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Changing World Markets Challenge the Food System

UpFront

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FoodReview

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Strengthening Import Regulations Segments World Markets

Kenneth W. Forsythe, Jr., and Maury E. Bredahl
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Increasing international trade in agricultural products often must be accompanied by strengthening import regulations designed to prevent the introduction of exotic livestock diseases or plant pests, which could devastate agricultural production in the importing country. Stricter regulations may separate world markets into so-called "free" and "affected" markets or may redefine their boundaries.

Foot-and-mouth disease (FMD) and regulations regarding it are a prime example. FMD is a serious, contagious viral disease that primarily affects cattle, swine, and other cloven-hoofed animals. Because of the nature and severity of the disease (see box), FMD is a major determinant of world beef trade patterns.

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FMD Is a Serious Livestock Disease

Foot-and-mouth disease (FMD) is a serious livestock virus that can cause death, low market weights, and abortions. Swollen vesicles, or blisters, form on stricken animals mainly around the foot (or hoof) and mouth. The animals eat less because of the painful vesicles and become feverish and dehydrated. Eradicating FMD requires slaughtering infected animals and disinfecting or destroying any infected materials.

FMD is very difficult to control by vaccination—the scheme used in most countries. There are at least seven different types of FMD virus, and immunity to one does not give immunity to another. An animal that recovers from FMD may still carry the virus for nearly a year with no evidence of infection. During this period, the animal may be temporarily immune to the virus, only to fall victim to the disease afterward.

FMD is one of the most devastating diseases afflicting livestock. In 1989, an EC Commission study estimated that the average cost of controlling a single occurrence of FMD on one farm for an average size herd at risk was about 158,000 ECU (European Currency Units).

The viral disease is highly contagious and spreads quickly. FMD can be carried on packing materials, vehicles, various animals (including birds), and even humans, although it is not a disease of humans. One outbreak in Mexico in 1946 spread at the alarming rate of 500-square miles per day. Even with substantial U.S. assistance, it took 8 years to eradicate FMD in Mexico. The United States and Mexico subsequently formed a Joint Commission for the Prevention of FMD. No outbreaks in North America have occurred since, but the Commission still maintains a role in preventing outbreaks.

The World Beef Market Is Divided

The regulations of major FMD-free beef importers may have been partially responsible for the emergence of the two beef markets. The United States and many other FMD-free countries guard against the accidental reintroduction of FMD through strict import regulations—restricting imports of live cattle and swine from infected countries, and even from those using vaccination to control the disease (unless the animals are subjected to a very lengthy, expensive, and rigorously controlled quarantine). Countries that rely on vaccination are treated as if the disease were present, because the vaccination produces antibodies that interfere with serological testing and may mask the clinical symptoms of FMD. FMD-free countries also restrict any fresh, chilled, or frozen meat from these animals (but may import cooked and cured deboned meat from FMD-affected markets because these processes kill the FMD virus).

Therefore, the FMD-affected beef market consists of countries with FMD outbreaks and those vaccinating to control it. Many beef trading countries—including most European Community (EC) members, eastern Europe, and some non-EC western European countries—have used vaccination to prevent outbreaks.

Because of FMD, most South American countries are excluded from the North American fresh, chilled, and frozen beef import market. Although the Enterprise for the Americas Initiative encourages free trade throughout the Western Hemisphere, major South American beef exporting countries will have to eradicate FMD and forego vaccination-control programs (a difficult and expensive task) to reach the North American fresh, chilled, and frozen beef market. Ongoing vaccination programs

are expensive, because cattle must be treated annually and hogs must be treated several times a year.

Many major beef importers—particularly the EC—do not currently restrict these products. For example, Germany imports fresh and chilled beef from Argentina (an FMD-affected country); the United Kingdom imports deboned frozen beef from Argentina; and Italy imports live cattle from eastern Europe, where vaccination is used to control FMD.

The United States allows fresh, chilled, or frozen beef to be imported from only those countries recognized as FMD-free. FMD-free countries that allow imports of uncooked beef or pork from FMD-affected countries must comply with additional restrictions to have access to the U.S. market.

