 1987 would provide loans to poor people in developing countries through the Peace Corps, United Nations Children Fund, International Fund for Agricultural Development, and other organizations which have experience in providing assistance in Third World countries. This legislation would direct the loans to persons whose per capita family income is \$250 per year or less. The loans would be limited to \$150 per individual and be used to help start small businesses, increase food production, help cottage industries, and increase self-sufficiency.

The author is an agricultural economist formally with the U.S. Agricultural Policy Branch in the Agriculture and Trade Analysis Division.



H.R. 1340—Rep. Leon Panetta (CA)

The Agricultural Commodity Distribution Act of 1987 would change the manner in which USDA commodities are distributed to food assistance agencies. Guidelines would be set for intrastate distribution relating to such matters as timeliness of delivery, advance notice of delivery, and frequency of such distributions. The bill would also require USDA to develop specifications for food products that are the quality, size, and form most usable by recipient agencies.

H.R. 2086—Rep. Thomas Tauke (IA)

The Older Americans Act Amendments of 1987 would continue the Surplus

Commodity Program for 3 years. The program provides participants with nutritionally sound meals at little or no cost. The bill would raise the age requirement for participation from 60 to 65. It would also authorize the funds to carry out the program during fiscal years 1988-90.

S. 236—Sen. Robert Dole (KS) and S. 305—Sen. Patrick Leahy (VT)

These identical bills, called the Commodity Distribution Program Reform Act of 1987, would improve the administration of the Commodity Distribution Program. USDA would be required to deliver products that meet Federal dietary

guidelines and are of the quality, size, and form most useful to recipient agencies. USDA would also have to establish procedures to handle commodity items that are not in good condition when received by recipient agencies, monitor delivery systems and then implement an effective delivery system, and develop a field testing program to test product acceptability with program participants. Results would be considered when deciding which commodities, and in what form they would be provided to recipient agencies.

S. 1135—Sen. Thomas Daschle (SD)

The Hunger Emergency Assistance and Relief Trust Act of 1987 would amend the Internal Revenue Code. Individuals could direct all or part of their income tax refunds to a trust fund established for domestic and international hunger relief. A Hunger Commission would be established to oversee the distribution of funds.

Food Safety and Quality

H.R. 633—Rep. William Dannemeyer (CA)

The Foods Are Not Drugs Act of 1987 would amend the Federal Food, Drug, and Cosmetic Act to specify that items for special dietary use—capsulated herbs, foods, and vitamins—will not be classified as drugs. Under current law, manufacturers of these items are prohibited from making any claims that their product will mitigate, treat, or prevent disease. Once such a claim is made, the product falls under the definition of a drug and is subject to the regulations governing drugs.

H.R. 711—Rep. Ron Wyden (OR)

This bill, the Imported Food Safety Act of 1987, would require the Food and Drug Administration (FDA) to seize and destroy imported food treated with pesticides that are prohibited by U.S. health standards.

H.R. 801—Rep. Marilyn Lloyd (TN)

This bill would increase the criminal penalties for the intentional poisoning or adulteration of food and drugs for human consumption. The maximum penalty would be 15 years imprisonment or a \$50,000 fine, or both.

H.R. 956—Rep. Douglas Bosco (CA)

The Food Irradiation Safety and Labeling Requirement Act of 1987 would prohibit the implementation of FDA and USDA regulations allowing the irradiation of pork and fresh fruits and vegetables. (*See NFR-33 for a description of the regulations.*) This bill would require that the irradiation symbol appear in a conspicuous place on the product label. The bill would also mandate independent studies to review the existing research on the safety and wholesomeness of irradiated food; and examine the contamination of food by improper irradiation, the health risks to employees in food irradiation facilities and the residents who live near by, and the effects of transporting radioactive source material on the environment, population centers, and rural areas. Food irradiation facilities would have to file semiannual reports on their activities with FDA.

H.R. 1247—Rep. Thomas Foley (WA)

This bill would extend the Saccharin Study and Labeling Act to until May 1, 1990. During this period, the Secretary of Health and Human Services could not prohibit or restrict the sale or distribution of saccharin or saccharin-containing products.

H.R. 1382—Rep. James Traficant (OH)

The Truth in Import Advertising Act of 1987 would require the foreign and domestic content of foods be indicated on the label. If the commodity is produced in the United States, the label would have to provide the percentage with the statement: "This product was produced in the U.S.

and has ___% domestic content." The label may state "Made in the U.S.A." if more than 85 percent of the commodity originated here. In addition, H.R. 1382 would require that similar information be provided in any television, radio, or print advertising.

H.R. 1483—Rep. Byron Dorgan (ND)

The Mandatory Fish Inspection Act of 1987 would cover all commercial seafood destined for human consumption in the United States. The Secretary of Agriculture would be required to establish a program of continuous inspection of all commercial processing of freshwater and saltwater fish, shellfish, and their products which are intended for human consumption in the United States. The program would be similar to the current system for inspecting commercially processed meat and poultry.

H.R. 1877—Rep. Leon Panetta (CA)

The Imported Products and Commodities Safety Act of 1987 would ban imports of meat, poultry, and raw agricultural products treated with certain pesticides. The bill incorporates the recommendations made by a February 1987 Office of Inspector General (OIG) audit and an 18-month General Accounting Office investigation. The bill would require:

- USDA to submit a report to Congress, within 90 days of enactment, specifying how the inspection of imported meat and poultry products will be improved in response to OIG's findings. The report must include methods to improve enforcement procedures and the results of any research conducted to improve drug and pesticide residue testing procedures of imported meat and poultry products.
- FDA to develop and publish in the *Federal Register*, within 90 days of enactment, plans to better test and monitor imported fresh fruits and vegetables.
- FDA to submit annual reports to Congress on its testing of food shipments,

including the number of tests conducted by commodity, number of violations by importer and country, and enforcement action taken against identified violators.

