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## Expanding U.S. Sales in Foreign Food Markets





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## A Good Time for U.S. Food Exports to France

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The time is right for U.S. exporters to consider the French food market. Our agricultural exports to France grew 14 percent in fiscal year (FY) 1987 (October 1986-September 1987).

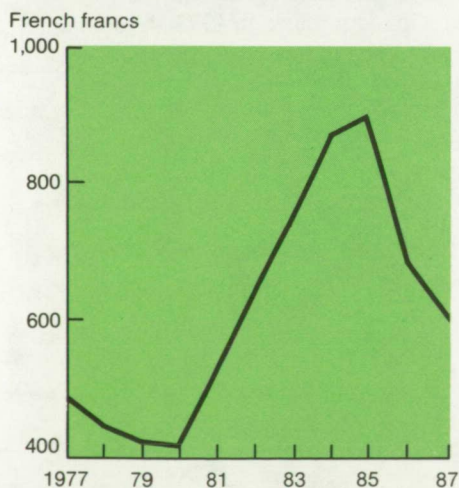
Part of this growth came from increasing food expenditures. French per capita purchases of food products grew at the fourth fastest rate worldwide from 1983 to 1985.

The declining value of the U.S. dollar has also made American products a better buy for French consumers than they have been for several years. For example, U.S. food products valued at \$100 sold for an average of 609 French francs during the first half of 1987, down from 899 francs in 1985 when the dollar was at its peak (figure 1).



Bakery stores have held a stable share of the French retail food market.

**Figure 1. Recent Decline in the Dollar Makes U.S. Goods Cheaper in France<sup>1</sup>**



<sup>1</sup>Number of ounces equal to \$100 of U.S. goods based on annual average market rates, except 1987, which is a January-July average.

Source: *International Financial Statistics*, International Monetary Fund, Washington, D.C., 1986 and September 1987.

### The French Market

France, the largest country in Western Europe, has a population of 55 million and covers almost 213,000 square miles, an area four-fifths the size of Texas. France is a relatively wealthy country and consumers have money to spend on imported food items. Per capita gross domestic product (GDP)—over \$13,000 in 1986—ranked fourth in the European Community (EC) behind Denmark, West Germany, and Luxembourg (see map).

The French civilian labor force numbers about 23.5 million, with women accounting for about 42 percent. In nominal terms, French wages increased 80 percent between 1980-86, while U.S. wages increased 34 percent. However, when adjusted for inflation, French hourly wages rose 11 percent. U.S. wages edged forward less than 1 percent.

Changing lifestyles—more working women, urban rather than rural life, eating lunch at work, and a greater stand-

ard of living—have led to changes in the food habits of the French people. They are consuming more processed products, like canned food and precooked dishes (table 1).

About one-fifth of French consumers' total expenditures are made for food, down from 36 percent in 1959. According to the French Food Industry Association ANIA, there have been dramatic changes in consumer spending patterns since 1960. The association's data show that the French buy more pastries, cooked and preserved meats, cheese, ice cream, cooked dishes, confectionery products and non-alcoholic beverages as a percentage of their total budget. Purchases of wine, bread, fruits and vegetables, and butter, however, have fallen as a share of expenditures. Besides changing tastes and preferences, part of the shift in spending can be attributed to changing prices. For example, per capita consumption of preserved and frozen

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**Table 1. French Consumption of Processed Products Is Growing**

Food products	Per capita food consumption	
	1967	1982
	Pounds	
Biscuits, crispbreads, and spiced bread	14.6	21.6
Pasta	14.0	13.9
Bread	192.8	151.7
Potatoes	222.0	154.3
Fresh vegetables	157.1	157.2
Frozen vegetables	0.5	6.6
Canned vegetables	24.9	44.0
Fresh fruit, other than citrus and bananas	90.9	88.2
Processed fruit	4.9	8.6
Fresh pork	17.0	22.3
Ham, cooked meats, and sausage	36.8	46.7
Beef	33.9	40.1
Veal	13.5	11.7
Mutton and lamb	4.5	6.8
Chicken and other poultry	28.8	38.2
Eggs	23.0	34.0
Fresh milk	209.9	229.1
Yogurt	10.2	30.4
Cheese	24.4	41.6
Butter	21.5	19.2
Oil	19.7	22.9
Margarine and vegetable fats	4.4	5.2
Sugar	43.5	30.4
Table wines	227.5	153.2
Registered origin wines	19.4	29.1
Beer	90.5	101.4
Fruit juices	4.9	8.0

Source: Institut National de la Statistique et des Etudes Economiques (INSEE) cited by *Agra Europe* (London), No. 1187 (June 6, 1986).

fruits and vegetables increased between 1967 and 1982, even as the share of expenditures on such products fell.

France offers a variety of marketing opportunities for specialty foods as well as traditional U.S. exports of soybeans, cotton, offals, citrus, and tobacco. However, it is important for the prospective U.S. food exporter to keep in mind that France is self-sufficient in many agricultural products and is a major exporter of grains, dairy products, sugar, and some meats (*table 2*). Furthermore, trade barriers may limit the entry of some U.S. products and make shipments of others difficult.

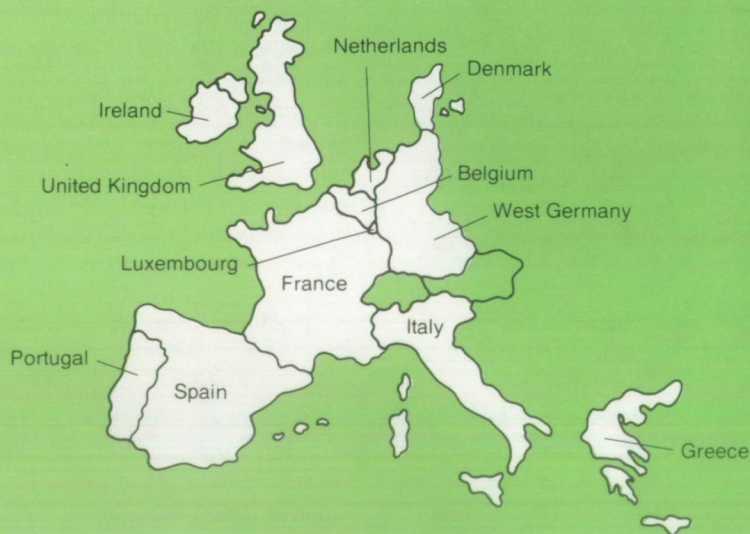
### United States Sales to France

The United States exported agricultural products valued at \$495 million to France during FY 1987. Even though our agricultural exports remained below levels of the late 1970's and early 1980's, this marked the second year of recovery for exports to France. About 7 percent of U.S. agricultural sales to the 12-member European Community were made to the French.

The U.S. dollar was at its peak in 1985, which made American goods in France their most expensive in recent decades. Agricultural shipments from the United States to France in 1985 were

### The European Community

The original six members of the European Community (EC), formed in 1957, were Belgium, France, Italy, Luxembourg, the Netherlands, and West Germany. Denmark, Ireland, and the United Kingdom joined in 1973. Greece followed in 1981. In 1986, Spain and Portugal joined to form the current EC-12.





**Table 2. France Is Self-sufficient in Many Agricultural Products**

Product	Percent self-sufficient 1983/84
Wheat	201
Rye	99
Barley	162
Oats	109
Corn	168
Total grain	178
Beef	113
Veal	110
Pork	82
Poultry	149
Total Meat	100
Vegetable oils and fats	38
Animal fat	92
Marine oils and fats	0
Total oils and fats	55
Rice	9
Potatoes	98
Sugar	199
Vegetables	91
Fresh fruit	89
Citrus fruit	3
Wine	107
Cheese	116
Butter	131

Source: Eurostat: *Basic Statistics of the Community*. Brussels-Luxembourg, 1985, p. 244.

worth \$403 million, down from \$625 million in 1982. In 1986, they recovered to \$435 million. Meat products, fruits, nuts and vegetables, oilseeds and feed ingredients, and tobacco accounted for most of this value (figure 2).

Among the French agricultural imports from the United States that increased in value in FY 1987 were:

- Meat and products—especially beef, horsemeat, and variety meats.
- Hides and furskins.
- Fruit and preparations—especially citrus, but also fresh, dried, canned, and

frozen noncitrus fruits other than apples.

- Fruit juices and wine.
- Feed grains, nongrain feeds, oilseeds, dried beans, and wheat.
- Cotton.
- Chocolate, sugar products, spices, and flavorings.

Those that fell in value were vegetable, vegetable oil, and tobacco imports.

U.S. goods also compete with agricultural products from other EC members. Foods exported to France from the rest of the EC are generally admitted free of tariffs, variable levies, and other import barriers. In many cases, this gives EC nations a distinct price advantage over the United States. Preferential tariff treatments also benefit non-EC countries in the Mediterranean area and developing countries covered by the Lome convention (African, Caribbean and Pacific (ACP) countries, including former French colonies). However, specific

products of high quality with unique characteristics can find a place on the French market regardless of barriers, exchange rates, and competitive pressures.

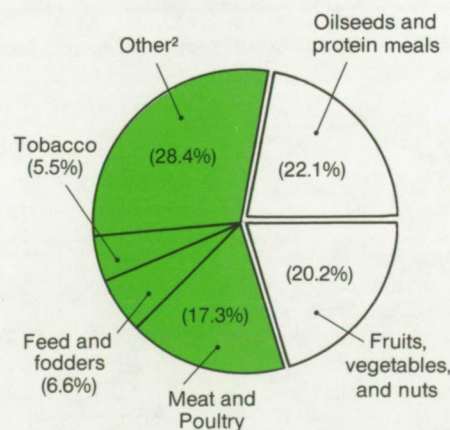
### Food Retailing and Wholesaling

The French retail sector is one of the most sophisticated in Europe. The development of department stores in the 1800's made France one of the birth places of modern large-scale outlets. Variety stores, such as Prisunic, had their origins in the 1930's. Self-service stores, modeled after American supermarkets, began after World War II. Hypermarkets, like U.S. superstores, handle a variety of food and nonfood items and have a sales area exceeding 25,000 square feet. Such stores had their origins in the 1960's when the first Carrefour was built near Paris in 1963. Almost 80 percent of food was sold through small outlets at that time.

Change is still a factor in the French food market. Widespread alterations in the French distribution system, as well as the kinds of products demanded by French consumers, are changing how foods are sold. Increased concentration throughout the French retail sector has sharply reduced the number of outlets. Because of the distinctly regional nature of retail trade in France, small traders previously dominated product distribution. This is no longer the case.

Large store food retailing is on the rise. Hypermarkets and supermarkets claimed almost 36 percent of food sales in 1985, up from 24 percent in 1977 (table 3). These stores tripled in number since the early 1970's. In early 1987, France had 639 hypermarkets and 6,128 supermarkets. Most of these large stores are in suburban areas and near large cities. Smaller independent grocers, chains, and cooperatives in these areas have not been doing well against the increased competition.

Despite the trend toward larger stores and increased market concentration, al-

**Figure 2. Oilseeds and Protein Meals Lead U.S. Agricultural Exports to France<sup>1</sup>**

<sup>1</sup>1986 exports by value. <sup>2</sup>Includes wheat, rice, coarse grains, cotton, vegetable oils, animal fats and oils, and dairy products.

Source: *Foreign Agricultural Trade of the United States, Calendar Year 1986 Supplement*. USDA, ERS, May 1987.



most half of all retail sales in 1985 were still made through small food outlets. Nearly 20 percent of sales were conducted through general grocers with less than 4,000 square feet (superettes, self-service outlets similar to convenience stores, and traditional neighborhood shops). However, as a group, small food outlets lost almost 12 percent of the retail food market between 1977 and 1985. In an attempt to slow the loss of market share to hypermarkets and supermarket chains, small independent retailers have formed buying groups and franchises.

Larger stores captured 60.7 percent of expenditures for general groceries in 1981, 53.9 percent of all beverages, and 51.2 percent of the dairy products (table 4). However, they have been less successful in capturing markets for specialized food products. Bakeries and pastry shops have maintained a relatively stable share of their markets, while butchers have only recently seen a decline.

With the rise in large stores has come comparable growth of large grocery wholesalers. Some are completely integrated, providing wholesaling and retailing functions. Others represent several chains. Data indicate that 17 wholesalers have over \$1 billion each in annual sales volume.

Increasing concentration in French grocery retailing and wholesaling expands the potential for imports. For U.S. exporters, it is easier to contact the buyers for the hypermarkets and supermarkets than it is to contact large numbers of independent retailers. However, because these stores have a large sales potential, exporters must be able to deliver consistent quantities of quality products to keep their customers. If the dollar continues to decline and the EC reduces the import barriers provided by its Common Agricultural Policy, the door will open further for U.S. products. []

**Table 3. Large Retail Stores Are Increasing Their Market Share**

Type of outlet	Percent of food sales								
	1977	1978	1979	1980	1981	1982	1983	1984	1985
Hypermarkets <sup>1</sup>	11.6	12.2	12.8	13.6	14.6	15.3	15.7	16.6	17.7
Supermarkets <sup>2</sup>	12.4	12.9	13.6	14.3	15.3	16.0	16.6	17.6	18.1
Variety stores	3.3	3.1	3.3	3.3	3.3	3.2	3.1	3.1	3.0
Small Food Outlets:									
Co-op or chains <sup>3</sup>	58.5	56.7	54.5	53.1	51.6	50.2	49.4	47.8	46.6
Independents <sup>3</sup>	9.8	8.7	8.4	8.2	7.6	7.2	6.8	6.2	5.8
Butchers	18.9	18.2	16.9	15.9	15.1	14.6	14.5	14.2	14.0
Specialized food shops	19.3	19.7	19.1	19.0	18.4	17.8	17.4	17.0	16.5
General nonfood stores, incl. dept. stores	10.5	10.1	10.1	10.0	10.5	10.6	10.7	10.4	10.3
Drug stores	.8	.8	.9	.8	.7	.6	.5	.5	.5
Bakeries	.3	.4	.4	.4	.4	.4	.4	.4	.4
Other	7.0	7.5	7.9	7.9	8.0	7.3	7.2	7.1	7.0
Total	6.1	6.4	6.6	6.6	6.1	7.0	7.1	6.9	6.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

<sup>1</sup>Stores with more than 25,000 square feet of floor space. <sup>2</sup>Stores with 4,000 to 25,000 square feet. <sup>3</sup>Superettes, self-service outlets, and traditional neighborhood shops with less than 4,000 square feet.

Sources: *Economie et Statistique: Revue Mensuelle*, INSEE, Paris, various issues. *La France des Commerces* 1986, French Ministry of Commerce, Paris, p. 41.

**Table 4. Hyper/Supermarkets Capture Most of General Grocery Sales**

Type of outlet	Percent of sales, 1981					
	General groceries	Dairy	Fruits and vegetables	Meats	Beverages	Bakery products
Hyper/Supermarkets	60.7	51.2	32.4	27.4	53.9	25.5
Small food outlets	28.4	26.5	26.5	5.0	28.4	11.7
Specialized shops, including butchers and bakeries	6.0	8.1	11.1	59.2	6.5	60.2
Open air market	1.9	6.9	26.9	6.1	.4	1.6
Other	3.0	7.3	3.1	2.3	10.8	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Sources: *Economie et Statistique: Revue Mensuelle*, INSEE, Paris, various issues. Renaud Durup de Baleine, "La Distribution Alimentaire," *Information Agricole*, Paris, (April 1985), pp. 69-72.



# U.S. Food Exports to Nordic Markets: Opportunities and Obstacles

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Despite their small, combined population of 17 million, Sweden, Norway, and Finland form a solid market for U.S. food products. Per capita expenditures on U.S. foods are nearly twice as high as those by the European Community (EC). Because of weather, none of these Nordic countries is self-sufficient in fruits, nuts, and vegetables. They rely heavily on imports to fill their needs for many horticultural commodities.

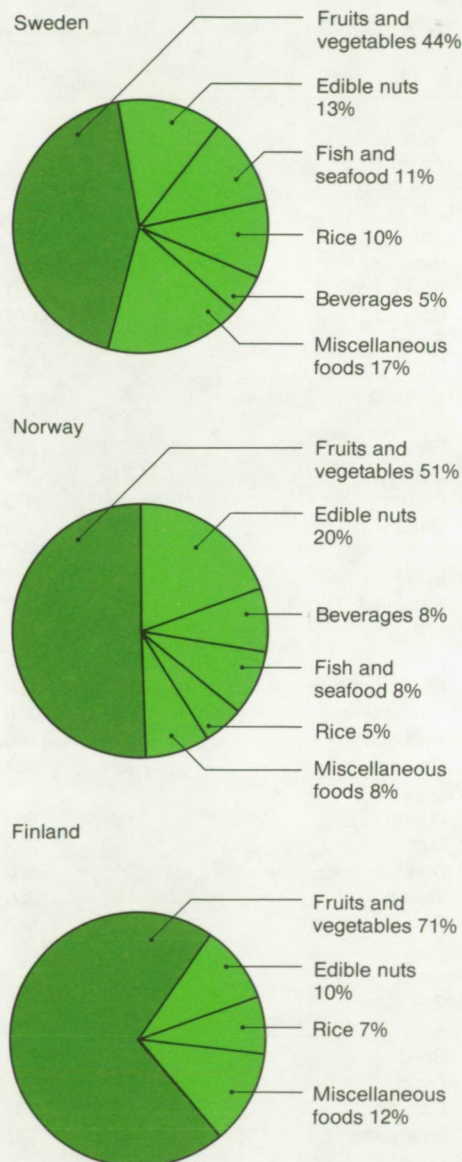
Easy access to Nordic markets makes competition among foreign suppliers keen. The EC is the largest supplier by far. EC exporters benefit from proximity and long-established trade ties, as well as preferential tariff treatment for some processed foods.

Despite these obstacles, many U.S. foods can succeed in these markets because of their high quality or unavailability from other sources. U.S. Delicious apples, long-grain parboiled rice, dried fruit, almonds, popcorn, and kiwifruit are a few products that sell well.

Customers at Nordic grocery stores have traditionally been interested in U.S. foods. Consumer cooperatives in these countries maintain a buying office in San Francisco, and representatives of the other major food distributors frequently visit trade shows and U.S. food companies in search of new products.

Fruits and vegetables are the largest group of U.S. exports to the Nordic area. They accounted for 44 percent of Sweden's purchases during 1981-83, 51 percent of Norway's, and 71 percent of Finland's (figure 1). U.S. nuts, rice, and a broad range of other processed foods were also in demand.

**Figure 1. Fruits and Vegetables Account for Largest Share of U.S. Food Exports to Nordic Countries<sup>1</sup>**



<sup>1</sup>Annual average food exports for 1980-83: Sweden, \$108 million; Norway, \$52 million; and Finland, \$33 million; cost, insurance, and freight (c.i.f.) basis.