Most beef trade in the FMD-free market is from the United States and Australia to Japan, and from Australia and New Zealand to the United States (as well as live cattle from Mexico and Canada to the United States). In the FMD-affected

market, most trade is beef from South America to the EC (and cooked beef to the United States) and live cattle from eastern Europe and some non-EC western European countries to the EC.

Strengthening EC Import Regulations Would Rearrange Trade Flows

The EC has targeted FMD for eradication, but faces some obstacles due to concessionary agreements to import fresh, chilled, and frozen beef from countries infected with FMD. It is unclear whether the EC would be willing to rescind these agreements to assist its eradication effort.

Eliminating these concessions and introducing more stringent import regulations similar to those of FMD-free countries would partially isolate the EC beef industry from competition with FMD-affected third (non-EC) countries. This would increase internal EC beef trade and depress beef prices in FMD-affected third countries.



Cattle ranching in Argentina, a major FMD-affected beef market.

The EC has dismantled vaccination programs for FMD in member nations as a first step toward FMD eradication. The last vaccination took place in August 1991. The EC's FMD goals, as well as other regional trade liberalization efforts, may provide some new incentive for FMD-affected countries to eradicate the disease.

Argentina, Brazil, and Uruguay are infected with FMD and are major sources for EC beef imports. If the EC moves into the FMD-free market, these South American countries face reduced access to the EC fresh, chilled, or frozen beef import market. However, concessionary agreements between them waive the EC's variable import levy for specified quantities of beef imports in order to permit a minimum level of access.

The EC's change from vaccination to eradication is a move toward creating a single FMD control program in the EC. Previously, only three EC members (the United Kingdom, Denmark, and Ireland) prohibited vaccination and followed national eradication policies. Two members (Italy and Germany) had persistent outbreaks of FMD prior to 1989.

The three FMD-free EC member nations use additional measures to control beef trade with FMD-affected countries. The nature of these measures varies between the FMD-free members. Although the United Kingdom allows imports of beef from FMD-affected countries (provided that it is deboned and the lymph glands are removed), other members, such as Ireland, maintain stricter regulations similar to those of the United States.

If the EC harmonizes and upgrades Community animal health regulations to the highest existing national level, the remaining EC members might adopt more stringent FMD import regulations similar to those of Ireland to further the eradication process.

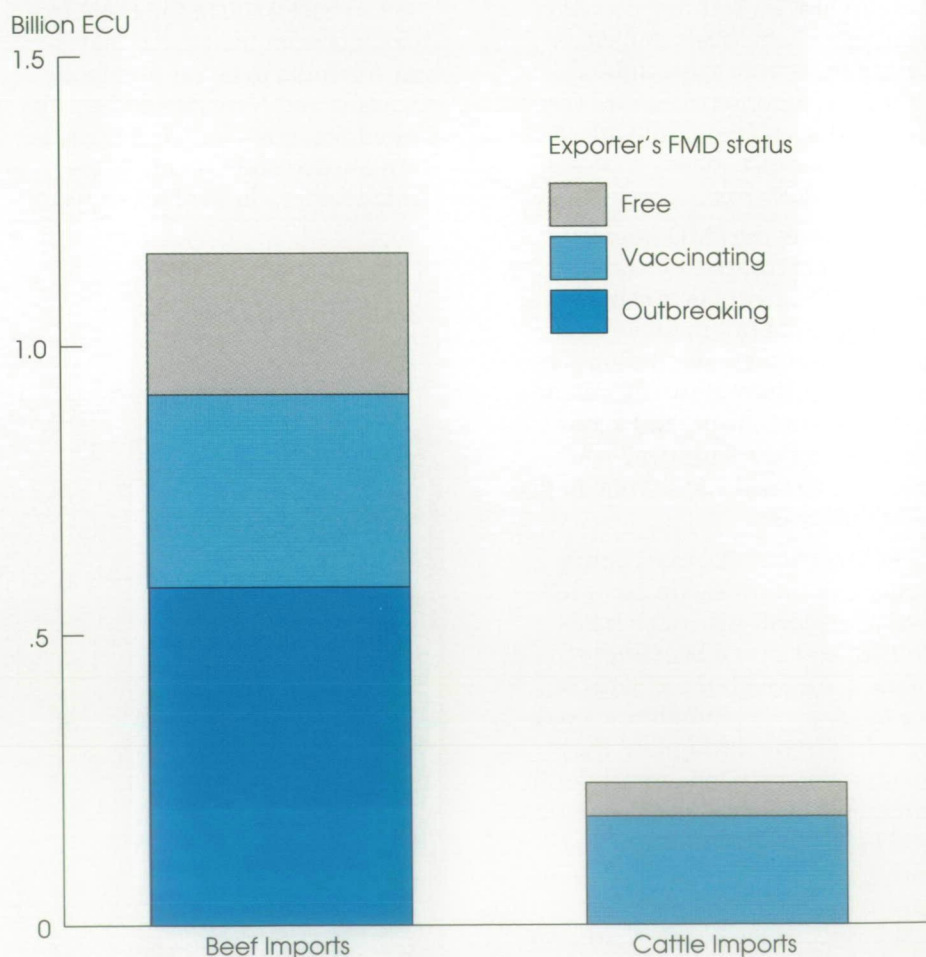
If the EC adopts such regulations, substantial third-country exports of fresh, chilled, and frozen beef and live cattle will be diverted or even eliminated, because most of the EC's beef imports are from FMD-affected countries (fig. 1). Potential recipients of the diverted imports include the Commonwealth of Independent States (the former Soviet Union), Middle East, or north Africa. These regions are major importers of beef and live cattle from FMD-affected countries (some beef was from EC government stocks).