- FDA to report to Congress its proposal to improve its enforcement procedures, the results of any research efforts into improved pesticide testing procedures, and the extent to which identified improvements are utilized.

H.R. 1902—Rep. Charles Rangel (NY)

The bill would amend the Federal Food, Drug, and Cosmetic Act to require that food labels state the specific common or usual name of each fat and oil. The label would also have to list the amount of each fat or oil contained in the food; the amounts of polyunsaturated and monosaturated fats, and cholesterol; and sodium and potassium levels. The total number of ounces and calories contained in each serving would also be required to be on the label.

H.R. 2148—Rep. Dan Glickman (KS) and S. 1109—Sen. Tom Harkin (IA)

These identical bills, titled The Tropical Oils Labeling Act of 1987, would amend the Federal Food, Drug, and Cosmetic Act to require specific labeling of foods that contain tropical fats. The bills would

require the label to identify each tropical oil contained in the food—particularly palm, palm kernel, or coconut oil—and follow the name of the oil with the statement “a saturated fat.” The label would also have to list the per-serving fat content and saturated fat content of the food.

S. 138—Sen. Daniel Inouye (HI)

This legislation would amend the Federal Meat Inspection Act and the Poultry Inspection Act to allow State-inspected meat and poultry products to enter interstate commerce. However, S. 138 would continue the practice of barring State-inspected meat from international trade where, by treaty, all meat must be Federally inspected.

Nutrition Programs

H.R. 2151—Rep. Buddy MacKay (FL) and S. 1081—Sen. Jeff Bingaman (NM)

These bills, both titled The National Nutrition Monitoring and Related Research Act of 1987, would establish a coordinated plan to assess and research the nutritional and dietary status of the U.S. population and the nutritional quality of the U.S. food supply. The program would be required to continually examine the linkages between food consumption patterns, nutritional status, and health status; assess dietary and nutrition trends; and maintain nutritional health data. To carry out these require-

ments, the bill would provide for scientific research and development in nutrition monitoring.

S. 902—Sen. James McClure (ID)

This bill would extend until June 30, 1992, the eligibility of certain school districts to receive alternative forms of assistance under the National School Lunch Program. Local school districts participating in a pilot project receive cash or letters of credit in lieu of commodities. The project explores alternative delivery methods for the School Lunch Program. This bill would also extend the National Donated Commodity Processing Program through June 30, 1992. Under this program, surplus bulk commodities from USDA are processed by private companies into useable foods for Federal nutrition programs.

Other Legislation

H.R. 547—Rep. Cardiss Collins (IL)

This bill would prohibit retailers from increasing the price of commodities once the price is marked on the product. It would also permit the Federal Trade Commission to order retailers to refund any money obtained by increasing the price of a previously marked commodity. □

USDA Actions

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USDA regularly implements operational and regulatory changes that affect the status of food and nutrition in the United States. Here are some relevant actions.

Standards for Canned Pineapple Juice.

USDA revised its standards for voluntary grading of canned pineapple juice. The revisions are designed to improve the standards and encourage uniform and consistent commercial trade practices. They were recommended by the Pineapple Growers' Association of Hawaii and will align U.S. grade standards with Food and Drug Administration (FDA) standards. The word "canned" or "canning" is eliminated and "processing" is substituted where appropriate. The revisions also redesignate the name U.S. Grade C to U.S. Grade B, establish grade standards and minimum soluble solids content for pineapple juice from concentrate, and clarify the standards for pineapple juice and pineapple juice from concentrate.

Sharwil Avocados. USDA now allows Sharwil avocados to move from Hawaii to Alaska without special treatments to destroy fruit flies and pests, providing the avocados are harvested and handled under specified conditions. The untreated avocados, however, will be distributed only in Alaska. USDA exempted avocados destined for Alaska from treatment because Mediterranean fruit flies, Oriental fruit flies, and melon flies, cannot live in Alaska's extreme cold and because host fruits are not grown there.

Cherries Purchased. USDA purchased 21.2 million pounds of frozen red tart pitted cherries to use in school lunch and other

domestic feeding programs. This purchase will help reduce the large reserves held by cherry growers while making cherries available to schools and other program recipients throughout 1988. The purchase of frozen tart cherries was made before the marketing order was terminated April 30.