## A Favorable Market for Edible Nuts

The United States already supplies more than half of all edible nuts shipped to the region. These nuts enjoy a reputation for high quality, and the outlook for expanding such exports looks favorable. Trade barriers either do not exist or are insignificant.

The lack of local, commercial production further enhances market possibilities. Combined, the three Nordic countries bought \$25 million worth of edible nuts from the United States in 1984 (table 1). Shelled almonds accounted for over 66 percent, shelled peanuts over 11 percent, and prepared almonds—those that undergo further processing after shelling—accounted for 9 percent. Unshelled walnuts, a traditional holiday favorite, were also in demand.

Sweden grants duty-free entry to all edible nuts, making the market an exceptionally good one for sales expansion. Nuts relatively new to the market, such as pecans, have considerable potential. Prepared and packaged nuts—either for snacks or home cooking—also provide new sales opportunities, as do nuts used by the confectionery and candy industry.

In Norway, tariffs on edible nuts are very low. At 1984 exchange rates, they ranged from \$0.001 per pound for shelled almonds to 1 cent per pound for prepared and preserved peanuts. Tariff preferences granted by Norway to nut imports from the United Kingdom, Denmark, and countries of the European Free Trade Association (EFTA) (see map) are not important in view of the low base tariffs and the lack of significant nut production in most of those countries. Norway's high per capita Gross Domestic Product and expanding economy make it a good market for further sales of nut confections and preparations.

Finland's tariffs on nuts are low to moderate—raw peanuts, 10 percent, all

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other edible nuts, 3-6 percent, depending on type. Edible nuts are not subject to licensing or quota restrictions. U.S. edible nut exports to Finland rose from an annual average of \$1.8 million during 1978-80 to \$2.2 million during 1982-84. This may signify increasing consumer interest in edible nuts and, therefore, an opportunity to market more U.S. products.

### Dried Fruits Face Few Barriers

U.S. raisins, prunes, and other dried fruits are a staple in the Nordic markets. Sales of these goods totaled \$22.1 million in 1984 (*table 1*). Raisins accounted for 46 percent, and prunes, 44 percent of the value.

Sweden is a dependable market for U.S. raisins. Imports are duty-free. However, the dollar value of our raisin exports to Sweden dropped sharply in 1983 and 1984, mainly because of a decline in U.S. raisin prices rather than a loss of the market. Our raisin exports to Sweden increased to 3,804 metric tons (mt) in 1983 from 3,459 in 1982, but declined moderately to 3,388 mt in 1984. U.S. suppliers reduced prices to retain their market share against increasing competition from other producers.

We provide nearly all Swedish prune imports, because other producers—France, Italy, Romania, and Yugoslavia—are unable to meet more than a small fraction of foreign demand. Sweden grants duty-free treatment to prunes, as well as to dates and other dried fruit.

Raisins enter Norway duty-free. The sharp drop in the value of U.S. shipments to Norway in 1983 and 1984 was also mainly due to lower prices, not lower volume. U.S. exports fell to 1,461 mt in 1983 from 1,845 in 1982, but rebounded to 1,750 mt in 1984. As with the Swedish market, U.S. exporters reduced prices to protect their market share against an influx of low-priced raisins from other producers. Prunes also enter Norway duty-free. Due to the lack of

**Table 1. U.S. Edible Nut Imports to Nordic Countries Increased Between 1983 and 1984**

Country and item	Value of U.S. exports <sup>1</sup>						
	1978	1979	1980	1981	1982	1983	1984
<i>Thousand dollars</i>							
<b>Sweden</b>							
Edible nuts <sup>2</sup>	10,964	12,008	15,704	12,321	9,957	12,130	13,339
Fruits							
Dried	11,405	12,521	14,052	15,236	14,113	12,350	10,068
Fresh, noncitrus	6,721	4,598	7,559	10,131	5,808	4,489	4,101
Fresh, citrus	2,146	2,071	3,604	2,699	1,797	2,626	849
Canned	3,803	4,001	4,620	3,483	2,980	1,492	1,602
Frozen	<sup>3</sup>	<sup>3</sup>	601	222	476	102	0
Fruit juices	5,690	5,309	5,915	5,163	4,697	3,034	2,053
Vegetables							
Dried	4,493	3,752	3,270	4,349	3,675	3,644	3,378
Fresh	2,717	4,204	4,425	4,225	2,586	3,467	1,937
Canned	1,215	1,299	1,731	2,567	2,730	1,941	1,770
Frozen	600	1,933	996	1,359	1,417	1,039	1,378
Other <sup>4</sup>	1,325	1,689	3,054	2,412	2,434	1,809	1,690
<b>Norway</b>							
Edible nuts <sup>2</sup>	7,414	9,027	9,902	8,514	8,397	8,371	9,877
Fruits							
Dried	5,927	7,642	7,169	8,669	8,438	6,466	5,450
Fresh, noncitrus	2,673	3,224	3,284	3,982	3,934	3,111	1,465
Fresh, citrus	664	318	555	475	300	354	0
Canned	2,229	2,246	2,500	2,158	1,964	925	529
Fruit juices	851	987	2,232	2,212	2,062	1,839	1,680
Vegetables							
Dried	594	560	1,208	1,033	1,976	1,497	883
Fresh	235	212	442	600	436	99	177
Canned	455	320	950	499	285	401	388
Frozen	83	360	686	489	319	368	270
Other <sup>4</sup>	405	580	784	842	759	758	333
<b>Finland</b>							
Edible nuts <sup>2</sup>	1,474	1,744	2,226	2,161	2,148	2,101	2,360
Fruits							
Dried	7,782	11,500	11,395	13,506	8,104	8,890	6,580
Fresh, noncitrus	1,721	1,891	2,997	4,236	2,955	1,472	1,901
Canned	1,093	1,764	1,621	1,853	1,092	766	366
Fruit juices	270	71	454	778	383	283	73
Vegetables							
Dried	108	134	192	322	334	503	361
Other	196	346	487	668	407	432	358

<sup>1</sup>Free along side (f.a.s.) basis. <sup>2</sup>Includes nut preparations. <sup>3</sup>Monthly average for year is less than \$5,000. <sup>4</sup>Includes vegetable preparations.



other adequate sources, U.S. prunes dominate this market. Other dried fruits entering Norway are subject to minor tariffs. Mixed fruit and apricots are taxed at 2 cents per pound, currants at \$0.001 per pound, and dates at \$0.008 per pound (using 1984 exchange rates).

In Finland, raisins face a modest 4-percent tariff, but no import quotas or licensing restrictions. Prunes and dried mixed fruit, also subject to 4-percent tariffs, are significant U.S. exports. Virtually all of Finland's prunes come from the United States free of restrictions.

### Fresh Fruits Face Restrictions

U.S. fresh fruit exports to the Nordic countries increased sharply—both in value and quantity—during 1978-81 (*table 1*). Sales of apples, a traditional staple, and avocados, a newcomer, were particularly strong. However, mainly because of severe price competition from other suppliers, fresh fruit sales declined after 1981.

The Nordic markets for noncitrus fruit, especially apples and pears, are limited to protect domestic crops. These limitations include the use of import calendars in Sweden—mandating high tariffs during the domestic marketing season. Norway prohibits imports except during an "open season", usually occurring between February and April. Finland uses import calendars and global quotas. While these measures restrict access to the Nordic markets for part of the year, Southern Hemisphere suppliers of apples and pears—especially Argentina and New Zealand—benefit from the favorable off-season relaxation of the import barriers.

The Nordic markets have good sales potential for exotic fruits. For example, U.S. kiwifruit exports to Sweden increased from virtually none in 1978 to \$500,000 worth in 1984. One of Norway's largest importers of fresh fruits

### European Free Trade Association

Austria, Finland, Iceland, Liechtenstein, Norway, Sweden, and Switzerland—the members of the European Free Trade Association—trade domestically produced industrial raw materials and products among themselves free of tariffs and trade restrictions. Most agricultural commodities, however, are subject to each member country's schedule of tariffs and other trade restrictions.



and vegetables, Bama-Gruppen A/S, listed the following fruits as having sales possibilities: avocados, kiwifruit, red pears, pink grapefruit, cantaloupes, cranberries, and black cherries. In addition, the Norwegian market for our apples could be expanded if U.S. producers were more export-oriented.

U.S. fresh citrus exports to Sweden and Norway, modest during 1978-83, declined sharply in 1984 mainly because of cheap, abundant supplies from other countries (*table 1*). Several other factors were also involved. Mediterranean citrus producers made vigorous efforts to expand their sales to the Nordic countries, offering produce at very competitive prices. Furthermore, a major U.S. supplier shipped its produce through other

Western European countries rather than directly, increasing shipping costs and, therefore, retail prices.

The long-term decline in U.S. fresh citrus sales can also be attributed to recessionary economic conditions, especially in Sweden. Consequently, consumers are more aware of prices, which sometimes may reduce demand for high-quality produce.

U.S. canned fruit exports to the Nordic countries declined after 1980 (*table 1*). Part of the reason was a rapid expansion of EC canned fruit production—a result of the region's processing subsidies. This forced the EC's traditional outside suppliers, such as South Africa, to seek alternative markets for their canned fruit products. The Nordic



markets were an obvious target. U.S. exports continue to face heavy competition from these non-EC suppliers, and, to a lesser extent, from the expanding EC producers.

U.S. crop failures have also hurt our sales. A notable example was the small 1983 peach crop. As a result, U.S. canned peach production dropped sharply that year. The strong dollar also made U.S. products relatively more expensive. In addition, consumers shifted demand from canned to fresh and frozen fruit. Consequently, the region's imports of canned fruits—which mainly go into foodservice—declined in recent years.

U.S. exports of canned fruit may regain some of the ground lost during 1980-84 as the dollar's exchange rate and availability of supplies become more favorable. However, these are temporary factors. The long-term outlook is clouded by changes in consumer tastes and more competition from European and Southern Hemisphere sources.

U.S. fruit juice exports to the Nordic countries, principally citrus, also declined after 1980. U.S. sales were hit not only by the strong dollar, but by a series of freezes in Florida during the first half of the decade that seriously limited citrus juice exports. Currently, Brazil is the largest supplier of "fruit and vegetable juices"—a basket category consisting mostly of citrus juices. Brazil's predominance rests in its ability to offer frozen juice concentrates at lower prices than competitors.

The decline in the U.S. share of the market for citrus juices is theoretically reversible. Given more favorable weather in Florida and a more advantageous exchange rate, U.S. sales may return to their previous levels.

### **Vegetable Exports Face Tough Competition**

U.S. exports of fresh, frozen, dried, and canned vegetables to Sweden, Norway, and Finland dropped to \$12.9 mil-



Nordic imports of apples are limited to protect domestic production.

lion in 1984 from an annual average of \$15.4 million in 1982-84 (*table 1*). U.S. exports of fresh vegetables were especially hard hit by price competition from other sources.

Tariffs and nontariff barriers protect the region's local vegetable farmers. Sweden relies on moderate-to-high tariffs to limit competition during the summer and fall months. Tariffs are generally very low or absent during off-season periods. Iceberg lettuce, for example, carries an 11-percent tariff May 1 through November 30, but arrives tariff-free December 1 through April 30. Produce not grown in Sweden, like garlic, enters duty-free or at low tariffs all year.

Generally, Norway imposes moderate tariffs on fresh vegetables, but it protects vegetable farmers through a strict import licensing system. Vegetables that can be grown in Norway usually cannot be imported during the local marketing season. Import restrictions on turnips, carrots, and peas are imposed throughout the year. Norway does impose high seasonal tariffs to protect some vegetables during the domestic marketing season. For example, tomatoes imported between June 1 and October 31 receive a tariff of 11 cents per pound (1984 exchange rates), but during the rest of the year they enter duty-free.

Finland, like Sweden and Norway, uses higher tariffs during the marketing



season to protect its farmers. Lettuce, for example, carries a 35-percent duty during the domestic marketing season and a 10-percent duty during the rest of the year. Finland also protects its producers through the use of global quotas for some items and a licensing system for others. These nontariff barriers effectively limit vegetable imports which otherwise might compete with Finnish products.

Sweden's imports of fresh vegetables from the United States consist principally of iceberg lettuce, carrots, and celery. Heavy price competition from European suppliers tends to limit U.S. products to high-quality or unique items. Further growth may exist in typically American vegetables, such as corn-on-the-cob, sweet onions, and unusual varieties of squash.

The popularity of frozen sweet corn and frozen French fries suggests the market may be worth investigating for other U.S. frozen vegetables. However, frozen vegetables carry a 16-percent tariff, except broccoli and asparagus which enter duty-free. Furthermore, competition is very strong from frozen vegetables prepared in Sweden and other Western European countries.

Dried vegetables, the largest group of U.S. vegetable exports to Sweden, play a major role in locally made, highly processed convenience foods, like soups and snacks. Demand for such foods has grown because of changes in age distribution, family size, and lifestyles.

Some dried vegetables enter Sweden duty-free. None are charged more than 3 percent. However, dried potato products and most dried peas, beans, and lentils are also subject to variable levies. Unlike fixed tariffs, these levies change over time in response to the differences between world and domestic prices.

There appears to be little room to expand sales of canned vegetables to the region. In Sweden, for example, the market is stagnant, and canned vegetables are subject to tariffs of up to

11 percent. Corn is the principal U.S. canned vegetable export.

Direct U.S. exports of fresh vegetables to Norway consisted entirely of carrots in 1984. Some U.S. fresh vegetables may be transshipped via the Netherlands, Denmark, and other third country ports. U.S. exports to Norway of frozen, dried, and canned vegetables are also small (*table 1*). The increase of salad bars in Norwegian restaurants and the growth in health-food sales could spur demand for fresh and frozen vegetables.

According to Norway's Bama-Gruppen A/S, U.S. sales could increase if exporters focus on competitive pricing and promotion of cauliflower, green cherry tomatoes, eggplant, kale, bleached celery, spinach, broccoli, artichokes, zucchini, parsley, dill, and corn-on-the-cob.

U.S. sales of fresh and frozen vegetables to Finland are small, even assuming that some fresh items reach stores indirectly through transshipments. Most fresh, frozen, and dried vegetables carry individual licensing restrictions, either all year or during specified periods. For example, carrot importers must get an annual license, while a license to import cauliflower is required only during June 1 through October 31. There may be room for expansion, however. Stimulated by a marketing campaign, Finnish demand for frozen French fries and other potato products increased sharply in 1985. That trend is expected to continue.

### **Rice and Grain-based Foods Make Headway**

U.S. rice exports to Nordic markets made impressive gains during 1978-83, largely because of effective, long-term promotion efforts by U.S. manufacturers and USDA (*table 2*). However, sales to Sweden and Norway declined in 1984 because of lower prices offered by other suppliers.

Ninety-six percent of the rice Sweden imports is fully processed. Most of it is

U.S. long-grain, parboiled rice. Norway imports 75 percent of its rice (by value) fully processed, primarily in long-grain, parboiled form. The remaining 25 percent consists of brown (husked) rice brought in for further processing. On the other hand, 86 percent of Finnish imports are brown rice brought in for further, on-site processing. Australia, the United States, and Spain were Finland's main suppliers between 1981-83. The United States supplied all of Finland's fully processed rice imports during that period. Most of it was long-grain, parboiled rice.

Sweden is a fully accessible market for U.S. rice. All types receive duty-free tariff treatment. Norway, however, levies a tariff of 3-7 cents per pound, at 1984 exchange rates, on unprocessed rice. Fully processed rice bears a 30-percent rate to protect Norwegian potato producers from indirect competition. Finland imposes tariffs between 15 and 25 percent, depending on the type of rice. This probably also reflects a concern about domestic potato production. Finland does not apply licensing or quota restrictions to rice.

The Nordic markets for U.S. baked goods, breakfast cereals, flours and meals, and other grain-based products are small. Most of these products receive preferred treatment when they originate in other EFTA or EC countries. Several U.S. manufacturers prefer to supply the Nordic markets through subsidiaries based in Denmark, the United Kingdom, France, or other European countries. Breakfast cereals and other grain products—with U.S. brand names but manufactured in Europe—are commonplace.

New and unusual U.S. products, however, may find a market for direct export to the Nordic countries. Popcorn is a small but stable direct export. Markets for pet food are expanding and the proliferation of new and improved U.S. varieties may provide export opportunities if they can be sold at competitive



prices. New and unusual cereals, crackers, cookies, and other snacks may also offer opportunities. These grain-based products generally face low-to-moderate tariffs.

Various other U.S. food products have succeeded in Nordic markets (*table 2*). Our spices have a reputation for high quality in Sweden, and have proved consistently good sellers. Catsup, chili

sauce, and vinegar are other successful seasonings. Spices and condiments are duty-free or charged low tariffs when entering Sweden. Norway reports rapid growth in consumer demand for spices, condiments, and spreads because of a rising interest in fresh and ethnic foods.

U.S. wine exports to Sweden increased modestly during 1980-83. However, getting wines and other al-

coholic beverages into Sweden, Norway, and Finland is difficult. These products are distributed and retailed by state monopolies which are usually conservative in stocking new labels. Certain exceptions are made for very light beers and other beverages with low alcohol contents that can be sold in food retail stores. U.S. bottled wines are also at a disadvantage since wines imported in bulk and then bottled are subject to lower tariffs. U.S. wines in Swedish state liquor stores represent a long-term, hard-won effort by U.S. producers.

Swedish consumption of quick-frozen foods, estimated at 24 kilograms per capita in 1983, is second to the United States. Because of high processing and distributing costs, sales may be stabilizing. However, look for big increases in ready-to-eat products—such as pizzas and gourmet foods, citrus juices, and potato products. The product mix of quick-frozen foods may eventually resemble that of the United States.

Consumer trends toward health and diet foods may also benefit U.S. manufacturers. Because we already have the technology and facilities to produce low-sodium foods, the Nordic markets could be a profitable outlet if the demand develops for such products. □

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**Table 2. U.S. Rice Gains Popularity**

Country and item	Value of U.S. exports <sup>1</sup>						
	1978	1979	1980	1981	1982	1983	1984
<i>Thousand dollars</i>							
<b>Sweden</b>							
Grain products							
Rice	4,800	5,881	7,305	7,310	9,070	9,274	8,379
Popcorn	892	858	1,156	1,174	1,232	855	992
Commeal	251	426	440	393	545	531	513
Miscellaneous products							
Catsup, chili sauce	367	565	589	739	789	740	610
Spices	352	481	510	409	609	412	498
Vinegar	251	309	227	257	179	152	163
Vegetable protein isolates	759	889	1,454	1,252	924	444	466
Still wines (uncarbonated)	<sup>2</sup>	<sup>2</sup>	74	285	198	340	383
Liquid flavors	206	220	280	212	238	243	504
<b>Norway</b>							
Grain products							
Rice	852	805	822	1,466	1,292	2,284	1,646
Popcorn	175	262	287	349	268	210	169
Miscellaneous products							
Vegetable protein isolates	504	619	618	571	631	80	0
<b>Finland</b>							
Grain products							
Rice	653	966	794	2,397	2,419	1,157	1,177
Popcorn	234	202	287	349	324	184	219
Cornstarch	101	103	218	130	166	222	263
Miscellaneous products							
Licorice root and extract	186	336	115	272	376	108	410
Liquid flavors	300	359	416	706	615	627	900
Rennet	<sup>2</sup>	<sup>2</sup>	114	135	145	151	202

<sup>1</sup>Free along side (f.a.s.) basis. <sup>2</sup>Monthly average for year is less than \$5,000.