Some beef, however, would likely continue flowing from FMD-affected countries to the EC. Over 50 percent of EC beef imports from South America in 1987 were cooked, while only about 16 percent from eastern Europe were cooked and none from Austria or Switzerland were cooked. However, exporters will not likely replace the lost trade with cooked beef because it may be a poor substitute for fresh, chilled, or frozen beef.

Much of the beef imports diverted or eliminated by the EC under this scenario are likely to be

Figure 1

Most EC Beef and Cattle Imports From Outside the EC Are From FMD-affected Countries



Source: NIMEXE. *Analytical Tables of External Trade*, 1987.

replaced through internal EC trade. Although the EC is self-sufficient in beef production, it imports and exports beef. The imports are largely due to international obligations incurred through the General Agreement on Tariffs and Trade and concessionary bilateral agreements. The imports are also due to inherent differences between the beef that is imported and exported (such as fresh and chilled imports versus frozen exports). The EC subsidizes beef exports through refunds provided to exporters to help them compete in world markets and to help reduce large internal beef supplies.

Other possible sources of FMD-free replacement beef for the EC include the United States, Australia, and New Zealand. However, the EC's Third Country Red Meat Directive drastically reduced the number of slaughterhouses, including many in the United States, approved for export to the EC. The use of naturally occurring hormones to enhance beef production, viewed as safe by international scientific agencies but prohibited in EC beef imports, limit the ability of U.S. producers to tap into the EC market. The EC's *ad valorem* tariffs and variable import levies further add to the hurdles faced by U.S. and other FMD-free beef exporters.

FMD-free Countries Have Access to More Markets

FMD-affected countries are in a more vulnerable trade position than FMD-free countries. FMD-free countries have access to both the free and affected markets, while affected countries are largely excluded from the free market. Beef imports of FMD-free countries have risen since 1981 (fig. 2), largely due to increases in Japan's beef import quota.