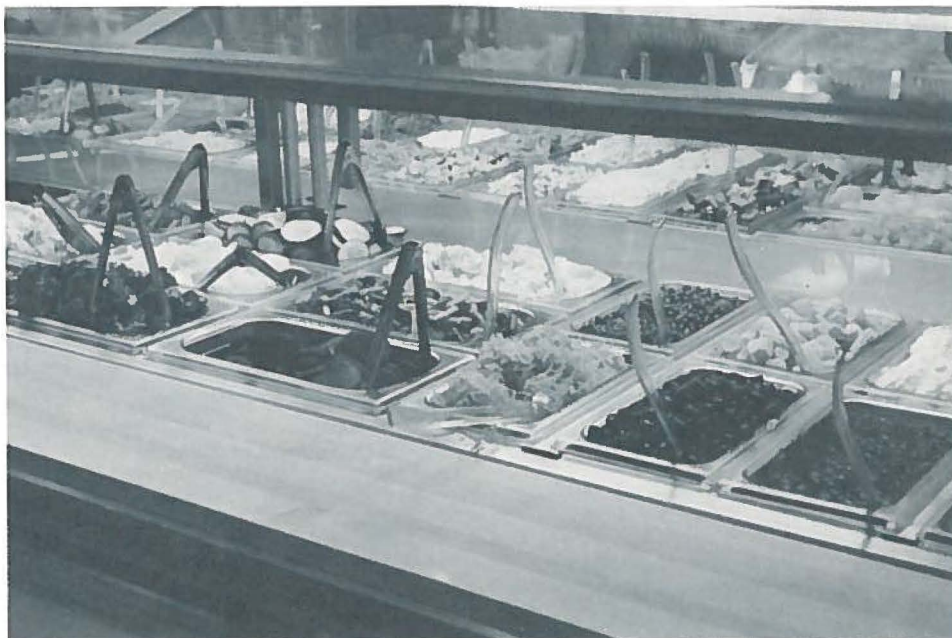
Fruit and Vegetable Research. USDA has earmarked about \$2 million to research alternatives in preserving quality in salad bar fruits and vegetables. Fruits and vegetables begin to soften and brown shortly after they are cut, cored, or sliced. Scientists are exploring the inside makeup of these foods to find the cause of spoilage and develop techniques to slow it down. Sulfites, which had been used to prevent softening and browning were banned by the FDA in July because of their tendency to produce allergic reactions.

Retail Sales Exemption for Meat and Poultry Products.

USDA increased the dollars limits that meat and poultry retailers can sell to hotels, restaurants, and similar institutions without undergoing Federal inspection. Such retailers are exempt from Federal inspection if they sell less than the annual limit set by USDA. Meat and poultry sales by these retailers to institutions must not exceed 25 percent of the firm's total annual sales.

Notification Process for Violations of Meat Inspection Act.

USDA issued an interim rule which requires suspected Federal Meat Inspection Act violators to be notified when evidence is being transferred to the Department of Justice for possible criminal prosecution. The Processed Products Inspection Improvements Act of 1986 requires that suspected violators be notified and given an



USDA research will explore new ways of preserving freshness in salad bar fruits and vegetables.

The author is an agricultural economist with the U.S. Agricultural Policy Branch in the Agriculture and Trade Analysis Division.

opportunity to present their case before the evidence is referred to the Justice Department. The Act, however, also allows USDA certain exemptions from the prior notice requirement. These include instances when:

- evidence might be altered or destroyed.
- disclosing evidence could result in injury to persons or property.
- there is reason to believe the suspected violator might flee to avoid prosecution.
- notification might compromise covert operations.
- the suspected violation involves suspicion of bribery and related offenses or clandestine slaughtering or processing operations.
- suspected violation of the meat inspection laws is part of a broader investigation involving other possible violators.

Sulfite Labeling on Meat and Poultry Products. USDA now requires meat and poultry processors to list sulfiting agents on product labels when the products contain confirmable levels of sulfur dioxide, sodium sulfite, sodium bisulfite, potassium bisulfite, sodium metabisulfite, or potassium metabisulfite. The substances are used to preserve foods, such as potatoes and other

ingredients, that may be added to processed meat and poultry products. The USDA policy, same as that of the FDA, requires sulfite labeling when products contain 10 parts-per-million or more of the preservative. The FDA approves ingredients for foods other than meat and poultry. Sulfites, which are prohibited in fresh meat and

poultry products, can be present in stews and other processed meat or poultry products.

Food Consumption Survey. In April, USDA began a 1-year nationwide survey of food consumption by Americans. The survey, the seventh evaluating food

Table 1. Targeted Export Promotion Industries

| Participant | Commodities | Million dollars |
|--|--|-----------------|
| Alaskan Seafood Marketing Institute | Salmon, pollack, and herring | 1.50 |
| American Plywood Association/ Hardwood Export Trade Council | Structural panel and lumber products, decorative hardwoods | 1.98 |
| American Seed Trade Association | Seeds for planting (forage, turf, field, and vegetable) | 0.35 |
| California Avocado Commission | Avocados | 0.42 |
| California Cling Peach Advisory Board | Processed cling peaches and fruit cocktail | 5.60 |
| California Kiwifruit Commission | Kiwifruit | 0.50 |
| California Pistachio Commission | Pistachios, shelled and in shell | 0.20 |
| California Prune Board | Prunes | 4.50 |
| California Raisin Advisory Board | Raisins | 9.80 |
| California Table Grape Commission | Table grapes | 0.45 |
| Cotton Council International | Cotton | 6.80 |
| Eastern U.S. Agricultural and Food Export Council | High-valued foods | 1.00 |
| Export Incentive Program (by application) ¹ | Almonds | 4.18 |
| Export Incentive Program (by application) ¹ | California and Arizona citrus | 10.50 |
| Florida Department of Citrus | Florida fresh and processed citrus (primarily fresh grapefruit) | 7.00 |
| Leather Industries of America | Leather (sheetgoods) | 1.50 |

consumption in the U.S., is conducted at approximately 10-year intervals and gathers information on households and individual household members. It is the nation's primary source of information on the consumption of foods and nutrients and the dietary status of the U.S. population. The survey will focus on what households pay

for food and when, where, and with whom household members eat. Data from earlier surveys have been the principle statistical sources for evaluating and developing national food and nutrition policies.

New Export Program for Dairy Products. USDA is implementing a new export incen-

tive program to promote U.S. dairy products. The program will help promote exports of U.S. dairy products to 37 selected destinations. The products eligible are butter, butter oil, anhydrous milkfat, nonfat dry milk, whole milk powder, cheddar cheese, and bulk American cheese for manufacturing.