# Colombia: A Growth Market for U.S. Agricultural Exports

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The value of U.S. agricultural exports to Colombia has more than quadrupled since 1970, topping \$241 million in 1985. At that time, Colombia followed Mexico, Brazil, and Venezuela as the fourth largest market for U.S. farm products.

Over three-fourths of Colombia's agricultural imports in 1985 came from the United States. In fact, the United States has been the principal supplier of wheat, corn, sorghum, soybean oil, tal-low, and dried peas since the early 1970's. Our share of the Colombian market for these commodities increased from an average of 48 percent in 1969-71 to 62 percent for 1979-81 (*table 1*).

Colombia's total agricultural imports increased for the third consecutive year in 1986 to \$384 million from \$347 million in 1985. However, the United States was unable to maintain its market share. In 1986, our share of Colombian imports fell to 36 percent from 69 percent in 1985. The decline can be attributed to the strong dollar and greater competition from other countries.

During the 1970's and early 1980's, Colombia was one of the fastest growing Latin American markets for U.S. farm products. However, we face strong competition—especially from Argentina, Brazil, and Chile—in maintaining our markets. In addition, most of Colombia's dairy imports come from the European Community. Most of its barley comes from Canada. While our trade prospects are likely to improve in the long run, competition from other exporters, as well as Colombia's own agricultural production, will challenge U.S. suppliers.

**Table 1. U.S. Farm Exports to Colombia Grew During the 1970's and Early 1980's**

U.S. products	Million dollars				Percent of total imports			
	1969-71 average	1979-81 average	1985	1986	1969-71 average	1979-81 average	1985	1986
Wheat	14	82	84	47	70	97	87	67
Barley	3	2	10	0	97	11	77	0
Sorghum	0	10	11	0	0	98	85	0
Soybean oil	2	56	14	3	100	80	40	12
Tallow	5	17	28	18	81	97	100	100
Lentils	0	3	4	0	0	39	44	0
Dry peas	0	7	7	3	0	88	100	100
Apples	0	5	2	1	0	40	40	20
Total agricultural exports	39	277	242	140	48	62	69	36

Sources: Bolling, *Colombia: An Export Market Profile*, p. v. *Colombia: Annual Agricultural Situation Report, 1986*, Co-7006, U.S. Agricultural Attache, Bogota.

## Colombia's Changing Population

A number of factors, including population, income, domestic production, and trade policies, influenced the growth of Colombian imports. With its 30 million people, Colombia is the fourth most populous nation in Latin America (*table 2*). Steady population gains of about 2.8 percent per year through the 1970's increased the demand for food.

Furthermore, the population shifted from rural to urban areas. As of 1986, 70 percent of Colombians lived in urban areas. Twenty-three cities had populations of 100,000 or more. Such urbanization reduced the number of families who produce some of their own food. It also changed the kinds of food consumed. For example, consumption of wheat products increased, while that of yucca, beans, corn, and plantains—more traditional foods—declined.

The Colombian economy grew rapidly in the 1970's. Real (adjusted for inflation) Gross Domestic Product (GDP)

increased about 6 percent per year between 1970 and 1978. Under the country's industrial development policy, exports expanded and diversified into nontraditional products. The rise in shipments of clothing and textiles, fuel oil, and flowers are examples. By 1980, manufacturing, transportation, and trade began to contribute more to GDP. At the same time, agriculture's share fell to 26 percent from 34 percent in 1960.

Economic growth in Colombia slowed during the early 1980's. World economic recession and increased protectionism, low coffee prices, and reduced export prices because of over-valued exchange rates cut the real GDP growth rate to about 2 percent annually. Colombia had an unusually good year in 1986, however, with a real growth rate of over 5 percent.

Income and population growth have outpaced gains in domestic agricultural

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**Table 2. Colombia's Real Gross Domestic Product Should Increase Through 1990**

Item	Units	1969-71 average	1979-81 average	1985	1990 projected
Real Gross Domestic Product (GDP) <sup>1</sup>	Billion 1980 pesos	985	1,607	1,753	2,162
Population <sup>2</sup>	Millions	20.5	25.9	28.6	31.4
Per capita real GDP	1980 pesos	479	620	612	688
Foreign reserves	Billion dollars	191	4,472	1,595	2,096
Consumer price index	1980 = 100	14	102	274	670

<sup>1</sup>Growth rate is estimated at 4.0 percent for 1987, projected at 4.3 percent for 1988, 4.1 percent for 1989, and 4.0 percent for 1990. <sup>2</sup>Annual growth rate is projected at 1.9 percent through 1990.

Sources: Bolling, *Colombia: An Export Market Profile*, p. 2. *International Financial Statistics*, International Monetary Fund, Washington, DC, 1987.

production, which has stagnated. As a result, imports of wheat, vegetable oils, and dried milk increased.

Colombia's efforts to reduce its foreign debt by increasing exports of coffee, cut flowers, and cotton have limited domestic food production. Total foreign debt reached \$13 billion in 1985. Principal and interest payments on long-term official debt alone were nearly \$1 billion. These repayments cut into Colombian reserves and stifled the country's general economy. However, increased farm exports in 1984 and 1985 began to alleviate this balance of payments problem. Added export earnings from higher coffee prices in 1986 further boosted the economy.

### Export and Import Growth

Coffee dominates Colombia's exports, with 45 percent of the total in 1986. Fuel oil shipments, which increased twentyfold during the 1970's, now account for 6 percent of all exports. Flowers were also among the big gainers, increasing

from \$1 million in 1970 to \$133 million in 1986.

Currently, clothing and textiles are the largest group of manufactured exports, increasing nearly sevenfold since 1970. In recent years, however, growth has slowed. Mechanical and electrical equipment and paper products have also increased and are now significant exports.

Total imports grew fivefold between 1969-71 and 1979-81. Capital goods (mostly for industry) and industrial raw materials constituted 35 percent each of all imports. Food imports, while growing, were only 5 percent of the total. Colombia shied away from an open import policy in the early 1980's and began to limit industrial purchases. Food imports have consistently been constrained by a licensing system.

Nevertheless, wheat imports make up 90 percent of Colombia's wheat supply. In 1986, Colombia imported about 700,000 metric tons (mt), according to preliminary estimates, up from an average of 337,000 mt in 1969-71. The United States was the principal supplier

in 1986, with 300,000 mt of wheat, but competition was fierce. Canada provided 202,000 mt, Argentina, 115,000, and Australia, 85,000. The wheat shipped from Argentina increased almost 250 percent from the 1985 level of 33,000 mt.

Wheat imports have also had to compete with Colombia's own rice production (table 3). Between 1969-71 and 1979-81, rice output more than doubled to 1.2 million metric tons. High-yielding varieties, changes in technology, and increased acreage were responsible for the gains. Since then, production leveled off to over 1 million mt in 1986.

Oilseeds and related products were the second largest group of agricultural imports during the 1979-81 period, despite domestic production of soybeans, African palm for oil, cottonseed, sesame seed, and peanuts. During that time, Colombia imported 20,000 mt of soybeans, 5,000 mt of soybean meal, 38,000 mt of fishmeal, and 84,000 mt of soybean oil. Recently, sesame seed and cottonseed production have declined, while African palm and soybean production trended upward.

Vegetable oil production and consumption have also risen sharply over the past 18 years. Production from domestic and imported oilseeds increased 76 percent to an average of 136,000 mt in 1979-81, but total use nearly tripled to 217,000. In 1986, total use was estimated at 285,000 mt. Consumption of vegetable oils and oilseed meals grew at such a rate that imports are filling the production/consumption gap. Imports of vegetable oils rose dramatically from an average of 2,000 mt in 1969-71 to 84,000 in 1979-81. In 1986, however, they dropped to 68,000 mt. Soybean oil is the principal edible oil import. Most of it comes from the United States, Brazil, and Argentina. In addition, Colombians derive oil from their soybean imports and those also increased. In 1969-71, Colom-



**Table 3. Colombian Rice Production Expanded During the 1970's**

Production	1969-71 average	1979-81 average	1986 <sup>1</sup>
<i>Thousand metric tons</i>			
<b>Crops</b>			
Wheat	57	52	82
Rice	509	1,218	1,060
Corn	844	875	788
Barley	90	96	73
Sorghum	155	471	599
Beans	48	84	104
Potatoes	927	1,977	2,091
Cassava	1,067	2,018	1,344
Tobacco	44	32	28
Cotton	122	113	114
Soybeans	100	130	154
Sesameseed	29	20	18
Bananas	819	1,082	1,195
Plantains	1,681	2,178	2,283
Coffee beans	469	776	744
Cocoa	17	34	46
Sugar <sup>2</sup>	687	1,174	2,086
Oil palms	682	851	750
<b>Livestock</b>			
Beef	456	658	680
Mutton	2	11	13
Pork	48	117	108
Poultry	42	114	169
Milk	2,250	2,287	3,306
Eggs	104	193	188

<sup>1</sup>Preliminary. <sup>2</sup>Raw sugar.Sources: Bolling, Colombia: *An Export Market Profile*, p. 7. *World Indices of Agricultural and Food Production, 1977-1986*, USDA, ERS, (in process).

bia imported 5,000 mt of soybeans on average, compared with 30,000 mt in 1986.

### The Outlook for Growth and Trade

According to ERS, significant improvement in the Colombian economy is expected in the late 1980's, with about 4 percent sustainable growth in real GDP. Agriculture, mining, and manufacturing

are expected to grow substantially by 1990. Construction will also contribute to the recovery.

Population will continue to determine consumption and import growth. As more Colombians practice birth control, population growth is expected to decline to 1.9 percent for 1988 and 1989. Emigration will also relieve some of the pressure. With the growth in GDP, this



Foreign sources supply most of Colombia's wheat.



means that some gains in per-capita real income are likely.

Coffee will continue to be Colombia's largest export, with years—such as 1986 and possibly 1987—where export earnings will surge. However, diversification into nickel, coal, and petroleum will provide the most growth in export earnings. New oil wells are pumping increased amounts that should push up exports within 2 to 3 years.

Cut flowers, sold mostly to the United States, will remain a sizable, nontraditional source of export earnings. Illegal cocaine and marijuana shipments will probably continue to affect total export earnings, despite official attempts to stop such activity.

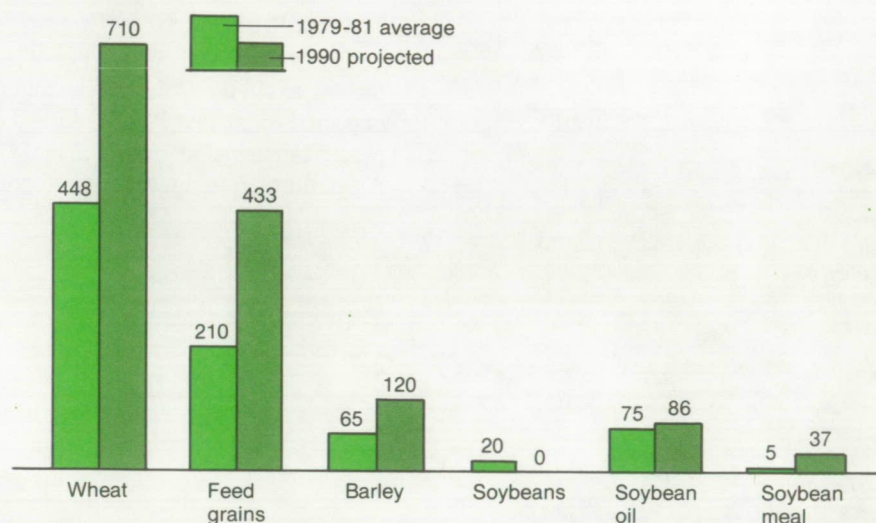
Export earnings helped Colombia get ahead of its negative trade balance in 1986. International reserves should rise in the next few years, but they will probably not match the high level of 1980. Moreover, the country's current debt service problem will persist through 1990.

Agricultural production will continue to rise, but big spurts are unlikely. Colombia has a long-run goal of higher productivity and is considering more credit for irrigation and storage facilities. In addition, the overall Government policy will probably continue to encourage self-sufficiency in all grains, except wheat.

Even if Colombia's population grows more slowly its grain import bill could expand above the current high level. Demand for wheat will at least keep pace with the increasing population, with nearly all of the additional needs being met with imports. Rice may provide U.S. producers with another export opportunity. Colombia may not grow enough rice to meet demand in 1988 and 1989, even if production exceeds the 1979-81

**Figure 1. Colombian Imports Are Expected To Rise**

Thousand metric tons



level. Human consumption of corn will likely remain the same.

The demand for feed grains over the next 2 years will continue to be based on the need for poultry feed. Poultry and egg consumption may increase the most during the 1980's. Even with the 50 and 10 percent increases projected for poultry and egg production through 1990, demand for coarse grains will clearly outstrip domestic supplies unless corn and sorghum production increase above current projections of 615,000 mt. Colombia will have to depend on larger coarse grain imports. The country will also need more vegetable oil and oilseed meal, despite growth in its own palm oil industry and some recovery in cottonseed production.

The prospects for U.S. soybean exports depend on whether Colombia increases its own production. If it cannot, these needs will have to be met by imports from the United States, Argentina, or Brazil. Colombia must decide

whether to fill its oilseed product needs by importing meal and oil or by importing raw beans for its own domestic crushing industry.

Despite its current economic problems, Colombia will be a growth market through 1990. U.S. export prospects will depend on the competitiveness of our products and improvement in Colombia's external balance of payments. Areas where gains in Colombian imports are expected are in various grains (figure 1). U.S. wheat sales to Colombia could climb to 710,000 mt, a slight increase over 1986. Feed grain purchases will more than double from the 1979-81 level, and ERS analysts expect a sixfold gain in soybean meal imports. □

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# Foodservice Franchising in International Markets

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McDonald's in Munich, Pizza Hut in Fiji, and Taco Bell in Sydney are just three examples of the trend toward expanding foreign markets for U.S. restaurant franchises. Faced with a fiercely competitive U.S. market, many franchisors have found that overseas outlets provide excellent opportunities. The number of international units increased 36 percent, from 3,943 in 1980 to 6,122 in 1985.

According to a Department of Commerce study, Canada and Japan accounted for the largest share of U.S. restaurant franchises abroad in 1985. Sixty-one U.S. firms operated almost 3,000 units in these two countries—nearly 50 percent of the overseas outlets (table 1). Australia and New Zealand ranked third. Together, they had about half the outlets of Japan.

## Hamburger Restaurants Are Most Popular Worldwide

More than 3,200 outlets overseas (53 percent) sold hamburgers, roast beef, and franks. Chicken restaurants were also popular, making up 31 percent of overseas U.S. franchise units.

While pizza franchises are second in popularity here, they hold the third largest market internationally. A total of 14 firms operated 578 pizza units overseas in 1985—less than 10 percent of the U.S. international market.

As you might expect, the popularity of the different restaurants varied around the world. For example, Canada was the largest market for hamburger units and Japan accounted for the greatest share of the chicken market. Australians and New Zealanders enjoyed pizza. These

## A Closer Look at U.S. Franchises

Over 700,000 eating places sold more than \$170 billion worth of meals, snacks, and beverages (excluding alcohol) in 1986. Restaurants are one of the fastest growing segments in the franchising industry. In 1970, U.S. restaurant franchise sales totaled only \$4.7 billion, compared to \$51.5 billion in 1986. Franchises accounted for 43 percent of all eating place sales, up from 21 percent in 1970.

In 1986, 470 franchise restaurant firms operated more than 78,000 units in the United States. Of these, almost 54,000 were owned by franchisees, more than twice the number of company-owned units. The most popular type of restaurant franchises were hamburger, roast beef, and franks with a total of about 32,000 outlets. Pizza restaurants took second place with

nearly 16,000 units. Chicken outlets followed with more than 9,000 units. The largest concentration of franchises in the United States is in California, Texas, Florida, Ohio, Illinois, and Michigan. These six states accounted for 35 percent of the franchised restaurant units in 1985, the most recent year for which these data are available.

With fierce competition among franchises, larger firms are building new units and buying existing restaurants in prime locations to convert them to their own concepts. Many are expanding into such nontraditional markets as shopping malls, hospitals, and military bases. Others are increasing takeout foods, drive-through windows, and home-delivery operations.

## U.S. Franchise Market Continues to Grow

Type of franchise	Firms	Number of units		Sales	
		1985	1986	1985	1986
Billion dollars					
Chicken	30	8,720	9,219	4.1	4.5
Hamburger, roast beef, franks	105	30,563	32,039	23.4	25.6
Pizza	102	14,174	15,874	6.2	6.9
Mexican	36	4,125	4,431	2.4	2.6
Seafood	14	2,423	2,569	1.2	1.4
Pancakes, waffles	13	1,761	1,817	1.1	1.2
Steak, full menu	117	9,466	9,204	8.6	8.5
Sandwich, other	53	2,660	3,135	0.7	0.8
Total	470	73,892	78,288	47.7	51.5

Source: Kostecka, "Restaurant Franchising in the Economy," pp. 184-185.

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**Table 1. Canada and Japan Accounted for Largest Share of U.S. Franchises Abroad in 1985**

Type of franchise	U.S. firms <sup>1</sup>	Units abroad	Canada	United Kingdom	Other Europe	Japan	Australia, New Zealand	Africa	Caribbean	Central, South America
Chicken	8	1,878	11	371	62	540	292	183	144	88
Hamburger, roast beef, franks	13	3,251	1,146	236	462	754	244	2	98	97
Pizza	14	578	127	6	15	74	173	10	43	52
Mexican	6	109	83	0	0	0	2	0	22	1
Seafood	3	13	6	0	0	0	0	0	0	0
Pancakes, waffles	2	15	3	0	0	12	0	0	0	0
Steak, full menu	13	271	161	2	0	56	16	0	4	19
Sandwich, other	2	7	5	0	0	0	0	0	1	0
Total	61	6,122	1,542	615	539	1,436	727	195	312	257

<sup>1</sup>Firms that operate international franchises.

Source: Kostecka, "Restaurant Franchising in the Economy," p. 186.

two countries accounted for 30 percent of the U.S. foreign pizza outlets.

### The "Big Four"

In 1986, McDonald's, Kentucky Fried Chicken, Burger King, and Wendy's—the four largest U.S. restaurant franchisors—accounted for 31 percent of all units worldwide. They also dominated the foreign market, operating 4,626 restaurants internationally, up from 272 units in 1974 (*table 2*).