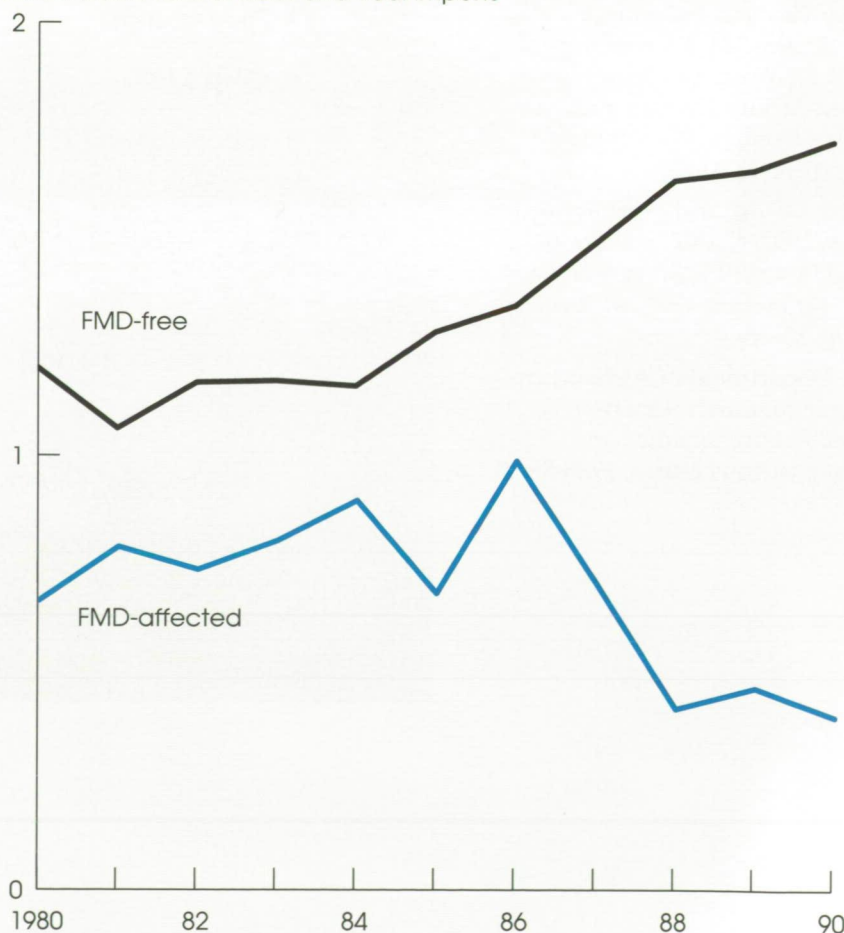
In comparison, beef imports in the FMD-affected market have fluctuated considerably due to various

policy events. In 1986, for example, Brazil contracted for about 430,000 metric tons of beef—mainly from the EC, United States, and Uruguay—because domestic producers held supplies off the market in retaliation for a government price freeze. These imports followed important events in the EC and U.S. dairy sectors. The EC limited dairy production, which increased dairy cattle slaughter and, therefore, beef supplies. Export subsidies helped offset these effects. In the United States, the Dairy Termination Program paid producers to slaughter their herds, which resulted in large supplies of low-cost beef available for export.

Figure 2

FMD-affected Countries Have Limited Access to Important Beef Markets

Million metric tons of beef and veal imports¹



¹Selected Importers. FMD-free regions include North America and Japan. FMD-affected regions include the former Soviet Union, Middle East, North Africa, Brazil, and Venezuela. (EC imports are not included.) Source: USDA, Foreign Agricultural Service.

pared with 1.1 billion ECU for a vaccination program during the same period.

It will be easier for some countries than for others to eradicate FMD, eliminate vaccination programs, and move into the FMD-free market. Eastern Europe and some non-EC western European countries, such as Austria and Switzerland, have not reported any outbreaks of FMD in recent years. For them, the cost of switching from vaccinations to eradication programs may be lower than in South America, which vaccinates and experiences FMD outbreaks.

For Additional Information, See . . .

De las Carreras, Alberto. "Foot-and-Mouth Disease and World Meat Trade," *Marketing of Animals and Their Products and Animal Health*, SP No. 374. Proceedings of the XI Inter-American Meeting on Foot-and-Mouth Disease and Zoonoses Control, Washington, DC, April 11-14, 1978.

Kelch, David, and Terri Raney. "Europe 1992, GATT, and Food Safety: How Will U.S. Agriculture Fare?" *Agricultural Outlook*, Dec. 1989, pp. 33-36.

U.S. Department of Agriculture, Economic Research Service. *Livestock and Poultry Situation and Outlook Report*, various issues, 1986-88. ■

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U.S. Farm Trade Complements World Trade