Table 1. Targeted Export Promotion Industries, Cont.

| Participant | Commodities | Million dollars |
|--|---|-----------------|
| Mid-America International Agri-Trade Council | High-valued foods | 1.20 |
| National Hay Association | Hay and hay products | 0.30 |
| National Peanut Council | Peanuts and peanut products | 4.50 |
| National Potato Promotion Board | Potatoes | 2.55 |
| National Sunflower Association | Sunflowerseed and products | 3.00 |
| Northwest Horticultural Council | Fresh pears | 0.40 |
| | Fresh apples | 1.50 |
| | Fresh cherries | 0.12 |
| Southern U.S. Trade Association | High-valued foods | 0.80 |
| Tobacco Associates | Tobacco leaf | 0.90 |
| U.S. Dry Pea and Lentil Council | Dry peas and lentils | 2.50 |
| U.S. Feed Grains Council | Corn, sorghum, and barley | 2.80 |
| U.S. Meat Export Federation | Red meats, variety meats, and meat products | 7.00 |
| U.S. Mink Industry | Mink furskins (pelts) | 1.50 |
| U.S. Poultry and Egg Export Council | Poultry, eggs, and products | 6.50 |
| U.S. Rice Council | Rice | 3.50 |
| U.S. Wheat Associates | Wheat | 3.10 |
| Walnut Marketing Board | Walnuts | 7.00 |
| Western U.S. Agricultural Trade Association | High-valued foods | 1.95 |
| Wine Institute | Wine (California) | 2.60 |

¹Grant awarded to a specific firm (occurred in cases where an industry did not submit a proposal, but the individual firm did).

Targeted Export Assistance. USDA has allocated \$110 million in Target Export Assistance to fund 36 projects in fiscal year 1987 (table 1). The projects covered a wide range of U.S. agricultural commodities. The commodities were selected from proposals submitted by industry representatives. To be chosen, commodities had to have been the target of unfair trade practices that limited their exports. The ongoing program is jointly administered by USDA's Foreign Agricultural Service and industry representatives.

Egg Research and Promotion Program.

USDA conducted a national referendum among egg producers between May 25 and June 19 on an advertising, research, and consumer education program for eggs and spent fowl (chickens no longer producing eggs and sold to food processing companies). The results which were released July 10, show that 57 percent of the 1,106 producers who voted turned the program down. The referendum was held as the result of public hearings across the United States between January and March 1986, and other comments received on the published proposal. □

In the News . . .

Deadline Extended for Comments on Foreign Poultry Plant Inspections

USDA approved the British poultry inspection system, allowing products from Great Britain to be sold here.

The decision, which comes at a time when U.S. export markets are expanding, is expected to further open trade between the two countries. Currently, 15 U.S. plants are approved to sell poultry in Britain.

USDA prohibits the importation of meat and poultry that fails to comply with domestic inspection rules. Before a foreign country can export such products to the United States, USDA must review and approve that nation's inspection system. The products are then reinspected on a sample basis when they arrive here.

Until now, only Canada, France, Hong Kong, and Israel were allowed to export poultry to the United States.

USDA is also considering a proposal that would require foreign countries to set up a residue testing and sampling program if they want to export poultry to the United States.

For further information contact Dr. William Havlik, Director, Foreign Programs Division, Food Safety and Inspection Service, USDA, Washington DC 20250.

USDA Revises Grain Standards

USDA revised its grain standards to improve the accuracy and uniformity of graded grains.

The changes incorporate common and familiar terms and update the 11 grain standards to conform with current trading practices.

For example, the special grades "Tough, Stained, Bleached, and Bright" have been



A USDA proposal could require more accurate weight measurements for chicken parts.

eliminated from the barley standards. Sample, grade, damaged kernels, and classes of malting barley have also been redefined, and black barley is no longer a grade determinant.

The revisions, which went into effect June 30, simplify the language of the standards, said Federal Grain Inspection Service (FGIS) Administrator W. Kirk Miller.

In addition, FGIS amended its regulations on dockage foreign material, and dust as of July 30. The service also set new insect infestation limits for grain. These become effective May 1, 1988.

For more information, contact Lewis Lebakken, Jr., FGIS, USDA, Room 1661-S, Washington, DC 20250.

Greater Weight Precision Proposed

A new USDA proposal could require that certain meat and poultry products packaged under Federal inspection be labeled with more accurate weight measurements.

The proposal, which would apply only to variable weight packages, such as chicken parts or sliced pastrami, calls for weights to be expressed beyond the current two-decimal limit. It was published in the *Federal Register* July 1.

According to the Food Safety and Inspection Service, this would ensure a fair value for consumers and processors, particularly for high-value, low-weight products.

For more information, contact Dr. William S. Horne, Associate Department

Administrator, Meat and Poultry Inspection Operations, (202) 447-5190.

Iron Source Identified in Soybean Hulls

The U.S. Department of Agriculture has identified an easily digested form of iron in fiber-rich soybean hulls.

Soybean hulls are a good source of dietary iron, but until this discovery, the reason why was unknown. According to Joseph Laslow, a biochemist for USDA's Agricultural Research Service, the recently identified source is Iron II, a readily digestible form of the nutrient.

Most of the iron in high fiber plants, such as soybeans, is Iron III. This form of iron combines with the fiber in the plant and is difficult for humans to absorb.