McDonald's, the largest foodservice organization in the world, had over 9,400 restaurants worldwide. The firm's sales totaled more than \$12 billion in 1986. McDonald's dominated the international restaurant scene with about 2,000 outlets. Five years ago their international market consisted of just 370 restaurants.

To further illustrate the firm's success in foreign markets, in 1986 McDonald's

rang up \$2.9 billion in overseas sales. That represents a 34-percent gain since 1985. In 1987, McDonald's expected to open one-third of its 500 new units outside the United States.

Kentucky Fried Chicken, a division of PepsiCo, Inc., operated more than 6,500 units worldwide. The chain operates the only major quick-service chicken restaurants outside the United States. In 1986, 28 percent of all Kentucky Fried Chicken's outlets were located overseas in 54 countries. Over 33 percent of Kentucky Fried Chicken's foreign outlets were in Japan, Great Britain followed with a 17-percent share.

In 1986 PepsiCo had not acquired the Kentucky Fried Chicken outlets in Canada. The acquisition, however, is now complete. PepsiCo presently operates 700 units in Canada.

Chicken is a widely accepted food in Pacific countries, like Japan, Australia,

and New Zealand. Over half of Kentucky Fried Chicken's international restaurants are located in that region and future growth is expected there.

Of the four largest franchisors, only Kentucky Fried Chicken operated outlets in Africa. In fact, those countries constituted the "Colonel's" fourth largest overseas market. Similarly, Kentucky Fried Chicken—with 60 units—held sole position in the Middle Eastern countries.

Burger King, a division of Pillsbury Foodservice, operated 4,744 outlets around the world in 1986. Over 8 percent of those, 403 units, were located in 25 countries outside the United States. That's an increase of 312 outlets since 1982. Burger King's international restaurants are located primarily in Canada, Puerto Rico, Australia, New Zealand, and West Germany.

Wendy's, another hamburger chain, opened just 17 years ago. In that time, it

**Table 2. Four Companies Dominate Foreign Franchises in 1986**

Region	Total units	McDonald's	Kentucky Fried Chicken	Burger King	Wendy's
Canada	768	515	0	155	98
Mexico	64	3	61	0	0
Puerto Rico	128	15	38	58	17
Caribbean	75	13	53	7	2
Central America	34	18	12	4	0
South America	73	37	17	19	0
United Kingdom	556	231	313	10	2
West Germany	322	245	13	38	26
Other Europe	294	188	36	45	25
Japan	1,224	573	616	4	31
Korea	31	0	13	9	9
Malaysia, Singapore, and Indonesia	147	30	104	9	4
Philippines	32	12	15	0	5
Other Asia	77	47	16	3	11
Australia, New Zealand, and Oceania	559	211	305	42	1
Middle East	60	0	60	0	0
Africa	182	0	182	0	0
Total foreign	4,626	2,138	1,854	403	231
United States	19,829	7,272	4,720	4,341	3,496

Sources: McDonald's, Kentucky Fried Chicken, Burger King, and Wendy's.

has grown to the fourth largest restaurant chain in the world. In 1986, the firm operated almost 4,000 restaurants in 50 States and 17 foreign countries. Sales grew from \$300,000 in 1970 to \$2.7 billion in 1986. During that year, Wendy's operated 231 international units, compared with only 50 in 1982.

### Franchising in the Future

Franchise growth overseas will continue in existing markets. At the same time, some chains are entering previously untapped areas. Kentucky Fried Chicken and Pizza Hut, for instance, recently negotiated with the Chinese and Russian

governments to bring fast food restaurants to those countries. Kentucky Fried Chicken opened its first restaurant in Beijing, China, last November.

Military bases here and abroad also offer a new marketing opportunity for fast food franchises. Burger King was the first to open a base restaurant in 1982 at the Pearl Harbor Naval Base in Hawaii. Since then, the Marines, Army, and Air Force have opened test sites worldwide. The units come in a great variety, from mobile vans and movie theater concessions to snack bars and cafeterias. Burger King will open 185

restaurants on U.S. Army and Air Force bases over the next 5 years.

Most franchise restaurant companies are expected to continue expanding their products and services abroad and at home. The growing interest in diet and fitness will likely prompt healthier menu items, such as salads and "lite" foods. Strong growth in Mexican and oriental foods may also mean introduction of new menu items. Following the U.S. trend, breakfast offerings are also likely to increase in overseas restaurants. Many of the new products and services are designed to attract the world's affluent 25- to 35-year-old age group, as well as young women and singles. []

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# Comparing Soviet and U.S. Food Supplies

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If you want to know about vitamins in the American food supply, you can refer to estimates prepared annually by USDA. But what if you want to find out about vitamins in the Soviet food supply? Until recently, this information was available for only a few nutrients from the Food and Agriculture Organization of the United Nations. However, a recent study initiated by the Central Intelligence Agency and conducted jointly with USDA's Human Nutrition Information Service (HNIS) estimated the levels and sources of food energy (calories), nutrients, and other food components in the Soviet food supply from 1965 to 1981. This information was compared with data on the U.S. food supply (*see sidebar*).

The study reveals some interesting differences and similarities between the two countries. For instance, sources of food energy differed. Carbohydrate provided most of the energy in the Soviet food supply, while carbohydrate and fat provided almost equal proportions in the U.S. supply. Protein provided the same proportion in both countries. Use of grain products and potatoes was considerably higher in the Soviet Union, but use of meat, poultry, and fruits was higher in the United States. During the 16-year period, use of several foods and food groups changed in both countries, although in different directions. In the Soviet Union, use of dairy products, eggs, and animal fat increased. U.S. use of these products declined.

## Differences and Similarities in Food Use

In the Soviet Union, per capita use of foods in nine major categories increased between 1965 and 1981 (*table 1*). These groups were poultry, eggs, fruit, fish, vegetable fats, dairy products, vegetables, sugars and sweeteners, and meat. At the same time, the United States saw gains in use of meat, poultry, fruits, vegetable fats, and sugars and sweeteners. Potato and grain product use declined in the USSR, while use of animal fats, eggs, dairy products, and potatoes dropped in the United States during the period.

Per capita use of meats in the Soviet food supply rose 26 percent between 1965 and 1981, compared with 5 percent

in America. Beef and pork were the primary meats in the Soviet Union, but offal, mutton, rabbit, and lamb were also used. The Soviets used other meats, such as horse and reindeer, that are not found on the average American's plate. Beef and pork also topped the list of meats available in the United States. In addition, Americans used small amounts of offal, veal, lamb and mutton, and game.

Poultry use—mostly chicken—tripled in the USSR during the period, but was still only one-third as much as in the United States in 1981. Soviet use of fish and shellfish also rose substantially—about 43 percent by 1981—to more than twice as much as in the United States.

Dairy product trends in the two countries differed considerably. Total

**Table 1. Soviet and American Food Use Vary**

Food group	1965		1981	
	USSR	U.S.	USSR	U.S.
<i>Pounds per capita</i>				
Dairy products, excluding butter <sup>1</sup>	244	453	347	405
Eggs	16	40	32	34
Meat, poultry, fish	112	201	157	234
Meat	78	146	98	154
Poultry	6	41	19	63
Fish	28	14	40	17
Fats and oils	39	51	51	61
Animal fats	18	18	21	13
Vegetable fats	21	33	30	48
Legumes and nuts	1	16	2	15
Potatoes <sup>2</sup>	313	86	232	78
Vegetables	148	196	197	203
Fruits	60	163	88	187
Grain products	343	145	304	151
Sugars and sweeteners	77	112	98	135
Miscellaneous <sup>3</sup>	1	16	1	12

<sup>1</sup>Based on calcium equivalent of fluid whole milk. <sup>2</sup>U.S. data include sweet potatoes. <sup>3</sup>USSR data include tea. U.S. data include coffee, chocolate liquor equivalent of cocoa beans, and fortification not assigned to a specific food group.

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use of dairy products rose 42 percent in the USSR, but declined 11 percent in the United States. This narrowed the gap between Soviet and U.S. use. In 1965, the Soviets used 46 percent less dairy products than Americans. By 1981, there was only a 14-percent difference.

Fluid milk (reported only as whole milk in the USSR) increased 27 percent in the Soviet food supply. In contrast, per capita use of whole and lowfat milk fell 15 percent in the United States. Whole milk alone fell more than 40 percent, reflecting U.S. consumers' shift to lowfat varieties. Soviet cheese use doubled, but remained half the U.S. total. Cream use in the USSR was roughly twice that in the United States.

Opposite trends were also apparent for eggs. The Soviets used 245 eggs per capita in 1981, up from 124 in 1965. In the United States, egg use declined from 303 to 258 per capita.

Use of fats and oils increased from 1965 to 1981, by 31 percent in the Soviet food supply and 20 percent in the American. However, Soviet use remained lower. Both animal and vegetable fats increased in the USSR. In the United States, use of vegetable fats increased, while animal fats declined.

While Soviet vegetable use remained lower, the gap between the countries narrowed. Soviet use increased 33 percent between 1965 and 1981, while U.S. levels changed little.

Differences existed between vegetables in each country. Fewer varieties were available in the USSR. For example, sweetpotatoes were not included among Soviet foods. Furthermore, the Soviet data included carrot and radish tops, which are not commonly eaten by Americans.

Among the Soviet vegetables, cabbage ranked number one. Soviet use

## About the Data

Estimating per capita levels of foods and nutrients in the food supplies of the United States and the Soviet Union required information from several sources. Information on nutrients in the U.S. food supply is prepared annually by USDA's Human Nutrition Information Service (HNIS) based on Economic Research Service estimates of food available for consumption (*see NFR-36*). Data on Soviet per capita food use were supplied by the Office of Soviet Analysis (OSA) of the Central Intelligence Agency from various published and unpublished sources.

Food use in both countries was derived by subtracting exports, year-end stocks, and nonfood use from food production (including home produce), imports, and beginning stocks. These data represent the amounts of food available for consumption and do not indicate actual household use or individual intakes. Food supply data do not account for variations in the distribution of food among individuals or for food and nutrient losses that occur in further processing, marketing, or plate waste. However, some adjustment to Soviet data was made by OSA to allow for feeding of bread and other grain products to privately owned livestock.

General categories for some foods, such as eggs, potatoes, and grains, were the same in both countries. However, in many cases Soviet data were not as specific as the U.S. information. To make the data more comparable, quantities of some foods within major groups were estimated. For example, Soviet data on meat consumption initially included slaughter fat and offal. However, using OSA information, HNIS researchers adjusted the quantities of meat to count fat and offal as individual items in the Soviet food supply to make it comparable with U.S. data.

U.S. food composition values were applied to Soviet foods when they were similar. Values used for other Soviet items were developed by HNIS because composition data from Soviet sources were available only for a limited number of foods and nutrients.

In addition, U.S. food supply data included quantities of iron, thiamin, riboflavin, vitamin B<sub>6</sub>, vitamin B<sub>12</sub>, ascorbic acid, and vitamin A added for enrichment and fortification. Soviet data excluded such information because the extent of enrichment and fortification, thought to be very small, was unavailable.



**Table 2. Nutrient Levels Contrast in Soviet and U.S. Food Supplies<sup>1</sup>**

Nutrient	Unit	1965		1981	
		USSR	U.S.	USSR	U.S.
Food energy	Calories	3,100	3,200	3,200	3,400
Protein	Grams	90	100	100	100
Fat	Grams	80	150	100	160
Cholesterol	Milligrams	270	520	400	490
Carbohydrate	Grams	500	370	490	390
<b>Minerals</b>					
Calcium	Milligrams	590	920	760	870
Zinc	Milligrams	11	12	12	12
Iron	Milligrams	15	16	15	17
Magnesium	Milligrams	430	330	420	330
<b>Vitamins</b>					
Thiamin	Milligrams	1.9	1.8	1.8	2.1
Riboflavin	Milligrams	1.7	2.2	1.8	2.3
Ascorbic acid	Milligrams	120	100	120	120
Vitamin A	Int'l Units	4,200	7,500	5,800	7,700
Vitamin B <sub>6</sub>	Milligrams	2.1	1.8	2.0	2.0
Vitamin B <sub>12</sub>	Micrograms	4.7	8.9	6.6	9.1

<sup>1</sup>Per capita per day. U.S. data include iron, thiamin, riboflavin, ascorbic acid, vitamin A, vitamin B<sub>6</sub>, and vitamin B<sub>12</sub> added by enrichment and fortification. Data are rounded.

reached 66 pounds per capita in 1981, compared with 55 pounds 16 years earlier. U.S. use stayed at about 10 or 12 pounds. Cabbage accounted for 34 percent of all vegetables used in the USSR, versus 6 percent in the United States.

Tomatoes led the U.S. list, accounting for 24 percent of all vegetables. In the Soviet Union, tomatoes ranked second, claiming 28 percent, and carrots and beets were next, each accounting for 7 percent. Lettuce ranked second in the United States, followed by cucumbers.

The Soviets used three times more potatoes than Americans did in 1981. Nevertheless, from 1965 to 1981, Soviet use declined from 313 pounds per capita to 232 pounds. U.S. use, which included

about 5 pounds of sweetpotatoes, declined from 86 to 78 pounds.

Fruit use, like that of vegetables, increased more in the Soviet Union than in the United States, but Soviet use still lagged. Soviet use rose almost 47 percent, compared with 15 percent in the United States. Fresh apples and grapes were chiefly responsible for the increase in the Soviet food supply. Citrus fruits, accounting for 40 percent of all fruit, led the U.S. gain. They accounted for just 5 percent in the Soviet Union.

Although Soviet use of grain products declined from 343 pounds per capita in 1965 to 304 pounds in 1981, it was still approximately twice as much as in the United States. Wheat accounted for the

largest share in both countries, but rye, rice, barley, corn, buckwheat, and oats were also used. In addition, millet was available in the Soviet Union. Grain products in the Soviet food supply were primarily in the form of whole grains and groats (coarsely ground, hulled grain). In the United States, white flour was the major grain product.

Sugar and sweetener use in the USSR was lower than in the United States. Soviet data included only a small amount of honey in addition to refined sugar. In contrast, U.S. data included not only these two products, but also a considerable amount of corn sweeteners.

Refined sugar followed divergent trends in the two countries. Soviet use increased from 75 to 97 pounds per capita, while U.S. use dropped from 97 to 80 pounds. The U.S. decline was accompanied by a much larger increase in use of corn syrups, particularly high fructose.

### Nutrient Levels Vary

The types and amounts of food used in the two countries were the basis for calculating nutrient levels of the food supplies. Although Soviet use of many foods increased between 1965 and 1981, levels of protein, fat, cholesterol, calcium, iron, thiamin, riboflavin, vitamin A, and vitamin B<sub>12</sub> remained lower than American levels (*table 2*). On the other hand, carbohydrate and magnesium levels were higher in the USSR food supply, reflecting greater use of grain products.

Sources of food energy differed in the two countries. Protein supplied 12 percent in both countries, but the shares from fat and carbohydrate differed markedly. Food energy supplied by fat increased from 24 to 28 percent in the Soviet food supply, far below the 42-percent in the U.S. supply. During the same

period, the share of food energy from carbohydrate in the Soviet food supply declined from 64 to 60 percent, but still topped the U.S. share of 46 percent.

The protein levels of the Soviet and U.S. food supplies were close, but sources differed. In the Soviet Union, the proportion of protein from animal sources increased, but was smaller than in the United States. Grain products were the chief Soviet source of protein. The meat, poultry, and fish group was the main U.S. source.

Fat in both countries included fat from all sources—food fat, such as butter, margarine, lard, shortening, and oils—and fat occurring naturally in foods such as meat and milk. Soviet and U.S. levels of fat increased between 1965 and 1981. The Soviet level, however, remained about two-thirds as much as the American level in 1981. Animal sources provided most of the fat in both food supplies. They also accounted for the Soviet gain, while vegetable sources were responsible for the U.S. increase.

Three food groups—fats and oils; dairy products; and meat, poultry, and fish—accounted for about 90 percent of the total fat in the Soviet and U.S. food supplies (*table 3*). Again, there were similarities between the two countries. The fats and oils group was the leading source of fat, providing 47 percent in the Soviet food supply and 44 percent in the American. Within this group, vegetable oils were the chief source of fat in both countries.

In 1981, meat, poultry, and fish provided 25 percent of the total fat in the Soviet food supply and 35 percent here. In both countries, red meat—primarily pork—accounted for the largest proportion of fat from this group. Dairy products' contribution to the fat level was higher in the Soviet food supply—17

**Table 3. Sources of Food Energy, Protein, Fat, and Carbohydrate Differ in Soviet and U.S. Food Supplies<sup>1</sup>**

Food group	Food energy		Protein		Fat		Carbohydrate	
	USSR	U.S.	USSR	U.S.	USSR	U.S.	USSR	U.S.
<i>Percent</i>								
Meat, poultry, and fish	10	21	25	43	25	35	2	2
Eggs	2	2	4	5	4	3	2	2
Dairy products	9	10	16	21	17	11	4	6
Fats and oils	13	19	1	2	47	44	2	2
Fruits	2	3	2	2	2	2	3	7
Potatoes <sup>3</sup>	6	3	5	2	2	2	8	5
Vegetables	2	2	4	3	2	2	3	4
Legumes and nuts	2	3	2	5	1	4	2	2
Grain products	41	20	45	19	5	1	57	37
Sugars and sweeteners	14	17	2	2	0	0	25	38
Miscellaneous <sup>4</sup>	0	1	0	2	0	1	0	1

<sup>1</sup>1981 data. Components may not add to 100 percent due to rounding. <sup>2</sup>Less than 0.5 percent. <sup>3</sup>U.S. data include sweetpotatoes. <sup>4</sup>USSR data include tea. U.S. data include coffee, chocolate liquor equivalent of cocoa beans, and fortification not assigned to a specific food group.

percent versus 11 percent in the American.

During the 1965-81 period, cholesterol in the Soviet food supply rose from 270 to 400 milligrams (mg) per capita per day, primarily from increased use of eggs. Americans used fewer eggs, which contributed to a decline in cholesterol from 520 to 490 mg per day. Eggs were the major source of cholesterol in both food supplies.

The level of carbohydrate in the Soviet food supply declined slightly between 1965 and 1981. However, it was still higher than in the United States, largely because Soviets used more grain products. These foods were the leading source of carbohydrate, providing 57 percent in the Soviet supply. In the

American food supply, sugar and sweeteners and grain products ranked almost equally as sources of carbohydrate.

### Comparing Mineral and Vitamins

Despite differences in Soviet and American use of some foods, such as grain products and potatoes, and the absence of enrichment and fortification in Soviet data, levels for most minerals and vitamins were close in the two food supplies. However, there were some differences. Soviet magnesium levels, for example, were higher because of greater use of whole grains—good sources of this mineral. Grains accounted for more than half of the total magnesium in the



Soviet food supply versus 19 percent in the United States (*table 4*).