Thomas L. Vollrath
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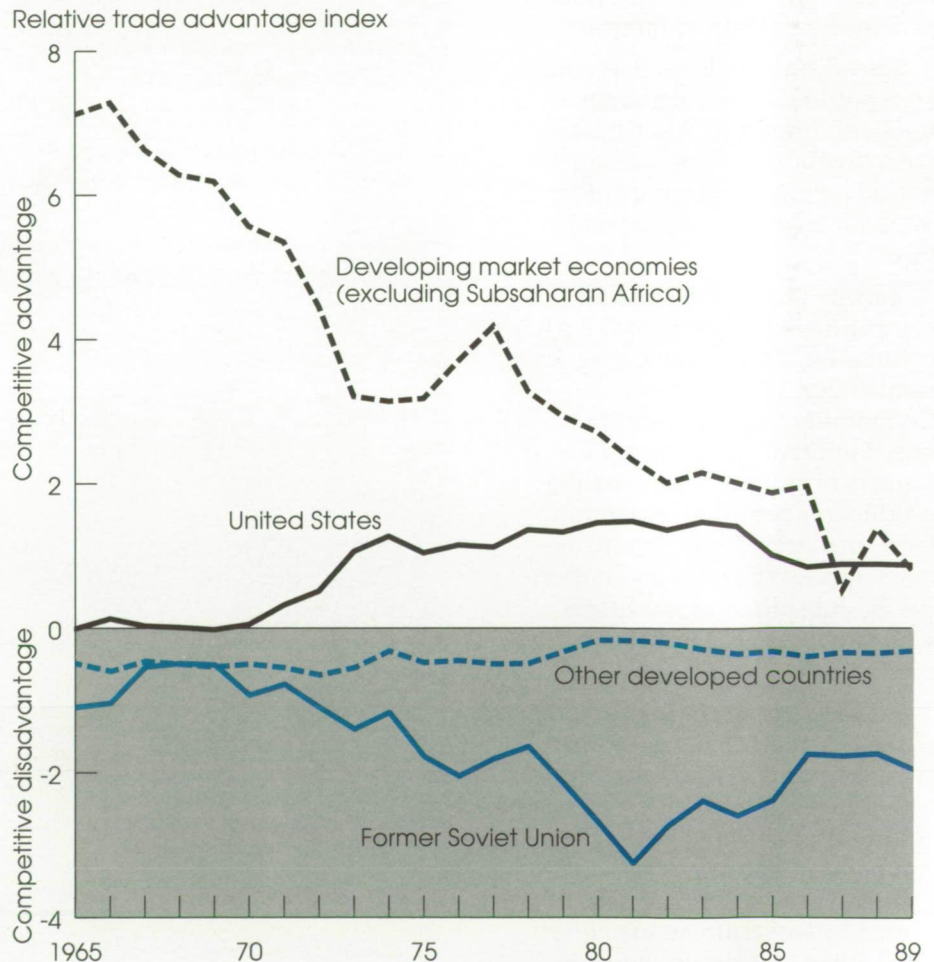
Unlike many other developed countries, the United States enjoys a competitive advantage in world agricultural trade. Abundant natural resources and modern technology have helped make the United States a net exporter of agricultural products. Competitive advantages in agricultural trade are particularly strong for U.S. grains and oilseeds.

These findings are based on comparisons of an economic statistic called "relative trade advantage," or RTA. The RTA identifies a country's competitive advantage or competitive disadvantage for an individual commodity or for an industry as a whole (see box).

Based on international trade data, the RTA measures the ability of domestic producers of a specified commodity to compete against other commodities for national resources. It also shows how well the country competes in international markets for the specified commodity. RTA's are generally positive when exports exceed imports. Since no country exports without also importing, each country will have commodities with positive and negative RTA's.

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Figure 1
The United States Maintains Its Agricultural Competitive Advantage



Market Forces and Government Policies Can Change Trade Advantages

Changing world demand for a particular commodity or set of commodities brings about changes in RTA's. In the 1970's, for example, world demand for grains exploded. The United States was poised to meet much of this demand. With rising grain exports, the U.S. RTA in agriculture went from a relatively neutral position to a high positive position, indicating growth in competitive advantage (fig. 1). The former Soviet Union was a major purchaser of U.S. grains. With increased grain imports, their competitive disadvantage in agriculture increased.

Government policies that influence production or international sales also impact RTA's. Consider the following changes in competitive advantages and competitive disadvantages in world agriculture.

Europe historically has had a competitive disadvantage in agriculture. With the Common Agricultural Policy, the European Community (EC) significantly raised internal farm prices. EC farmers responded by increasing production, resulting in domestic food surpluses. To dispose of excess supplies of grains and butter, the EC subsidized food exports which reduced its competitive disadvantage.