Laslow, who conducted the research at USDA's Northern Research Center in Peoria, Illinois, says the Iron II discovery could lead to using soybean hulls to fortify breads and other baked goods with more iron and fiber.

For more information, contact Joseph Laslow, Physical Chemistry, Northern Research Center, Agricultural Research Service, USDA, Peoria, IL 61604.

Tougher Rules Proposed for Disposing of Contaminated Carcasses.

A recently proposed USDA rule would require that meat originally intended for human consumption be destroyed if it contains biological residues.

The proposal is aimed at keeping these contaminants from re-entering the food

chain. Presently, such carcasses can be used in animal feeds if the biological residues are removed.

The proposal requires that contaminated carcasses be buried or incinerated under the supervision of a USDA official.

For additional information, contact Dr. Douglas L. Berndt, Director, Slaughter Inspection Standards and Procedures Division, Food Safety and Inspection Service, USDA, Washington, DC 20250.

USDA Allows Importation of Certain Italian Hams.

USDA is allowing certain uncooked hams, previously denied entry, to be imported to this country.

The ruling affects imports of prosciutto hams. These hams are salt-cured and aged for more than a year. Prosciutto imports were banned because of concerns about the introduction of foreign animal diseases. USDA changed its regulations to allow for the importation of hams aged a minimum of 400 days after research showed that the viruses of concern cannot survive this length of processing.

Currently, Federal rules require the inspection and approval of foreign plants before they can begin processing uncooked hams for export to the United States. Only meat from hogs that are free of specified diseases can be used.

For more information, contact Dr. Richard Bowen (301) 436-5953.

Implementation of Food Stamp Program Is Sound

According to a recent report released by USDA, the system used to monitor the Food Stamp Program is basically sound.

The study, done at the request of Congress, analyzes the quality control system of the Food Stamp Program.

States annually issue \$11 billion of federally funded food stamps to 35 million people. The system checks the eligibility requirements and benefit certification used by States in determining who receives food aid.

Congress requested the study to evaluate the system's usefulness to States. The study was also designed to determine whether States should pay for a portion of the benefits that were improperly issued. Currently, USDA penalizes States that over-issue benefits by more than 5 percent of their entire Food Stamp Program. In 1985, States overissued \$900 million and underissued \$250 million food stamps.

"It is crucial that certifications are accurate and overpayments be minimized," said John Bode, Assistant Secretary for Food and Consumer Services.

"Every recipient should receive the correct benefit. That way, both recipients and the American taxpayers get a fair deal," he added.

Copies of the "Food Stamp Program Quality Control System," are available from the Office of Analysis and Evaluation, Food and Nutrition Service, USDA, 3101 Park Center Drive, Alexandria, VA 22301. □

Reports of Interest

To order any of the following reports, write to: Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. List the report's title and stock number, if shown; your name, address, telephone number; and if applicable, your credit card number and expiration date. Make check or money order payable to Superintendent of Documents, or use VISA, MasterCard, Choice, or GPO Deposit Account. Prices include postage to U.S. addresses. Add 25 percent to listed price for delivery outside the United States. For faster service, order by phone (202) 783-3238.

Foreign Agricultural Trade of the United States.

6 issues per year for \$21.00 domestic, \$26.25 foreign.

FATUS contains statistics covering the quantity and value of farm exports and imports and also provides price trends. Two annual supplements provide over 500 pages of calendar and fiscal year data.

Government Intervention in Agriculture: Measurement, Evaluation, and Implications for Trade Negotiations

April 1987. \$2.75. Stock Number 001-019-00520-3.

This report analyzes the effect of government intervention in the agricultural sectors of market oriented economies. According to the study, less developed countries tend to assist consumers while developed nations help producers.

How is Farm Financial Stress Affecting Rural America?

Mindy Petrulis, Bernal L. Green, Fred Hines, Richard Nolan, and Judith Sommer.

May 1987. \$1.50. Stock Number 001-019-00512-2.

Provides indepth comparisons of rural America's current economic health, by region and by reliance on farming.

China's Livestock Sector

Francis C. Tuan. April 1987. \$3.00. Stock Number 001-019-00505-0.

Between 1979 and 1984, China increased its per capita red meat supply by 40 percent—a total of 14.9 kilograms per person per year. However, as pointed out by the report, China's inadequate transportation and marketing systems, cold storage facilities and feed manufacturing could limit further increases in meat production. China also needs improved breeding stock. This report discusses the current situation in China and outlines promising marketing opportunities for the United States in providing breeding stock, feedstuffs, manufacturing, processing, transportation, and cold storage equipment.

Costs of Producing Milk, 1975-84

Carolyn Betts. March 1987. \$2.00. Stock Number 001-019-00507-6.

The cost of producing milk rose 53 percent between 1975 and 1984. This report describes changes in procedures used to estimate costs of production and in developing budgets for costs and returns.

Food Spending in American Households

David Smallwood, James R. Blaylock, and J. Michael Harris. July 1987. \$9.50. Stock Number 001-019-00531-9.

Average weekly food expenditures for Americans rose \$1 per person from 1982 to

\$22.55 in 1985. During the same period, per capita weekly at-home-food spending rose from \$14.08 to \$14.52 and food-away-from-home, rose from \$7.48 to \$8.03. This report presents information on food expenditures on a weekly, per person basis. It also provides information on household purchases and contains tabulations for 133 food categories for 1982, 1983, and 1984.