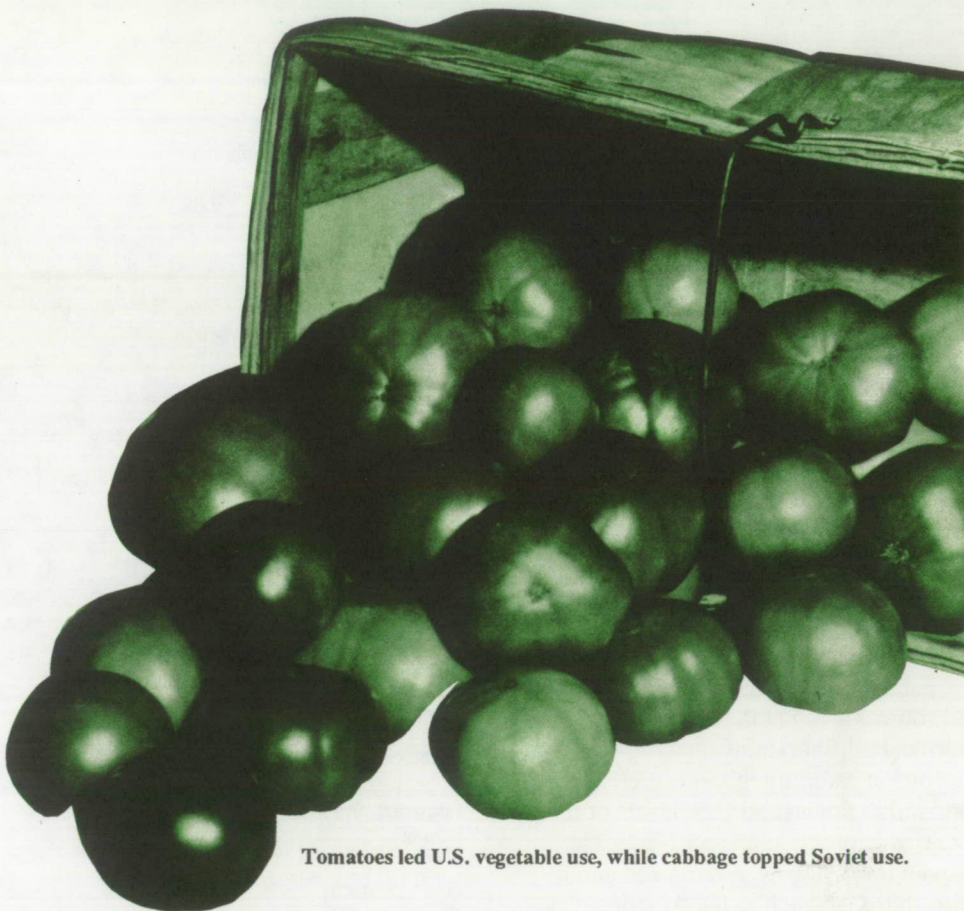
Grains also supplied almost 50 percent of the iron in the Soviet food supply. Here, grains and the meat, poultry, and fish group supplied nearly equal proportions. Soviet use of whole grains and groats was also a major factor in this group's large contribution of zinc. These grains are more concentrated sources of zinc than the refined ones generally used in the United States.

Dairy products provided most of the calcium in both food supplies. Although the Soviet calcium level increased, it remained lower than the American level.

Despite increased Soviet levels of vitamin A, riboflavin, and vitamin B<sub>12</sub> between 1965 and 1981, these vitamins remained lower than in the U.S. food supply. Levels for ascorbic acid, thiamin, and vitamin B<sub>6</sub> differed little.

Vegetables were a primary source of vitamin A in both countries' food supplies, but the contributions differed (*table 5*). Vegetables provided 56 percent of vitamin A in the USSR and 35 percent in the United States. The Soviet level of vitamin A increased due to greater use of the relatively limited variety of dark-green and deep-yellow vegetables, which provided about 40 percent of the total. Approximately three-fourths of this amount came from carrots and carrot tops.

Vegetables and potatoes provided most of the ascorbic acid in the Soviet food supply. In the United States, vegetables and fruit, especially citrus, were the major contributors. Vegetables provided over half of the ascorbic acid in the Soviet food supply, with cabbage



Tomatoes led U.S. vegetable use, while cabbage topped Soviet use.

**Table 4. Sources of Minerals Differ in Soviet and U.S. Food Supplies<sup>1</sup>**

Food group	Calcium		Zinc		Iron		Magnesium	
	USSR	U.S.	USSR	U.S.	USSR	U.S. <sup>2</sup>	USSR	U.S.
Percent								
Meat, poultry, and fish	3	4	28	47	16	31	7	14
Eggs	3	2	4	3	5	5	1	1
Dairy products	68	72	14	21	2	2	12	20
Fats and oils	1	3	3	2	1	3	3	3
Fruits	1	2	1	1	2	5	2	8
Potatoes <sup>4</sup>	2	1	8	3	9	5	12	7
Vegetables	8	6	4	5	11	11	7	13
Legumes and nuts	3	3	1	4	1	6	1	11
Grain products	13	4	39	13	49	32	56	19
Sugars and sweeteners	3	4	3	3	1	1	3	3
Miscellaneous <sup>5</sup>	2	1	2	2	4	2	2	7

<sup>1</sup>1981 data. Components may not add to 100 percent due to rounding. <sup>2</sup>U.S. data include iron added by enrichment.

<sup>3</sup>Less than 0.5 percent. <sup>4</sup>U.S. data include sweetpotatoes. <sup>5</sup>USSR data include tea. U.S. data include coffee, chocolate liquor equivalent of cocoa beans, and fortification not assigned to a specific food group.

**Table 5. Sources of Vitamins in Soviet and U.S. Food Supplies Are Diverse<sup>1</sup>**

Food group	Thiamin		Riboflavin		Vitamin A		Ascorbic acid		Vitamin B <sub>6</sub>		Vitamin B <sub>12</sub>	
	USSR	U.S.	USSR	U.S.	USSR	U.S.	USSR	U.S.	USSR	U.S.	USSR	U.S.
Percent												
Meat, poultry and fish	17	28	23	23	20	22	2	2	19	41	68	71
Eggs	2	2	6	5	3	6	0	0	2	2	8	8
Dairy products	8	7	37	37	11	13	3	3	8	11	23	19
Fats and oils	1	0	1	0	7	8	0	0	2	2	1	0
Fruits	2	4	1	3	3	9	8	40	2	9	0	0
Potatoes <sup>3</sup>	13	5	5	1	0	5	37	14	30	10	0	0
Vegetables	6	7	7	4	56	35	50	37	11	12	0	0
Legumes and nuts	1	4	2	2	2	2	2	2	2	4	0	0
Grain products	48	43	19	24	2	2	0	0	28	11	0	0
Sugars and sweeteners	0	2	2	2	0	0	2	2	0	2	0	2
Miscellaneous <sup>4</sup>	2	2	1	1	0	2	0	4	0	2	0	0

<sup>1</sup>1981 data. U.S. data include thiamin, riboflavin, vitamin A value, ascorbic acid, vitamin B<sub>6</sub>, and vitamin B<sub>12</sub> added by enrichment and fortification. <sup>2</sup>Less than 0.5 percent. <sup>3</sup>U.S. data include sweetpotatoes. <sup>4</sup>USSR data include tea. U.S. data include coffee, chocolate liquor equivalent of cocoa beans, and fortification not assigned to a specific food group.

alone accounting for 27 percent of the total. Cabbage provided only 4 percent of the ascorbic acid in the U.S. food supply.

Vitamin B<sub>6</sub> levels further illustrated the differences in the food supplies of the United States and Soviet Union. In the USSR, potatoes and grain products were the chief sources of vitamin B<sub>6</sub>. Here, however, they provided only small amounts. Most came from meat, poultry, and fish. □

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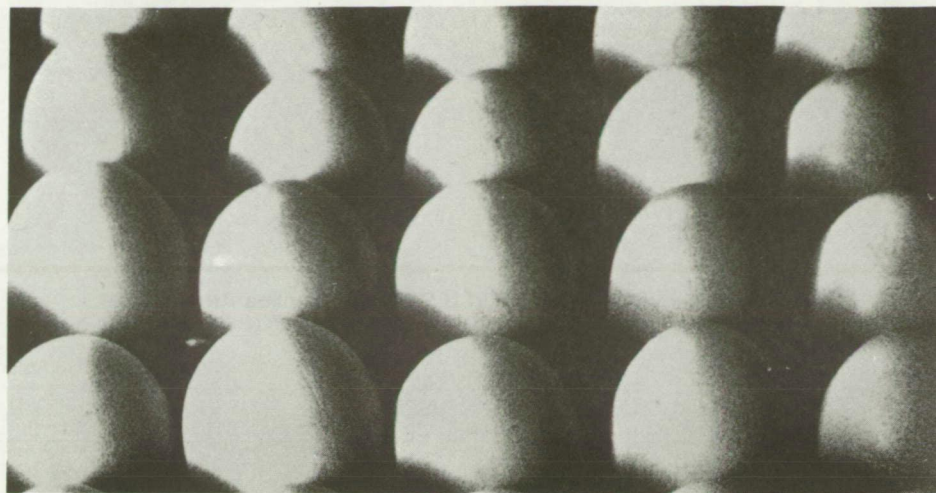
## Good Protein Buys

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When price-conscious consumers enter the supermarket, they might wonder if the beef chuck roast on sale at the meat counter is a more economical buy than the pork chops down the aisle. A recent USDA study may help them answer such questions.

According to the report, ground beef, beef liver, whole chicken, turkey, and ground chuck were found to be the best meat buys—in terms of how much protein shoppers get for their dollar. As one might expect, the economy of a cut depends on the amount of cooked lean meat or the number of servings it contains, as well as the price per pound. Costs in the study—which also cover meat alternates—were estimated using nationwide prices collected in June 1987 by the Bureau of Labor Statistics, U.S. Department of Labor.

Relatively high-priced meat cuts with little or no waste may be more economical than low-priced cuts with a lot of bone, gristle, or fat. For example, a pork loin roast with the bone costs \$1.95 per pound, while a boneless beef round roast costs \$2.56 per pound (*table 1*). However, it only takes 30 percent of the beef roast per pound to get 3 ounces of cooked lean meat. The proportion is higher—41 percent—for the pork roast. Multiplying these figures by the prices,



Eggs can be better protein buys than some meats.

Table 1. Finding Good Meat Buys

Meat	Retail Price Per pound <sup>1</sup>	Raw portion equals 3 oz. of cooked, lean meat	Cost of 3 oz. of cooked lean meat
	Dollars	Pound	Dollars
Beef liver	1.03	0.27	0.28
Ground beef	1.30	0.29	0.38
Whole chicken <sup>2</sup>	0.77	0.55	0.42
Turkey <sup>2</sup>	1.05	0.41	0.43
Ground chuck	1.71	0.28	0.48
Smoked ham <sup>3</sup>	1.50	0.38	0.57
Canned ham	2.76	0.25	0.69
Chicken breasts <sup>3</sup>	1.81	0.40	0.72
Beef chuck roast <sup>3</sup>	1.71	0.44	0.75
Beef round roast <sup>4</sup>	2.56	0.30	0.77
Pork loin roast <sup>3</sup>	1.95	0.41	0.80
Beef round steak <sup>4</sup>	2.96	0.32	0.95
Center cut pork chops <sup>3</sup>	2.97	0.42	1.25
Beef sirloin steak <sup>3</sup>	3.44	0.38	1.31
Beef rib roast <sup>3</sup>	3.64	0.43	1.57

<sup>1</sup>U.S. average retail price, estimated using data provided by the Bureau of Labor Statistics. <sup>2</sup>Ready to cook. <sup>3</sup>Includes bone. <sup>4</sup>Boneless.

the lean meat in the beef costs less than the pork. Three ounces of lean beef cost 77 cents, while a comparable amount of the pork costs 80 cents.

The study also compared the costs of 20 grams of protein—about one-third the recommended daily allowance for a 20-year-old man—for various meats and alternates. The results show that peanut butter and eggs are as good or better protein buys than less expensive cuts of meat. Milk is also an economical source of good-quality protein, although it rarely replaces meat in meals.

Bread and other grain products, like pasta and rice, also contribute protein to our diets. They are frequently used with a small amount of meat, poultry, fish, or cheese. In this way, the high-quality protein enhances the lower quality available from the cereal products.

In addition, some processed meats—such as frankfurters and bologna—were more expensive sources of protein than pork and beef roasts. For example, 1 pound of bologna costs \$2.15 (*table 2*). Thirty-eight percent of a pound is needed to get 20 grams of protein. At this price and proportion, 20 grams of protein from

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

**Table 2. Protein Costs Vary by Product**

Item	Market unit	Price per market unit <sup>1</sup>	Portion equal to 20 grams of protein <sup>2</sup>	Cost of 20 grams of protein
		<i>Dollars</i>		<i>Dollars</i>
Large eggs	dozen	0.71	0.28	0.20
Beef liver	pound	1.03	0.25	0.26
Enriched white bread	pound	0.53	0.50	0.26
Peanut butter	18 oz.	2.05	0.14	0.29
Whole chicken <sup>3</sup>	pound	0.77	0.42	0.32
Canned tuna	6.5 oz.	0.78	0.42	0.33
Ground beef	pound	1.30	0.27	0.35
Turkey <sup>3</sup>	pound	1.05	0.33	0.35
Fluid whole milk	1/2 gal.	1.13	0.31	0.35
Ground chuck	pound	1.71	0.25	0.43
Chicken breast <sup>4</sup>	pound	1.81	0.27	0.49
Beef chuck roast <sup>4</sup>	pound	1.71	0.29	0.50
Smoked ham <sup>4</sup>	pound	1.50	0.33	0.50
Processed American cheese	pound	2.69	0.20	0.54
Cheddar cheese	pound	3.05	0.18	0.55
Beef round roast <sup>5</sup>	pound	2.56	0.23	0.59
Beef round steak <sup>5</sup>	pound	2.96	0.22	0.65
Pork loin roast <sup>4</sup>	pound	1.95	0.35	0.68
Canned ham	pound	2.76	0.26	0.72
All meat frankfurters	pound	2.00	0.39	0.78
Bologna	pound	2.15	0.38	0.82
Beef sirloin steak <sup>4</sup>	pound	3.44	0.26	0.89
Pork sausage	pound	1.94	0.47	0.91
Center cut pork chops <sup>4</sup>	pound	2.97	0.32	0.95
Sliced bacon	pound	2.13	0.52	1.11
Beef rib roast <sup>4</sup>	pound	3.64	0.32	1.16

<sup>1</sup>U.S. average retail price, estimated using data provided by the Bureau of Labor Statistics. <sup>2</sup>About one-third of the daily amount recommended for a 20-year-old man. Assumes that all meat is eaten. <sup>3</sup>Ready to cook. <sup>4</sup>Includes bone. <sup>5</sup>Boneless.

bologna cost 82 cents. Even though canned ham, at \$2.76 a pound, seems more expensive, 20 grams of ham protein is 10 cents cheaper than that from bologna. Similarly, 1 pound of beef round steak costs \$2.96. However, only 22 percent of a pound is needed to get 20 grams of protein. Therefore, the cost of 20 grams of protein from the round steak is 65 cents, 17 cents less than bologna.

The study also showed that while a 3-ounce serving of lean meat, poultry, or fish provides 20 or more grams of protein, the amount of some alternates and meat products required to provide 20 grams of protein is well over the amount people normally eat in a day. For example, it takes 4-1/2 tablespoons of peanut butter, 4 frankfurters, or 10 slices of bacon to provide 20 grams of protein.

The numbers in tables 1 and 2 can help consumers obtain comparable costs of meats and alternates in their supermarkets. Simply substitute local prices for the national ones in the table, then multiply the part of the market unit figure by the local price to get the cost of the protein. □

## References

*Meat and Meat Alternates Study*, USDA Press Release 977-87, August 14, 1987.



# USDA Adopts "Select" Beef Grade Name

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A 1987 USDA ruling has relabeled a beef grade in an attempt to help the beef industry and also to provide consumers with a more consistent guide to leaner, lower-priced meat. The ruling, implemented by USDA's Agricultural Marketing Service (AMS) last November, consisted of a simple name change. However, the consequences of the action may have a much greater impact on how consumers choose the beef they eat.

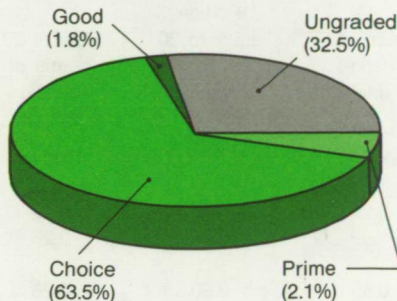
The grade name change—transforming the old USDA Good into USDA Select—was prompted by consumer and industry groups interested in changing the image for this grade of beef (*see sidebar*). The concern stemmed from a consumer perception that "Good" cuts of beef were less desirable than USDA Prime and USDA Choice beef. What the name failed to convey was that the grade represented cuts that generally contain less fat than cuts from the two more commonly identified grades.

## Nutritional Advantages

For consumers especially concerned about calories and fat, there are some advantages to eating Select beef. Beef from the top three grades—Prime, Choice, and Select—is nutritious and can be well within the fat limits normally recommended for a healthful diet. Select beef, however, generally contains fewer calories because it is less marbled, which means it has less intramuscular fat (*figure 1*).

*Clarke is the Information Director of USDA's Agricultural Marketing Service (AMS). Wise is a meat marketing specialist with the AMS Livestock and Seed Division.*

**Figure 3. Choice Presently Accounts For Most of the Graded Beef<sup>1</sup>**



<sup>1</sup>Based on 1986 graded steer and heifer slaughter.  
Source: National Summary of Meats Graded, Livestock & Seed Division, AMS, USDA.

Still, the fat content in meat may vary more due to the kind of cut rather than the grade. For example, Choice top round and top loin steaks likely contain less fat than the more heavily marbled Select rib steaks. Likewise, less expensive Select chuck roast may be lower in fat than its Choice counterpart, but still have more fat and calories than Choice top round and top loin.

## Other Consumer Benefits

Several research studies indicate that Choice beef tastes better than Select beef. However, the same studies also indicate that Select beef is generally acceptable to many consumers.

If the new Select grade is adopted by the meat industry and retail food outlets, consumers will be better able to obtain the combination of palatability, price, and leanness they desire by using the quality grades and the prices of various cuts.