EC food exports captured some of the U.S. market share, particularly for grains in the early 1980's. U.S. competitive advantage in agriculture dropped with increased competition, softer world demand, and high domestic prices supported by Government loan rates. The United States responded by lowering loan rates to make U.S. grain prices more competitive on world markets. Export enhancement programs were also estab-

Measuring Global Competitiveness and Bilateral Complementarity

A nation's competitiveness in the world market can be measured by the relative trade advantage (RTA) index. A positive value signifies competitive advantage, while a negative value denotes competitive disadvantage.

RTA's put country and commodity size effects within a comparative context, by showing the importance of each in terms of global trade. For example, a small country with specialized production in a particular commodity may be very competitive—have a high RTA—even though that country supplies only a small volume of the commodity's world exports.

Another trade statistic, called overall bilateral complementarity (OBC), measures the correlation between two countries' RTA's. Complementarity occurs when one country has competi-

tive advantages in commodities where the other country has competitive disadvantages. The OBC statistic is constructed to be positive when this happens. Bilateral competitiveness occurs when two countries specialize in the same commodities.

U.S. trade in food grains and jute provides an example of how bilateral complementarity is established. The United States has a competitive advantage in food grain production, while Bangladesh has a competitive advantage in jute production. By trading food grain and jute on the world market, each country's trade complements the other's. But it is important to recognize that OBC statistics encompass trade across many commodities. Therefore, the U.S.-Bangladesh OBC measure for the agricultural sector includes more than just food grains and jute.



Retting flax in Bangladesh.

lished to improve export sales. By 1986, U.S. grain exports stopped plummeting and its RTA in agriculture stabilized.

In response to the U.S. grain embargo in 1980, the former Soviet Union tried to improve its competitive position in agriculture. The policies adopted were partially successful, as their competitive position in agriculture improved. But, agricultural RTA's for the former Soviet Union still remain negative.

There are costs associated with subsidizing production or exports. The subsidies use resources that could be used more productively elsewhere in the economy. Also, subsidies help push up the country's exchange rate and raise the value of its currency. A rising value of the domestic currency indirectly taxes other export commodities, as their foreign currency prices increase.