Fresh Fruit and Vegetables: Prices and Spreads in Selected Markets, 1975-84

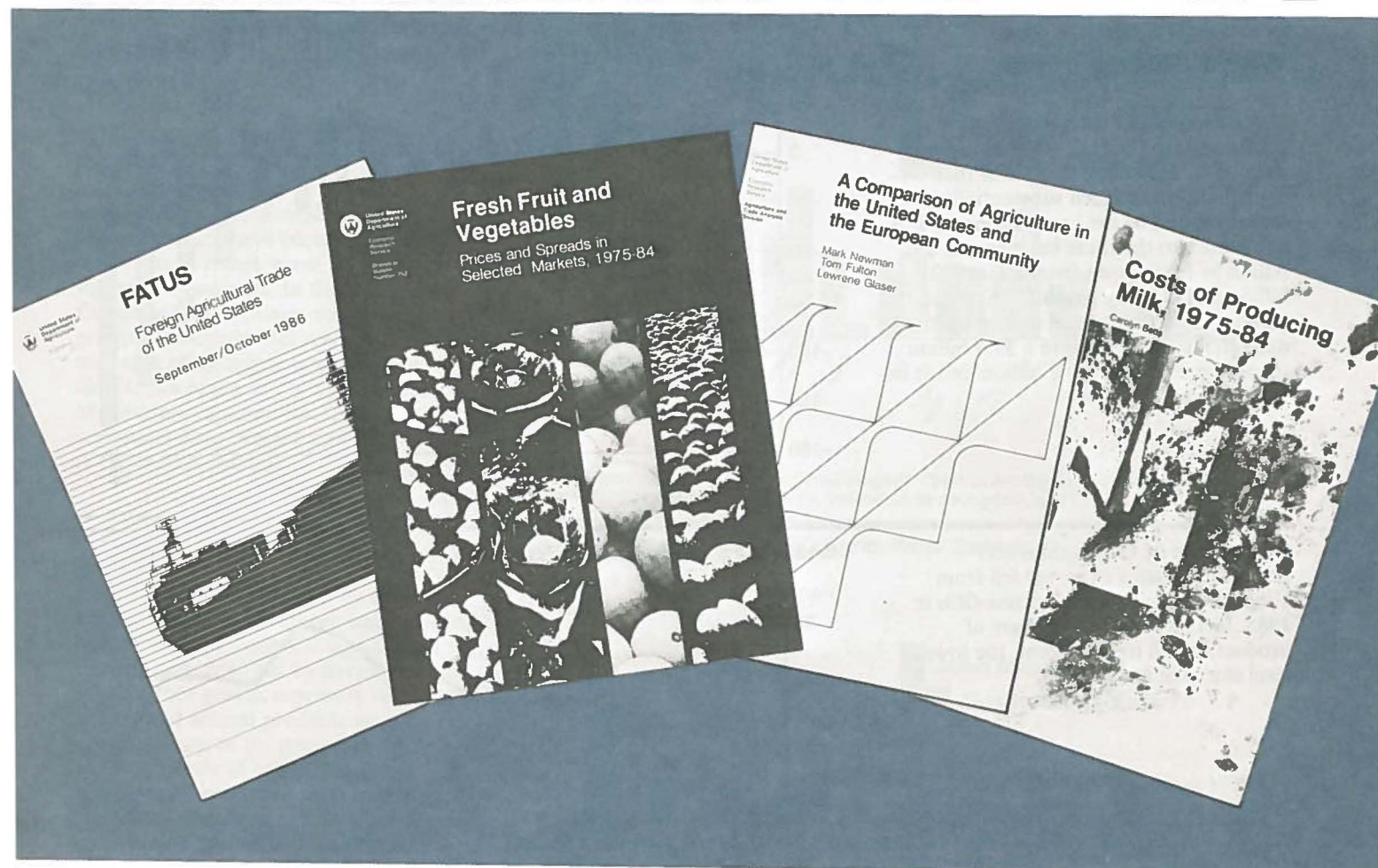
Jean Pearrow. June 1987. \$9.50. Stock Number 001-019-00522-0.

Retail values of fresh fruits and vegetables rose between 1975 and 1984, with growers and packers receiving prices one percentage point higher during the 1980-84 period than they did during 1975-79. This bulletin provides comprehensive and regional evaluations of the spread between prices paid by consumers and those received by producers. The report also contains extensive information on the costs of wholesaling, shipping, and transportation as well as market price spreads for various fruits and vegetables.

Forecasting Livestock Prices: Fixed and Stochastic Coefficients Estimation

Roger K. Conway, Charles B. Hallahan, Richard P. Stillman, and Paul T. Prentice. May 1987. \$1.75. Stock Number 001-019-00504-1.

This report discusses new forecasting procedures which improve upon traditional prediction models. The new models adapt quickly to changing economic conditions and therefore more accurately predict the



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retail prices of beef and chicken on a quarterly basis. There is also some improvement in forecasting pork prices.

A Comparison of Agriculture in the United States and the European Community

Mark Newman, Tom Fulton, and Lewrene Glaser. June 1987. (Staff Report No. AGES870521). \$13.95. Order Number PB 8720192.

This report illustrates the differences between the United States and the European Community (EC) and the effects of each region's farm policies. For instance, agriculture accounts for a larger share of employment and national income in the EC than it does in the United States. The cost of farm programs and policies implemented in both regions may spur consideration of policy reforms.

Transportation and Competitiveness of U.S. Agricultural Products in World Markets: Summary of a Research Symposium.

Velmar Davis and others. June 1987. (Staff Report No. AGES870611). Contact NTIS for price and Order Number.