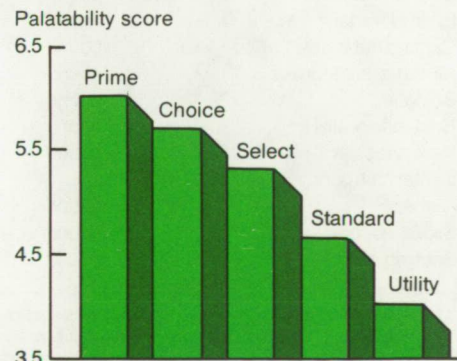
For instance, consumers primarily concerned about taste would probably opt to

buy Choice or even Prime cuts. Consumers who want a leaner, lower calorie product would purchase Select cuts. Some consumers interested in higher quality Choice steaks or roasts for special occasions, could still choose Select steaks and roasts for everyday meals (*figure 2*).

In recent years, practically all beef that qualified for the Good grade was marketed without an official USDA grademark rolled on the carcass. While approximately 80 percent of this ungraded—or "no-roll"—beef would have been equivalent to the new Select grade, the remaining portion varied widely in composition and palatability.

Without an official USDA grademark, consumers purchasing this beef had no reliable guide to help them make their buying decisions. By changing the grade

**Figure 2. Palatability of Top Loin Steak Varies by Grade**



Source: An Evaluation of the USDA Beef Carcass Standards, Texas A&M University, 1981.



## USDA's Labeling Policy

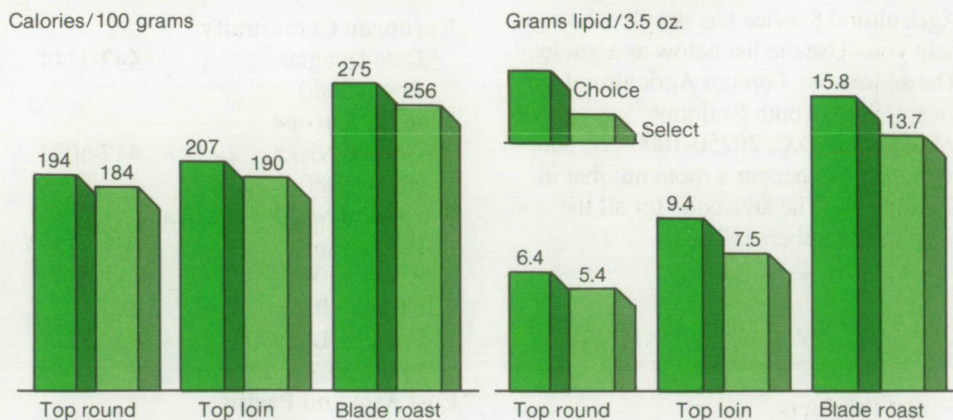
USDA's recent decision to rename Good beef Select was supported by the Public Voice for Food and Health Policy and other consumer, health, and beef industry groups, including the American Cancer Society, the American Heart Association, the American Meat Institute, and the National Cattlemen's Association.

Federal beef quality grade standards describe such factors as marbling and maturity which indicate the meat's tenderness, juiciness, and flavor. The top grades—USDA Prime, USDA Choice, and now USDA Select—represent the types of beef that are the most familiar and widely available to consumers.

USDA's labeling policy prohibits the meat industry from using the grade terms—Prime, Choice, Select, Standard, and Utility—on their meat products unless they have been officially graded. However, since a number of firms already use the term "Select" to describe their products, USDA will allow them to continue doing so. Prior to November 23, 1987, the term appeared primarily on processed meats, and the label did not indicate the product was officially graded.

previously marketed no-roll beef may use the Select grade as a tool to provide a more uniform product for their customers. The official Select grade also provides consumers with a basis for comparison between the various grades and cuts.

Figure 1. Calorie and Lipid Levels of Beef Vary by Grade and Cut<sup>1</sup>



<sup>1</sup>3.5 ounce serving of cooked, separable lean.

Source: *Agricultural Handbook*, No. 8-14, USDA, revised 1986.

Even if retailers use the Select grade as a purchasing tool but not as a label in stores, consumers will still benefit because, AMS anticipates that retailers who cause the meat will generally be more uniform than the no-roll beef previously sold by retailers under "house" name brands.

### Industry Views

The USDA beef grades were revised in 1976 to reduce the fat levels in each of the top grades and to make the taste and appearance of the various cuts more uniform within the grades.

One important change at that time was to make the old Good grade more uniform and restrictive in the cuts of beef that qualified for that grade. This provided retailers with less marbled, lower fat cuts of beef that were still acceptable to consumers.

However, because of concerns that consumers viewed the Good name as an indication of an inferior or mediocre product, the industry failed to use the

Good grade. Only 1.8 percent of the approximately 12 billion pounds of beef graded by USDA in 1986 was Good (figure 3). A far greater amount of beef was marketed by retailers as no-roll beef.

Another positive factor for the industry is that Select beef costs less to produce because leaner cattle consume less feed before they are sold at market. These lower product costs are generally reflected in the prices consumers pay at the supermarket.

If more of this leaner beef is officially graded Select and provided through retail stores, consumers will be able to signal the industry—by the grades of beef they buy—the quality, price, and trim level they prefer. The industry then could adjust production of a given type or grade of beef to meet that demand, resulting in a more accurate reflection of the difference in the value between grades of beef in the marketplace. □



# Information Contacts for Exporting U.S. Farm Products

If you want to know more about exporting goods overseas, the Foreign Agricultural Service has people who can help you. Use the list below as a guide. The address is: Foreign Agricultural Service, USDA, South Building, Washington, D.C. 20250-1000. Be sure to include the person's room number in the address. The area code for all the telephone numbers is 202.

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Lawrence McElvain 447-6225  
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### P.L.480 Operations

Marvin Lehrer 447-3664  
Room 4549

# Recent Trends in Domestic Food Programs

Masao Matsumoto  
(202) 786-1864

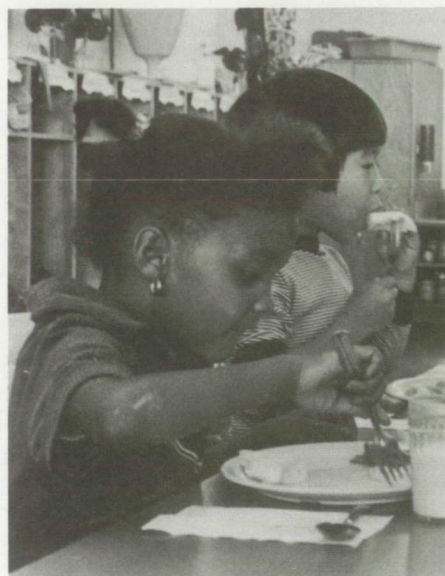
*Participation and program costs discussed in this article compare the April-June quarter of 1987 (the third quarter of the fiscal year) with the same period in 1986. The 1987 data are preliminary and are subject to revision.*

Federal expenditures for domestic food assistance programs declined to \$4.69 billion in the third quarter of fiscal 1987 from \$4.71 billion in the same quarter of 1986, according to preliminary data from USDA's Food and Nutrition Service (table 1). Most of the decline was accounted for by decreased participation in the Food Stamp Program and fewer food donations to the Temporary Emergency Food Assistance Program and charitable institutions.

## Food Stamp Program

Food stamps are intended to help low-income households purchase a nutritionally adequate diet. Benefits are based on the monthly income of the household and the cost of the Thrifty Food Plan. The plan is the least costly of four representative food plans developed by USDA's Human Nutrition Information Service. Like the more costly plans, the Thrifty Food Plan specifies the quantities of different types of foods that households might use to provide nutritious diets for household members.

Average participation in the Food Stamp Program fell 1.5 percent from 19.6 million in the third quarter of 1986 to 19.3 million in 1987 (table 2). The rate of unemployment—which substantially affects program participation—dropped from 7.3 percent in 1986 to 6.2 percent in 1987. Decreased participation



The number of children participating in the National School Lunch Program rose 1.3 percent.

reduced the value of benefits to \$2.65 billion in 1987 from \$2.67 billion. However, due to higher administrative costs, total Federal expenditures for the program were \$2.94 billion, virtually the same level as 1986. Average monthly benefits per person increased to \$45.75 from \$45.40 in the corresponding quarter of 1986.

## Child Nutrition Programs

An average of 23.7 million children participated in the National School Lunch Program each day during April and May 1987, a 1.3-percent increase above the 23.4 million served in 1986. This program provides approximately one-third of the recommended dietary allowances for school-age children. Eligibility for free and reduced price meals is determined by family size and income. For example, children from a family of four with an income below

\$14,570 a year are currently eligible for free meals. Children from a family of four with an annual income between \$14,570 and \$20,735 are eligible for reduced price meals.

The total number of lunches served during the 1987 quarter fell to 959.0 million from 997.4 million a year earlier. Approximately 42 percent of the lunches were free, and 7 percent were reduced price. Fifty-one percent were served at full price. These percentages have remained relatively stable over the past several years.

The Federal cost of the program, including entitlement commodities, amounted to \$799.1 million, down 0.9 percent from \$806.1 million in 1986. Schools received entitlement commodities worth 11.25 cents per meal.

In addition to cash payments and entitlement commodities, schools also receive bonus commodities. These are primarily dairy products held in Government stocks. In the third quarter of fiscal 1987, schools received \$49.4 million in bonus commodities. A year earlier, they received \$40.5 million.

The School Breakfast Program subsidized breakfasts to an average of 3.6 million children each school day in April and May 1987, virtually the same as in 1986. However, Federal expenditures for this program rose 5.8 percent from \$105.7 million in 1986 to \$111.8 million in 1987, due primarily to an increase in meal costs.

Average daily attendance at facilities offering the Child Care Food Program rose from 972,450 in June 1986 to 1.05 million in June 1987, a 7.5-percent increase. Day care homes and child care centers provided an average of 63.2 million meals per month in the third quarter of 1987, up from 59.6 million a year earlier. Total cost for the Child Care Food

*The author is an agricultural economist with the Food Marketing and Consumption Economics Branch of the Commodity Economics Division.*



Program rose 10 percent from \$125.5 million to \$138.2 million in the same period.

Half-pints of milk served under the Special Milk Program declined 3.3 percent from 39.5 million to 38.2 million. Federal expenditures for this program fell to \$3.6 million in 1987 from \$3.8 million in 1986.

In May and June 1987, the Summer Food Service Program served 14.6 mil-

lion meals to children, 6.6 percent above the 13.7 million meals served in the same period of 1986. Program costs for these months were \$25.3 million in 1987 and \$21.8 million a year earlier.

### Supplemental Food Programs

Participation in the Special Supplemental Food Program for Women, Infants, and Children (WIC) reached a

monthly average of 3.4 million persons in the third quarter of 1987, up from 3.3 million a year earlier. Participation by women increased by 7.3 percent, infants by 9.7 percent, and children by 1.2 percent. Average monthly benefits amounted to \$33.14 per person, \$1.18 more than a year earlier. Food costs for the program totaled \$343.4 million, up from \$314.9 million in 1986.

**Table 1. Benefit Costs Of USDA Food Programs Rise Slightly Above First Three Quarters of 1986<sup>1</sup>**

Programs	1985	1986	FY 1986 Quarters <sup>2</sup>				FY 1987 Quarters <sup>2</sup>		
			I	II	III	IV	I	II	III
Million dollars									
Family Food									
Food Stamps	10,744	10,605	2,662	2,691	2,665	2,587	2,646	2,698	2,648
Puerto Rican Assistance <sup>3</sup>	786	824	206	206	206	206	214	214	214
Food Distribution									
Indian Reservations	49	49	12	12	12	12	12	13	13
Schools <sup>4</sup>	819	846	273	267	157	150	273	279	165
Other <sup>5</sup>	215	281	44	50	88	99	50	52	37
Temporary Emergency Assistance <sup>6</sup>	973	846	206	209	220	211	218	210	208
Cash-in-lieu of Commodities <sup>7</sup>	136	146	37	37	36	36	38	39	40
Child Nutrition <sup>8</sup>									
School Lunch	2,579	2,714	831	826	693	365	868	901	686
School Breakfast	385	406	123	121	106	57	139	143	112
Child Care and Summer Food	491	529	107	111	130	181	118	123	145
Special Milk	16	15	4	4	4	4	4	4	4
WIC <sup>9</sup>	1,487	1,582	387	394	394	405	406	417	423
Total <sup>10</sup>	18,680	18,842	4,890	4,928	4,709	4,312	4,986	5,092	4,693

<sup>1</sup>Fiscal years, administrative costs are excluded unless noted. <sup>2</sup>Preliminary. Quarterly data may not add to annual total due to rounding. <sup>3</sup>Puerto Rico transferred from Food Stamp Program to substitute nutrition assistance program July 1, 1982—represents appropriated amounts. <sup>4</sup>National School Lunch, Child Care Food and Summer Food Service programs, and schools receiving only commodities. <sup>5</sup>Commodity Supplemental Food Program and Elderly Feeding Pilot Projects excluding bonus commodities, and donations to charitable institutions. <sup>6</sup>Initiated December 1981. <sup>7</sup>Child nutrition programs and Nutrition Program for the Elderly. <sup>8</sup>Cash expenditures. <sup>9</sup>Special Supplemental Food Program for Women, Infants, and Children—includes administrative costs. <sup>10</sup>May not add due to rounding.

Source: Monthly data from the Food and Nutrition Service.

The basic target population of the Commodity Supplemental Food Program (CSFP) is similar to WIC, although the CSFP has recently instituted an elderly component, whose numbers have increased substantially. The two programs may operate in the same area, but a person may not participate in both programs. WIC provides vouchers that may be used to purchase foods at retail stores, while commodities distributed through CSFP are generally picked up at designated locations.

CSFP operates in 12 States and the District of Columbia. In the third quarter of 1987, the program served an average of 150,900 persons, including 16,300 elderly in nonpilot program States. In the same period of 1986, CSFP served 135,700 persons, with no participation by nonpilot elderly. Food costs—including bonus commodities—for the CSFP totaled \$8.8 million in 1987, up from \$7.4 million in 1986.

Elderly Pilot Projects, which operate under the auspices of the CSFP, were initiated in 1982 at three sites in Iowa, Michigan, and Louisiana. Participation of elderly in CSFP at nonpilot project sites was authorized in 1987. Currently, there are six States—Kentucky, Tennessee, North Carolina, Colorado, Nebraska, and California—and the District of Columbia that provide services to the elderly. Average participation by the

elderly in the three pilot projects increased substantially from 19,900 in 1986 to 46,300 in 1987. Food costs for the projects more than doubled to \$2.6 million, compared with \$1.2 million in 1986.

**Table 2. Participation In Most Food Assistance Programs Increases**

Program	Average participation	
	April-June 1986	April-June 1987
<i>Millions</i>		
Food Stamp Program	19.6	19.3
School Lunch Program <sup>1</sup>	23.4	23.7
School Breakfast Program <sup>1</sup>	3.6	3.6
WIC	3.3	3.4
<i>Thousands</i>		
Child Care Food Program <sup>2</sup>	972.5	1,045.3
Commodity Supplemental Food Programs	135.7	150.9
Elderly Pilot Projects	19.9	46.2
Food Distribution on Indian Reservations	145.8	144.2
Nutrition Program for the Elderly <sup>2</sup>	887.4	898.6

<sup>1</sup>April and May only. <sup>2</sup>June only.

## Food Distribution Programs

USDA provides food assistance to families on or near Indian reservations and the Trust Territories of the Pacific Islands through the Needy Family Program. Average monthly participation in this program was 144,200, down slightly from 145,800 in 1986. Food costs rose from \$11.6 million in 1986 to \$11.8 million.

Although it receives USDA donated food or cash-in-lieu of commodities, the Nutrition Program for the Elderly is administered by the Department of Health and Human Services. Average daily participation in this program during 1987 was 898,600, 1.3-percent above 1986. Total USDA costs in 1987 were \$35.2 million, up from \$30.4 million a year earlier.

Food costs for the Temporary Emergency Food Assistance Program decreased from \$219.9 million to \$208.4 million. Under this program, USDA donates surplus commodities such as processed cheese, butter, nonfat dry milk, cornmeal, flour, honey, and rice to needy people. □



## Food and Nutrition Legislation

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*Numerous food and nutrition bills were introduced in the first session of the 100th Congress. Some of the legislation is described below.*

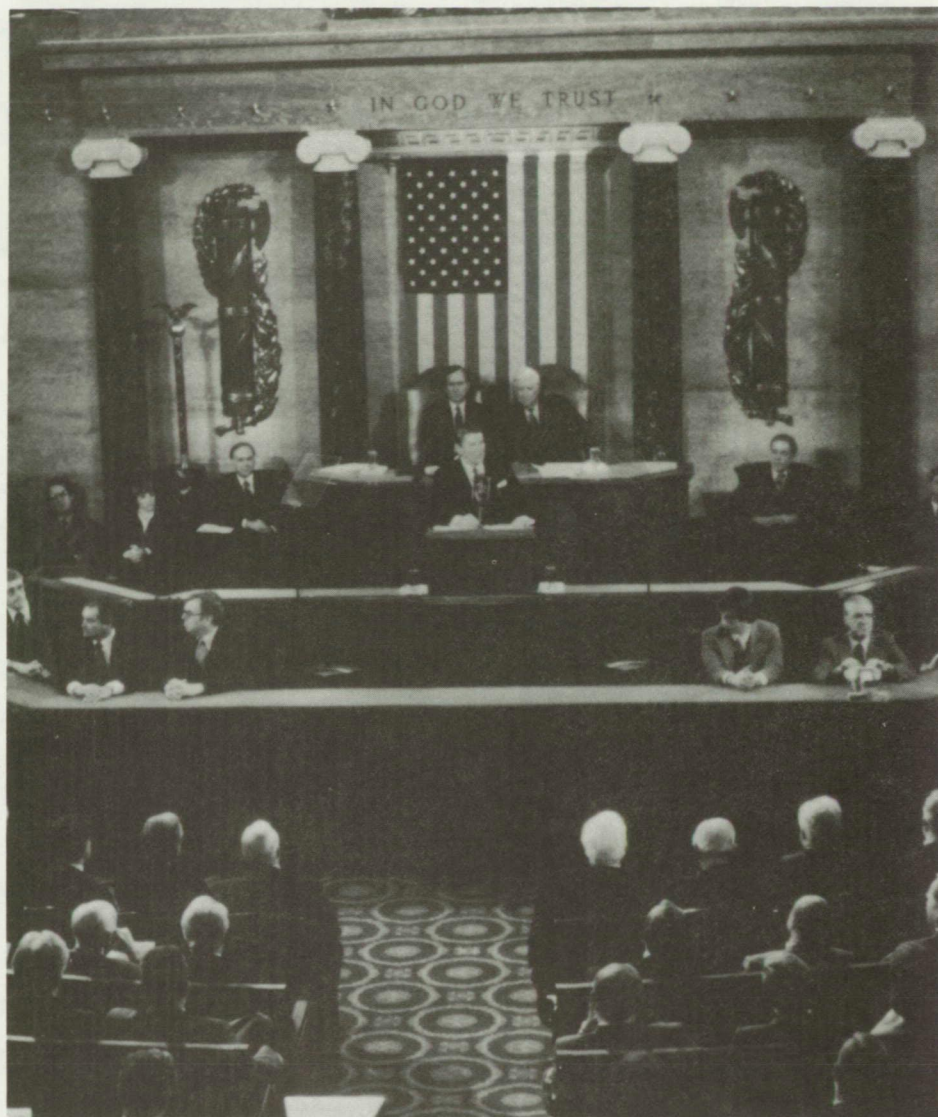
### Food Assistance

#### H.R.3160—Rep. Robert Matsui (CA)

This bill, entitled Quality Control Amendments of 1987, would provide for consistent quality control review procedures and standards in the following programs—Aid to Families with Dependent Children, Medicaid, and Food Stamps. H.R.3160 contends that existing quality control systems inaccurately measure a State's performance in administering these programs and emphasize collecting fiscal penalties rather than improving a State's management. The bill proposes a moratorium on the collection of penalties until the congressionally mandated study of the quality control systems by the National Academy of Sciences is completed and Congress has had an opportunity to act on the Academy's recommendations.

#### H.R.3337—Rep. Leon Panetta (CA)

The Food Stamp Family Welfare Reform Act of 1987 would improve access to the commodity distribution system associated with the child nutrition and elderly food programs. The proposed legislation is designed to help ensure the benefits and administration of the Food Stamp Program are coordinated with the rest of the welfare system, particularly with the Aid to Families with



Dependent Children (AFDC) program. This bill is a part of a major effort within the House to overhaul the welfare system. The Senate has its own version of overall welfare reform in S.1511 intro-

duced by Senator Patrick Moynihan.

H.R.3337 proposes to raise work and child day care reimbursements to participants in employment and training programs. It would require that food

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

stamp offices be open at hours convenient for people in those programs. It would also mandate that applicants for AFDC benefits be informed they can simultaneously apply for food stamp benefits. The bill would make permanent the provision in current law which authorizes AFDC beneficiaries to be automatically eligible for food stamps. Washington State would be authorized to implement a program of combined food stamp and AFDC benefits on a cash equivalent basis. In addition, the bill contains provisions designed to help farm families who are experiencing hard times receive food stamps if they qualify for them. The complicated finances associated with family farms would be taken into account when social workers process food stamp applications for farm households.

### **Food Safety and Quality**

#### **S.1561—Sen. Christopher Bond (MO)**

The bill would establish a research program for the development and implementation of new food safety and animal health technologies. The research would focus on the safety of food products of animal origin. Research grants awarded under S.1561 would be approved by the Secretary of Agriculture on a competitive basis. Specifically, the bill calls for:

- Development of a technology to rapidly identify microbiological or chemical con-

taminants on the farm or in the processing and distribution chain.

- Establishment of a statistical framework under which the potential health risks posed by contamination can be measured.
- Analysis of the entire animal product food chain to determine the most effective intervention points to control or prevent a harmful microbiological or chemical contamination.
- Research to develop techniques to monitor the animal product food chain using the statistical framework called for in this legislation.

#### **S.1813—Sen. Patrick Leahy (VT)**

The Safe Food Standards Act of 1987 is designed to reduce the occurrence of food-borne illnesses from meat, poultry, and fish products by decreasing bacterial contamination through improved inspection procedures. New standards and programs for meat and poultry would be established by the Secretary of Agriculture, those for fish products by the Secretary of Commerce. In setting these standards, the Secretaries would be required to consult with the National Research Council and the Secretary of Health and Human Services, as well as industry and public interest groups.

Within 15 months of enactment, USDA would set contamination levels for each meat and poultry plant and for each type of product based on levels that will reduce food-borne illnesses. These "baseline" levels would then be used to

establish the initial standards. Plants found in violation would be targeted for further sampling during a review period of up to 120 days. If violations continue, a warning would be issued and the plant publicly identified. Meat and poultry plants persistently violating standards, or failing to pay fines, would be prohibited from having their product inspected.

S.1813 also calls for a voluntary program to test animal feed for contamination. Standards and tolerances would be set by USDA, but would not supersede those currently established by the Food and Drug Administration. Manufacturers of animal feed for poultry, sheep, cattle, or swine could participate in the testing program if they meet the requirements. Manufacturers could then display an emblem indicating participation on their products. If contaminants exceed any standard or tolerance level, USDA would issue a warning and prohibit use of the emblem. USDA would also be required to implement a program providing information, advice, and instruction on feed manufacturing.

#### **H.R.3232—Rep. Charles Stenholm (TX)**

This bill would amend the Federal Meat Inspection Act to require pizza products containing imitation cheese to clearly state so on the label. []



## USDA Actions

Susan L. Pollack  
(202) 786-1780

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

**Smoked Ham and Pork Shoulder Rule Corrected.** USDA issued corrections to its Smoking and Drying Schedule for smoked ham and pork shoulders. The schedule is part of USDA's rule—published in the February 7, 1985, *Federal Register*—that is aimed at destroying trichina in pork products. Three numbers were listed incorrectly in the schedule. The new times give the minimum number of days required to dry ham and pork shoulders after they have been smoked (*table 1*).

### Cranberry Referendum Results.

USDA announced that cranberry growers in Massachusetts, Rhode Island, Connecticut, New Jersey, Wisconsin, Michigan, Minnesota, Oregon, Washington, and Long Island voted overwhelmingly to continue their Federal marketing order another 4 years. Fifty-five percent of eligible growers voted in the May 1987 referendum. Of those voting, 92 percent—accounting for 95 percent of the volume of production represented—wanted the program continued. The order for cranberries was initiated in 1962 to control the volume of marketed berries and to assure a steady flow of cranberries to market.

### Canned White Potatoes Standards.

USDA revised its canned white potatoes standards, changing the procedure for determining uniformity of size and

**Table 1. USDA Corrects Drying Times for Smoking Ham and Pork Shoulders at 80°F**

Smoking time at 80°F	Drying temperature	Minimum drying time
Days	°F	Days
3	60	58
7	70	29
10	45	60

<sup>1</sup>Corrections appear in part 9 of the *Code of Federal Regulations* 318.10 (c)(3), table 6.

shape. The rule now permits a few more small or large potatoes to be included as acceptable in any size designation. The format of the standards was also changed by incorporating a section of definitions and a section of easy-to-read tables. The National Food Processors Association supported the changes. Use of the standards and USDA grading services are voluntary and self-supporting.

**Radiation Detected in Beef Extract from Brazil.** USDA refused to allow beef extract shipments from Brazil to enter the United States after detecting radiation in the product. The extract came from beef which Brazil imported from Europe. It was believed to be contaminated as a result of the 1986 Chernobyl nuclear accident. Beef extract is made of highly concentrated beef juices and used mostly in soups and similar products. It is packaged in 56-pound containers and sold only to commercial users. The high concentration probably caused the extract to have higher levels of radiation than beef meat. While the extract did not represent a health hazard, it exceeded the official limit of 10,000 picocuries of cesium per kilogram, a

measure used to determine the radioactivity of foods. The limit was set after the Chernobyl accident. USDA requires all countries exposed to the fallout to certify their products contain less than 10,000 picocuries per kilogram. In addition, USDA inspectors test products for radiation levels at port of entry. No other violations have been found.

**Additives In Meat Products.** USDA now permits meat processors to add a combination of BHA (butylated hydroxyanisole) and BHT (butylated hydroxytoluene) to cooked and raw pizza toppings and meatballs to extend their shelf life. Levels of the compounds may not exceed 0.02 percent of a product's fat and oil content. USDA has already approved using these substances in hamburger patties. BHA and BHT are generally recognized as safe by the Food and Drug Administration. The compounds prevent spoilage by suppressing the chemical reaction between fat and oxygen that causes meat to go rancid.

**Egg Pricing Symposium.** USDA held a symposium on egg pricing on September 2, 1987, in Washington, DC. Symposium participants from industry, government, and the academic community discussed how best to gather shell-egg prices for industry and USDA use. The symposium was sponsored by USDA's Agricultural Marketing Service and Economic Research Service to find ways to keep pace with changes in the egg industry and to explore how the present price reporting system can be improved.

**Egg-injected Vaccine for Chickens.** Commercial development of a vaccine against coccidiosis, the worst parasitic disease in chickens, may result from an agreement between USDA and Embrex

<sup>1</sup>The author is an agricultural economist with the U.S. Agricultural Policy Branch in the Agriculture and Trade Analysis Division.

Inc., Triangle Park, NC. A new automated system will inject the vaccine into embryos through their eggshells. This is the first Federal-private agreement authorized by the 1986 Technology Transfer Act. The Act was designed to make government research more market-oriented. Under the agreement, USDA scientists will further test antigens for use in a potential vaccine. Embrex Inc. can then use the best antigen to commercially develop an in-ovo (embryo injected) vaccine. Coccidiosis infects the chicken's digestive tract. It can kill unless the bird is treated with drugs routinely given in feed. Even with drug treatment, the disease causes weight loss, lowers the conversion of feed to meat, and keeps the birds from having the yellow skin color that brings premium prices in some regions. The disease costs U.S. producers an estimated \$3 million a year.

**Institutional Purchasing Specifications for Fresh Beef.** USDA added "flaked and formed" steak, "steamship" round, and "two-piece" chuck to the specifications schools, hospitals, the U.S. Defense Department, and other institutions use to purchase large quantities of beef. Also, illustrations of the bone and muscle of individual meat items were included. The Institutional Meat Purchase Specifications includes two sets of guidelines. One set provides for refrigeration and packaging. The other is a group of eight code-referenced descriptions of raw beef, lamb, veal and calf, pork, cooked and cured beef, cured pork, variety meats, and sausage products. The revised descriptions and illustrations are designed to help institutional buyers determine the acceptability of boneless cuts.

**Egg Board Assessment Reduced.** USDA reduced the assessment levied on egg producers to fund research and promotion activities of the American Egg Board. The decision halves the assess-

ment from 5 cents to 2.5 cents per 30-dozen cases. Like the old rate, the new rate is refundable on demand. Program activities—funded by the assessment—include developing materials on use of eggs for consumers, assisting State egg promotion organizations, promoting eggs in foodservice establishments, demonstrating use of eggs in food processing, and educating health professionals, the media, and consumers about diet and cholesterol issues. The reduced assessment will still generate sufficient funds to support the program's activities.

**Packing Plants to Use New Trichina Test.** USDA approved the first serological test to detect trichinosis in swine, paving the way for in-plant testing of meat and poultry for disease and contaminants. Approval was given for the Idetek Corporation in California to perform an Enzyme Linked Immunosorbent Assay (ELISA) test in a laboratory at a meat-packing plant in North Carolina. The test, adapted from USDA procedures, detects antibodies to the trichina parasite. The approval means that pork examined and passed by the plant can be marketed as "certified" or "trichina tested". The pork can also be used in luncheon meats and other ready-to-eat pork products without first being processed to destroy any trichina present. Untested pork products must still be cooked, frozen, or dried and cured.

**Expanded Sales Area for Unshu Oranges.** USDA now allows Japanese mandarin oranges—also known as Unshu oranges—grown in certain citrus canker-free zones in Japan to be imported into an expanded area of the United States. Previously, Japan could export Unshu oranges only to Alaska, Hawaii, Idaho, Montana, Oregon, and Washington because climatic and other factors in those States prevent the establishment of citrus canker. The change allows these oranges to enter all areas of the United States ex-

cept where host plants of citrus canker can grow. Excluded areas are Alabama, American Samoa, Arizona, California, Florida, Georgia, Louisiana, Mississippi, Nevada, New Mexico, North Carolina, the Northern Mariana Islands, Puerto Rico, South Carolina, Texas, and the U.S. Virgin Islands. Unshu oranges must still be grown in isolation and disinfected in a chlorine solution in Japan before they can be imported into the United States.

**Turkey Disease Vaccine.** USDA licensed six firms to make and sell its patented vaccine against hemorrhagic enteritis, a disease that strikes 5 to 20 week old turkeys. The vaccine is the first to be federally licensed for use against the disease. Hemorrhagic enteritis is caused by a virus that weakens the turkey's immune system and may kill up to 20 percent of a producer's young turkeys. When the vaccine is administered through the birds' drinking water, the turkeys develop antibodies that fight off the virus. The vaccine may also protect turkeys from other diseases that can be brought on by a weakened immune system.

**Bunch Spinach Grade Standards.** USDA established 2 new grades—U.S. No. 1 and U.S. No. 2—for bunch spinach. They differ mostly by appearance. U.S. No. 2 permits a few more defects, such as discoloration, seed stems, and damage to the leaves. In the past, fresh spinach appeared in markets either loose or in "cello" bags. Now more spinach is sold at the retail level in bunches, prompting the spinach industry to propose that USDA establish grading standards for this item. The new standards reflect the industry's proposal and comments received on a rule USDA announced in October 1986. These standards resemble those used for other kinds of fresh domestic produce. []



## In The News ...

### Research May Reduce Chickpea Blight

USDA scientists are attempting to use germplasm from wild chickpeas to create a fungus-resistant, commercial variety.

Chickpeas—also known as Garbanzo beans—are a common offering at salad bars. They were hit by a blight epidemic in the Pacific Northwest last summer after wet weather created the right conditions for the *Ascochyta* blight.

The fungus that causes this blight forms spores on cold, damp surfaces. It is spread from plant to plant by splashing rains, and to new fields by the wind.

USDA estimates that more than half of the \$6 million chickpea crop planted on 15,000 acres in eastern Washington and northwestern Idaho—the largest chickpea-growing regions—was wiped out.

For additional information, contact USDA plant pathologist, Walter J. Kaiser, Jr. (509) 335-1502.

### Everbearing Strawberries Improve Grower Income

Strawberry plants in the Northeast and Midwest are bearing fruit longer because of a genetic change that lengthens the plants' fruit-bearing season.

Several years ago, USDA scientists introduced two everbearing varieties, Tribute and Tristar. These new breeds, which went to nurseries in 1981, bear 4 months longer than spring-fruiting types.

Before the new berries could increase production, growers had to learn how to properly irrigate and nurture root systems that were smaller than those of the traditional varieties. Irrigation of the strawberries offsets the heat and lengthens the season in States from Massachusetts to Maryland to Minnesota.

According to USDA, Tribute's and Tristar's longer growing season will in-



Everbearing strawberries can be harvested the same year they are planted.

crease grower incomes. Consumers also benefit from the new varieties since they taste better, keep well, and are as juicy as standard varieties.

These everbearers have several other selling points. High yields offset their smaller size. In addition, they can be harvested in the summer and fall of the same year they are planted. Finally, they are resistant to the cold and to disease, says USDA.

For additional information contact USDA plant geneticist, Gene J. Galletta (301) 344-4652.

### An Alternative to Sulfites

Vitamin C derivatives may provide a safe alternative to sulfites for keeping salad bar fruits and vegetables fresh, according to USDA.

The compounds, which could replace sulfites as a preservative for these foods, inhibit browning of cut apples in laboratory tests.

Dipping apple slices in one of two classes of compounds closely related to vitamin C prevented browning for up to 24 hours. The preliminary results of an 18-month study indicate that ascorbic acid-2-phosphate and ascorbic acid-6-fatty acid esters were the most effective.

Use of vitamin C derivatives could benefit the foodservice industry since the Food and Drug Administration banned the use of sulfites on raw fruits and

vegetables in July 1986. Ordinary vitamin C can be used, but it is effective for only a short time.

The compounds were also tested on apple juice and potatoes. Further studies may be done on cauliflower, mushrooms, lettuce, and other vegetables and fruits.

For more information, contact chemist Kevin B. Hicks (215) 223-6417, or food technologist Gerald M. Sapers (215) 233-6458.

### New Approach for Making Apricot Juice

A new way to make a clear apricot juice may boost its use in beverages and foods.

The technique, which could provide an efficient way of making apricot juice, combines enzymes and filters already used in food processing.

Previously, apricots were dried, frozen, canned, sold fresh, or pulverized into a thick, pulpy concentrate used for nectar or other apricot-based products, such as preserves, ice cream filling, or toppings.

Strained apricot juice could be used in a broader range of products, such as fruit-added soft drinks, fruit-flavored alcoholic beverages, or frozen fruit bars. The potential new uses could increase the crop's retail value by \$15 million, says USDA.

For more information, contact USDA agricultural engineer Charles D. Hursoll (415) 486-3433.

### Individual Wrapping Maintains Freshness

Fruits and vegetables will stay fresh up to three times longer if they are wrapped in film with microscopic pores immediately after harvest, recent USDA experiments show.

According to Roger Rij, a marketing specialist with USDA's Agricultural Research Service in Fresno, CA, porous films help fruits and vegetables take in

Contributing author Susan Pollack is an agricultural economist with the U.S. Agricultural Policy Branch of the Agriculture and Trade Analysis Division.

oxygen while getting rid of excess carbon dioxide.

These films are not new. However, they differ from standard household wrap, which is usually not porous and does not allow gasses to flow through, says Rij.

The films can be manufactured with a variety of hole sizes, enabling different kinds of films to be made to best preserve the freshness of individual foods.

"Peaches and nectarines, for example, store best in an environment with 5 percent carbon dioxide, while broccoli responds better to 10 to 12 percent carbon dioxide," says Rij. The films, therefore, should be specific for each item, with peaches and nectarines being wrapped in film with larger pores, and broccoli in a film with smaller ones, he explains.

According to USDA, shrink-wrapping will also help preserve foods' freshness. One example is the perishable cantaloupe. Gene Lester, a USDA plant physiologist in Weslaco, TX, says "individually shrink-wrapped melons will last at least three times longer than unwrapped melons—and still have excellent quality, firmness, flavor, color, and sugar."

These developments may open new possibilities for exporting U.S. fruits to overseas markets. "We may be able to ship melons to Japan, an idea that was impractical before because cantaloupe is so perishable, says USDA marketing specialist Thomas Camp of the Weslaco laboratory.

The cantaloupe film, manufactured by E.I. du Pont de Nemours & Co., also works on tomatoes, green bell peppers, cucumbers, and eggplant, according to agricultural marketing specialist Lawrence Risse.

For more information, contact Rij at the Horticultural Crops Research Laboratory (204) 487-5334. Lester and Camp work for the Subtropical Agricultural Research Laboratory (512) 968-

7546. Risse can be reached at the U.S. Horticultural Research Laboratory (305) 897-7300.

### **Fungus Cuts Long Grain Rice Supplies**

A fungus that is spread through the air struck the 1987 long grain rice crop, making it the second year in a row that domestic rice yields were devastated by the disease.

Damage from the disease was worse than 1986 since the fungus—called blast—hit before farmers had a chance to apply fungicide. In addition, considerably more acreage appeared to be affected than in 1986.

According to USDA's Economic Research Service, the disease could reduce 1987/88 carryover stocks to 6 million hundredweight (cwt). Carryover stocks were 30 million cwt at the end of the 1986/87 crop year and 49 million at the end of 1985/86.