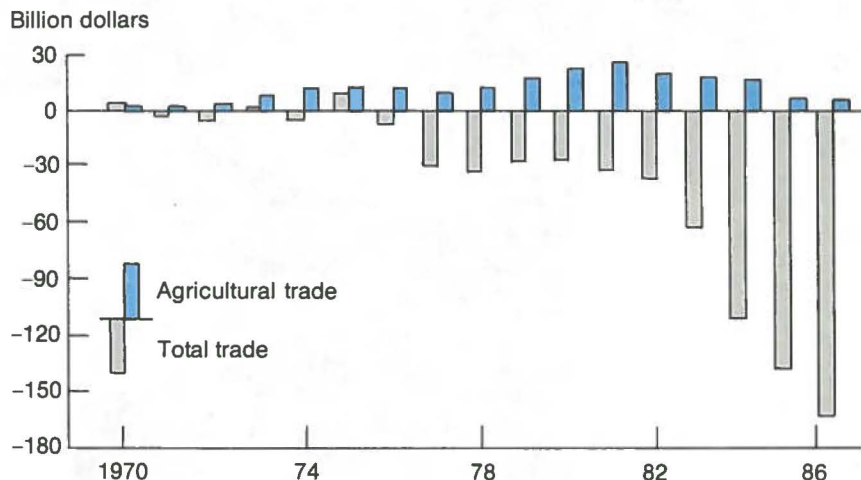
About 108 million tons of U.S. agricultural goods were transported overseas in 1986. This report explains how transportation costs affect exports and their competitiveness. Because the cost of such transportation services can account for 15 to 30 percent of the landed export price of a good, reliable and efficient transportation affects the competitiveness of our exports. □



U.S. Agriculture in a World Setting

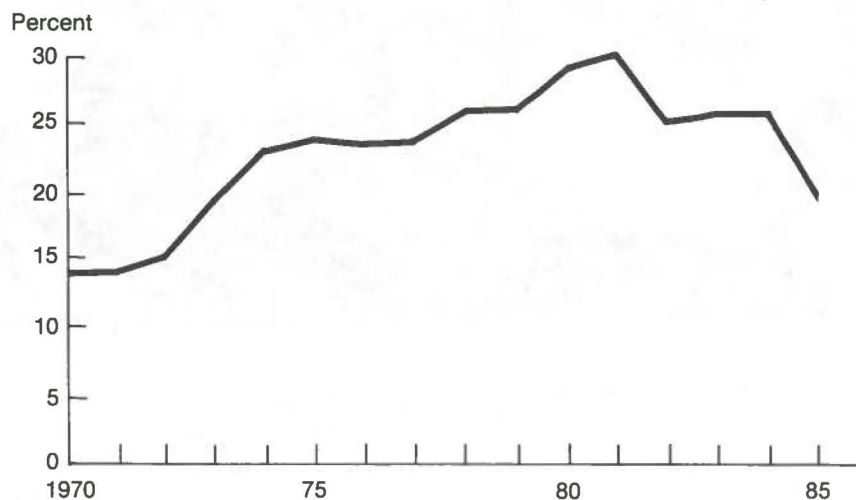
Agriculture has been a positive contributor to the U.S. trade balance since 1970. However, the size of that contribution has fallen substantially in recent years. The net contribution of U.S. agriculture to the trade balance was \$5 billion in 1986, down from almost \$27 billion in 1981. The overall U.S. trade balance (agricultural and nonagricultural markets) has ranged from a \$9.6 billion surplus in 1975 to a \$162 billion deficit in 1986.

Agriculture Trade Surplus Slightly Offsets Total Trade Deficit



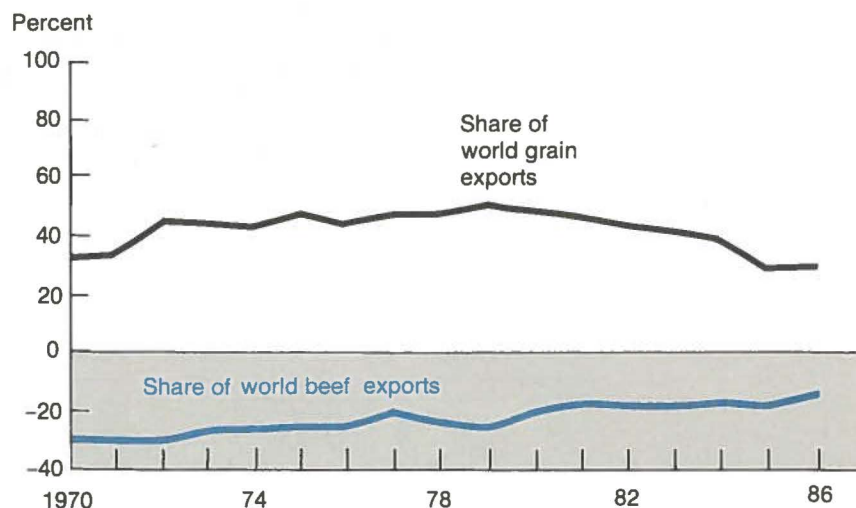
The share of U.S. agricultural production that is exported fell from almost one-third in 1981 to one-fifth in 1985. In 1986, the export share of production fell to 15 percent, the lowest level since the early 1970's.

Share of Farm Production Exported Fell From 1981 to 1985



The United States has faced strong competition in world grain markets in recent years, particularly from the European Community. In 1986, the United States exported 63.4 million metric tons (mmt) of grain, down from the peak of 114.5 mmt in 1980. The U.S. share of world grain exports fell from 50 percent to 31 percent. In contrast, the United States is a net importer of beef. Last year, we imported 745,000 metric tons more beef than we exported.