World supplies are also expected to be tight because of the poor quality of 1986's Thai crop.

For more information, contact ERS economist Janet Livezey (202) 786-1840.

### **Food Consumption Survey Released**

USDA's Human Nutrition Information Service released its latest food consumption survey report covering U.S. diets in 1985.

According to the survey, food-away-from-home contributed substantial amounts of the nutrients consumed by the survey participants. However, the levels of vitamins and minerals contributed by such foods were slightly lower than levels of calories, protein, carbohydrate, and fat.

The report, *Continuing Survey of Food Intakes by Individuals*, describes the eating habits of women and children, and the nutritive value of their diets, based on 4 days of data collected over a 1-year period.

The continuing survey, which began in 1985, helps monitor year-to-year changes in American eating habits. It focuses on women 19 to 50 years old at all income levels. The same information is collected for their children ages 1 to 5.

Copies of the report, CSFII Report No. 85-4, are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

For more information, contact Nutrition Monitoring Division Director, Robert L. Rizek (301) 436-8457.

### **New Uses for Surplus Corn**

Starch from surplus corn could be used to make controlled-release products ranging from almond flavoring to zinc fertilizer, according to USDA scientists.

The process may provide farmers and gardeners with new application methods that require less fertilizer and pesticides. "The starch-based granules also should be safer to handle than a concentrate that has to be diluted before being applied," says USDA chemist Robert E. Wing.

Wing and his colleagues, chemists William M. Doane and Sukumar Maiti, have applied for a patent on the new encapsulating process.

"The number of products that could be encapsulated is limited by one's imagination. They might include insect lures, plant growth regulators, medicines, even food ingredients such as flavorings, colorings, and vitamins," says Wing.

The cornstarch matrix is made of components the Food and Drug Administration has approved for foods. It could help alleviate the corn surplus since it takes about 3,600 pounds of corn to make a ton of cornstarch, says Doane.

Unlike previously patented encapsulating processes, the new one requires no chemical modification of the starch. Furthermore, tests show that release of the encapsulated substance is more precisely regulated.

For more information, contact Wing at (309) 685-4011 ext. 353. □



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**How the Food Security Act of 1985 Affects Consumers** By Ralph Parlett, Masao Matsumoto, and Dave Smallwood (AIB-527). August 1987. GPO stock number 001-019-00536-0. \$1.00. This report examines how consumers fare under the 1985 farm legislation and what might have happened if the 1981 farm law had remained in effect. According to the report, the new law enables consumers to buy more food with their dollars. The 1985 legislation also reduced the tax burden on low and moderate income people. The needy also benefit since the eligibility for food assistance is now broader and the benefits have increased.

**World Feed Grain Trade, 1962-85: Barley, Rye, Oats, and Other Cereals** By Arthur B. Mackie, Stephen W. Hiemstra, and Janet E. Sayre (SB-755). August 1987. GPO stock number 001-019-00534-4. \$7.00. World trade in barley, corn, rye, oats, and other feed grains more than tripled between 1962 and 1985. During the same period, the number of countries in the world trade of feed grains increased 85 percent. Part of the reason, the report points out, is that feed grain consumption has increased faster than production in most countries. Therefore, more nations must import feed grains to meet their needs.

**Regional Crop Yield Response for U.S. Grains** By Mark S. Ash and William Lin (TB-1734). September 1987. GPO stock number 001-019-00548-3. \$2.00. This technical bulletin examines how yields affect total U.S. grain production. It also looks at what determines yields and how projections are based on yield analysis. It provides per acre projections through 1990 for wheat, corn, and rice. According to the report, long-term stimuli, such as better varieties and farming practices and increased fertilizer use, will raise crop yields in all three major production regions. Short-term factors include soil moisture,

temperature, precipitation, and acreage reductions.

**The U.S. Oats Industry** By Linwood A. Hoffman and Janet Livezey (AER-573). July 1987. GPO stock number 001-019-00526-2. \$5.00. U.S. farmers grew about 16 percent of the world's oats during 1980-85, a 29-percent drop from the 1960-64 level when the United States was the largest producer. This report describes today's U.S. oats industry from producers to consumers, and provides economic and statistical data on this commodity.

**Developing an Integrated Information System for the Food Sector** By Alden Manchester (AER-575). August 1987. GPO stock number 001-019-00524-6. \$4.00. This report describes an information system for the food sector which integrates price, quantity, and expenditure measures to provide the most accurate estimates of food consumption.

**Exporting U.S. Food To Sweden, Norway, and Finland** By Harold A. McNitt (FAER-227). June 1987. GPO stock number 001-019-00517-3. \$3.00. This report surveys Swedish, Norwegian, and Finnish markets for U.S. foods. It evaluates current con-

sumer tastes and preferences and new trends. It also gives guidelines for import procedures and restrictions imposed by these countries, outlines food wholesaling and retailing, and indicates receptiveness to specific U.S. foods.

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**A Quarterly Forecasting Model of the U.S. Egg Sector** By Richard P. Stillman (TB-1729). September 1987. NTIS order number PB87-101431/AS. \$11.95. This technical report introduces a newly developed model for forecasting U.S. egg prices and quantities for outlook and policy analysis. The model incorporates both behavioral and biological factors to generate supply and utilization data.

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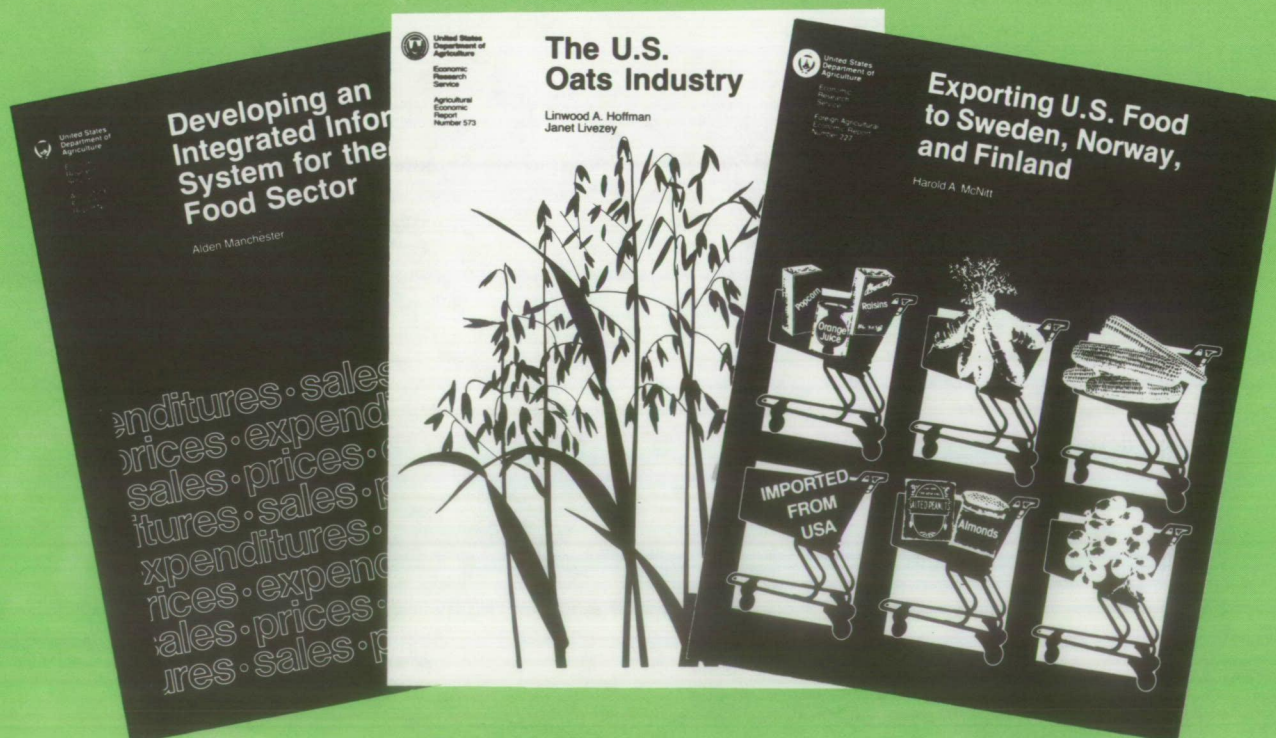
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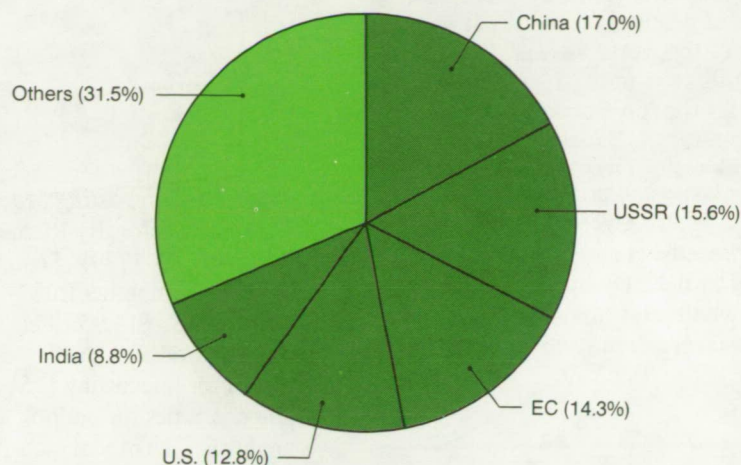




## World Production and Trade

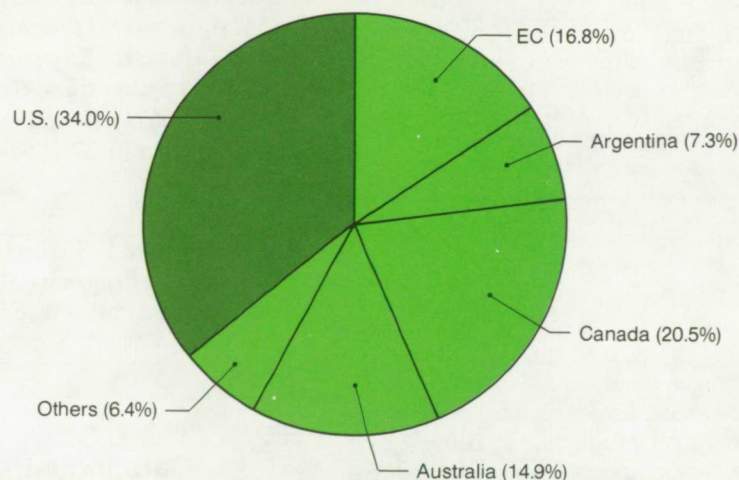
The world produced an average of 508 million metric tons (mmt) of wheat during the last 4 years. Our share of that total was surpassed by China, the USSR, and the 12 countries of the European Community (EC). India followed closely with almost 9 percent. Other major producers included Eastern Europe with 7.6 percent, Canada, 5.1, Australia, 3.6, and Argentina, 2.2 percent.

### Northern Hemisphere Countries Produce the Majority of the World's Wheat<sup>1</sup>



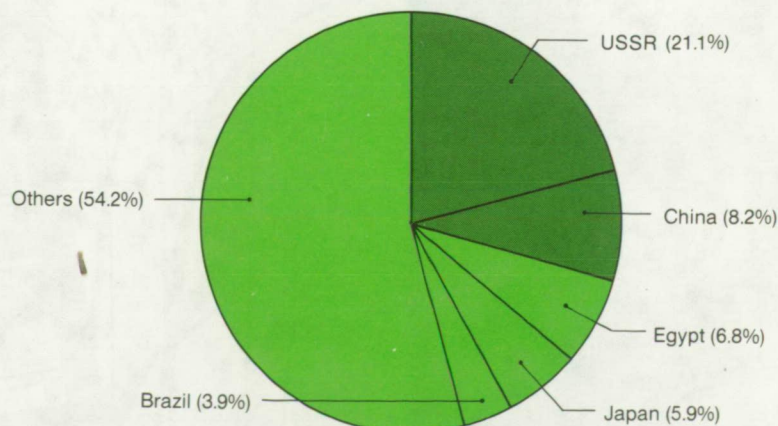
World wheat exports averaged 96 mmt over the last 4 years, almost one-fifth of world production. The United States dominated with 34 percent of the market. We faced strong competition, however, from Canada, the EC, Australia, and Argentina. These 5 suppliers accounted for almost 95 percent of the wheat exports during the period.

### U.S. Dominates the World Wheat Export Market<sup>1</sup>



Despite being large producers, the USSR and China imported significant amounts of wheat during crop years 1983/84-1986/87. Egypt, Japan, and Brazil rounded out the top 5. The EC and Eastern Europe accounted for another 6.8 percent. Of the 40 or so other countries that imported wheat, Korea accounted for 3.2 percent, Algeria, 3.1, Iran, 3.0, Iraq, 2.7, Morocco, 2.2, Bangladesh, 1.6, Indonesia, 1.6, Nigeria, 1.4, and Cuba, 1.4 percent.

### USSR and China Import Large Amounts of Wheat<sup>1</sup>

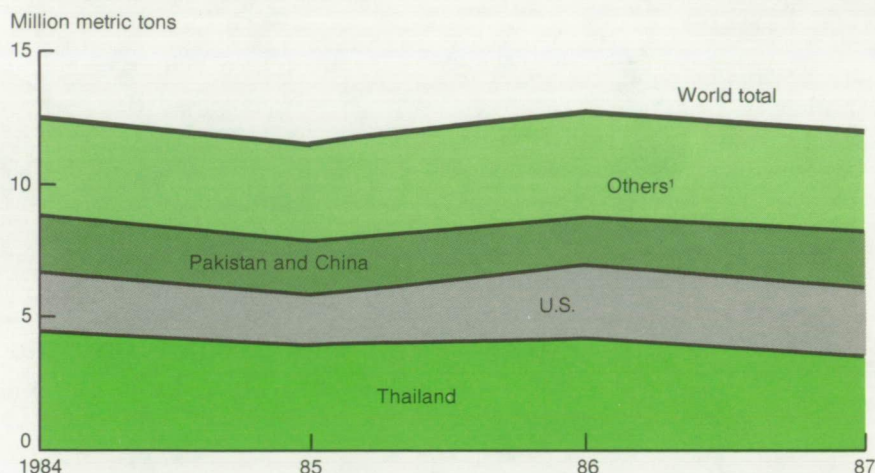


<sup>1</sup>Average volume (million metric tons) for crop years 1983/84-1986/87. Crop year begins July 1.  
Source: *World Grain Situation and Outlook*, FG9-87. USDA, Foreign Agricultural Service, August 1987.



Unlike wheat, only a small portion of world rice production is exported. During the last 4 years, an average of 12 mmt of rice was traded. That was 3 percent of the world's average production (465 mmt) during the same period. Of the top 5 producers—China, India, Indonesia, Bangladesh, and Thailand—only Thailand exported a significant share of its production (21 percent). The United States was the second largest exporter during the period, followed by Pakistan and China. Together, the 4 countries accounted for almost 70 percent of world rice exports.

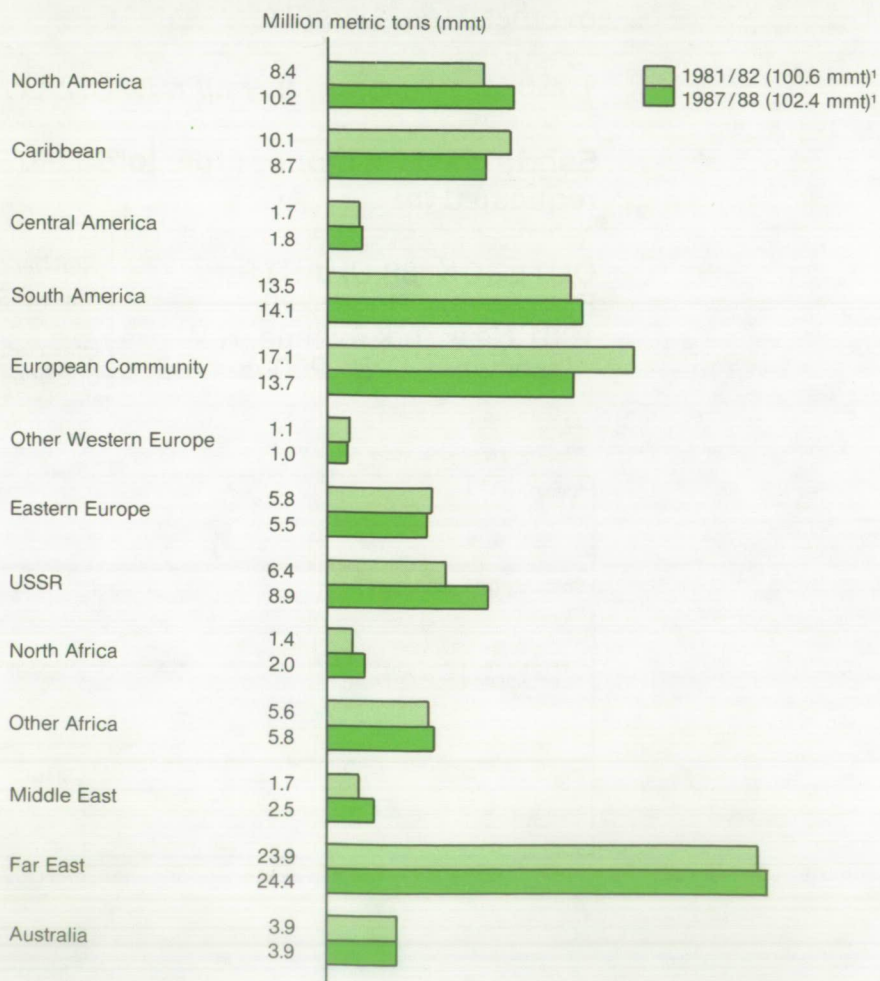
### Thailand is the Top Rice Exporter



¹Other exporters include: EC, Burma, Australia, Korea, Uruguay, India, Indonesia, Taiwan, and Argentina.

World sugar production is forecast at a record 102.4 mmt (raw value) for 1987/88, up from 100.6 mmt in 1981/82. Sugar from cane will account for 64 percent of the total, and sugar from beets, 36 percent. The Far East produces almost a quarter of the world's sugar, most of it from cane. India and China are major producers in the region, followed by Thailand, Indonesia, Pakistan, and the Philippines. Sugarcane is also an important crop in South America and the Caribbean. Brazil and Cuba are the main producers in that part of the world. Sugar beets are grown in Europe and the USSR, accounting for almost all of the sugar production in those regions. Sugarcane makes up two-thirds of North American production. The remainder comes from beets grown in the United States and Canada.

### The Far East Is The Major Sugar Producing Region



¹Crop year begins September 1.

Source: *World Sugar and Molasses Situation and Outlook*, FS1-87. USDA, Foreign Agricultural Service, May 1987.





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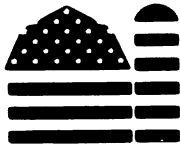
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