U.S. Share of World Trade Varies With Commodity

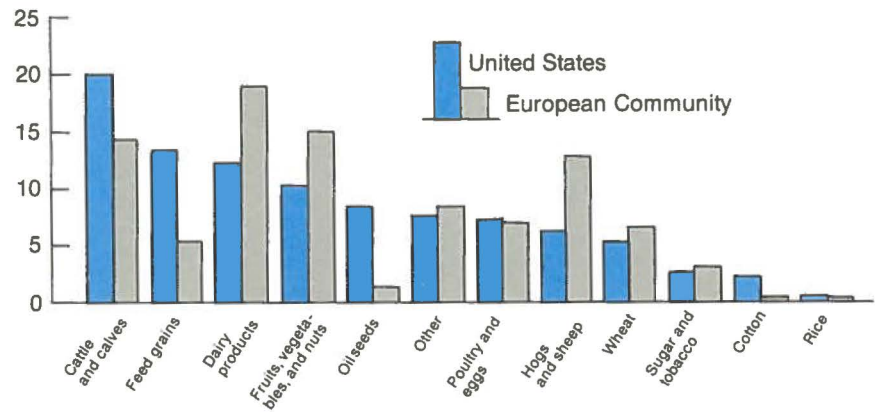


Comparing the United States and the European Community

Livestock and grains remain the foundation of U.S. agriculture, accounting for almost 47 percent of the value of 1985 agricultural production. Dairy products have become increasingly important in recent years, as have fruits, vegetables, and nuts. In the European Community (EC), dairy and livestock products accounted for over 46 percent of the value of agricultural production. As the EC has expanded to include more Mediterranean countries, fruits and vegetables have become more important in the production mix.

Composition of U.S. and EC Agricultural Production^{1 2}

Percent of total value



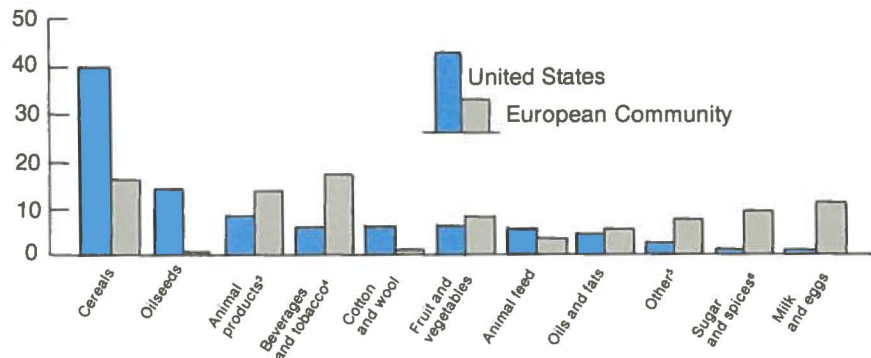
¹1985.

²Data for ten member countries of the European Community; Belgium, West Germany, France, Luxembourg, Netherlands, Denmark, Ireland, United Kingdom, and Greece.

By value, cereals (wheat and feed grains) are the largest U.S. agricultural exports category, followed by oilseeds, animal products, beverages and tobacco, and cotton and wool. EC agricultural exports have been led by beverages and tobacco, but grains, especially wheat and barley, and animal products are a growing share of the total. The EC is a major exporter of oilseed meal and vegetable oil produced from imported soybeans. While grains and oilseeds made up over one-half of U.S. export value, they accounted for about one-sixth of the EC total.

Composition of U.S. and EC Agricultural Exports^{1 2}

Percent of total value



¹1984.

²Data for the 12 member countries of the European Community, including Spain and Portugal.

³Includes fish.

⁴Includes alcoholic beverages.

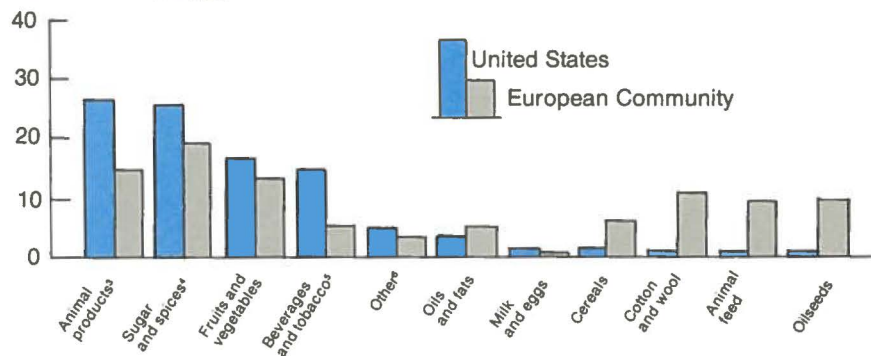
⁵Includes agricultural raw materials and miscellaneous food products.

⁶Includes honey, coffee, cocoa and tea.

The United States imports significant amounts of animal products, sugar, and fruits and vegetables to supplement domestic production. Other commodities not grown domestically, such as coffee, tea, and cocoa, are also important import items. The EC also imports commodities not grown domestically, often under special arrangements with the former colonies of its member nations. In addition, the EC imports significant amounts of animal products, oilseeds, animal feeds, and cereals, all of which are important U.S. exports.

Composition of U.S. and EC Agricultural Imports^{1 2}

Percent of total value



¹1984.

²Data for the 12 member countries of the European Community, including Spain and Portugal.

³Includes fish.

⁴Includes alcoholic beverages.

⁵Includes agricultural raw materials and miscellaneous food products.

⁶Includes honey, coffee, cocoa, and tea.

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