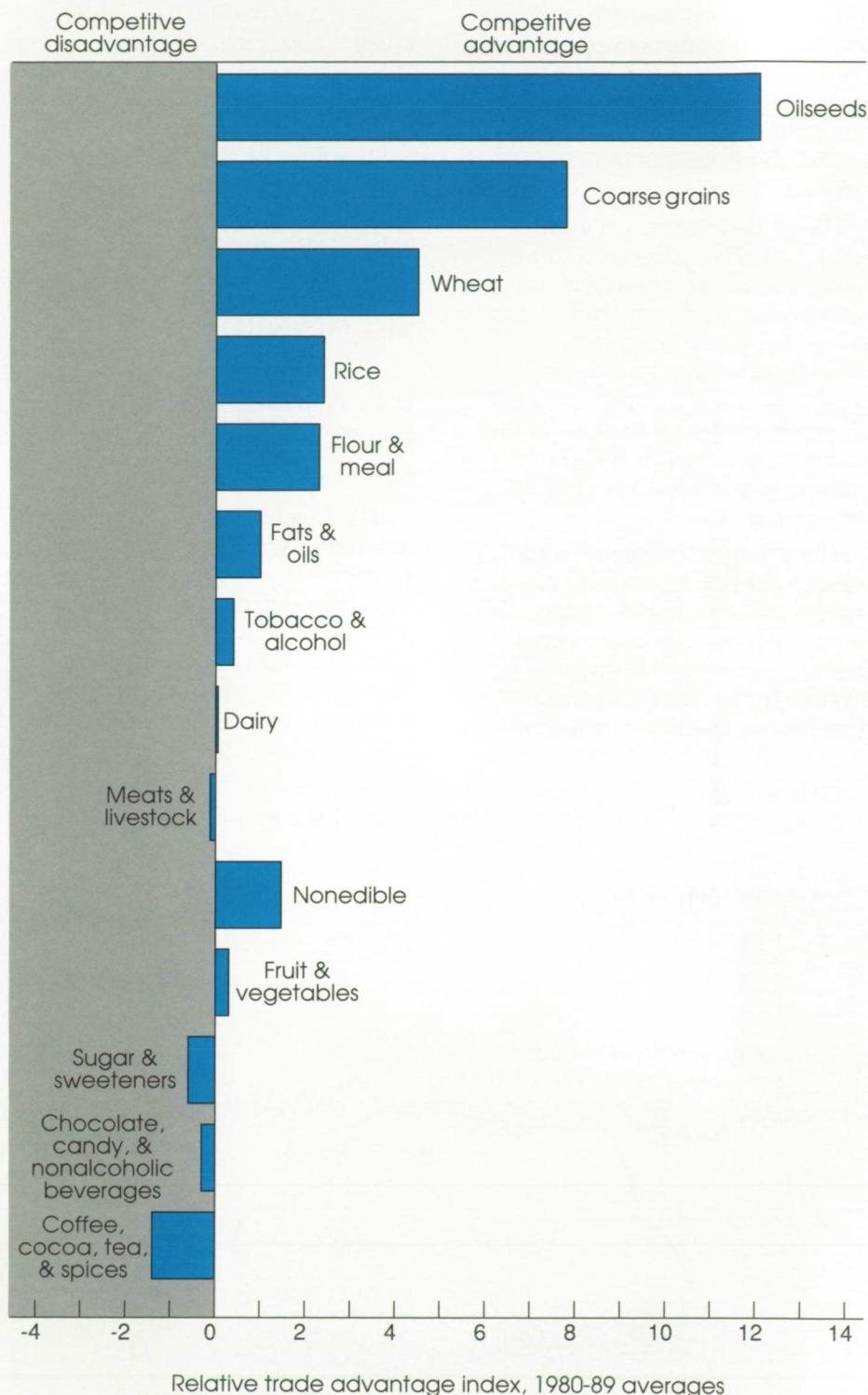
The developing market countries, excluding those in Sub-Saharan Africa, provide an example of how competitive pressures in other industries can affect agriculture. Most developing economies depend on agriculture to generate the foreign exchange needed to trade for world goods. As these countries develop, their industrial sectors typically grow and bid resources away from agriculture. The switch in resources from agriculture to other industries pushes down agricultural competitiveness. This explains the RTA decline for the developing market economies, excluding Sub-Saharan Africa (fig. 1).

U.S. Competitive Advantages in Agriculture

The United States exports large quantities of bulk agricultural commodities and is strongly competitive in oilseeds, coarse grains, wheat, and rice (fig. 2). The United States also enjoys competitive ad-

Figure 2

The United States Reveals Strongest Competitive Advantages in Bulk Agricultural Commodities



vantages, but to a lesser extent, in value-added commodities, such as flour and meal, fats and oils, fruit and vegetables, nonedible crops, tobacco, and alcoholic beverages. The U.S. dairy and U.S. meat and livestock industries are neither at a competitive advantage nor competitive disadvantage in world markets.

The United States is at a competitive disadvantage with coffee, cocoa, tea, and spices; sugar and sweeteners; and candy, chocolates, and nonalcoholic beverages. But these disadvantages are diminishing as a result of U.S. policies (such as import quotas on sugar) and the declining importance of U.S. agricultural imports relative to other imported goods.

The strongest competitive advantage for U.S. agriculture has been in oilseeds, but that edge is being threatened. U.S. oilseed competitiveness slipped during the 1980's, largely from advances in Argentine and Brazilian soybean sec-

tors. Argentina continues to pose a threat to producer interests in the United States because of lower production costs and higher yields. Brazil is also a major competitor for U.S. soybean producers because many Brazilian producers lack viable crop alternatives. Competition may be stronger from Argentina, because Brazilian transportation costs are higher. Argentine oilseed producers are concentrated near ports and, therefore, do not depend on high-cost, long-distance truck travel.

U.S. Agriculture Complements the Rest of the World

The "overall bilateral complementarity" (OBC) index for agriculture is a summary statistic that correlates two countries' relative global trade advantages across the agricultural commodity spectrum. From the OBC statistic, one can determine whether U.S. and foreign

country trade in agricultural commodities is competitive or complementary (see box).

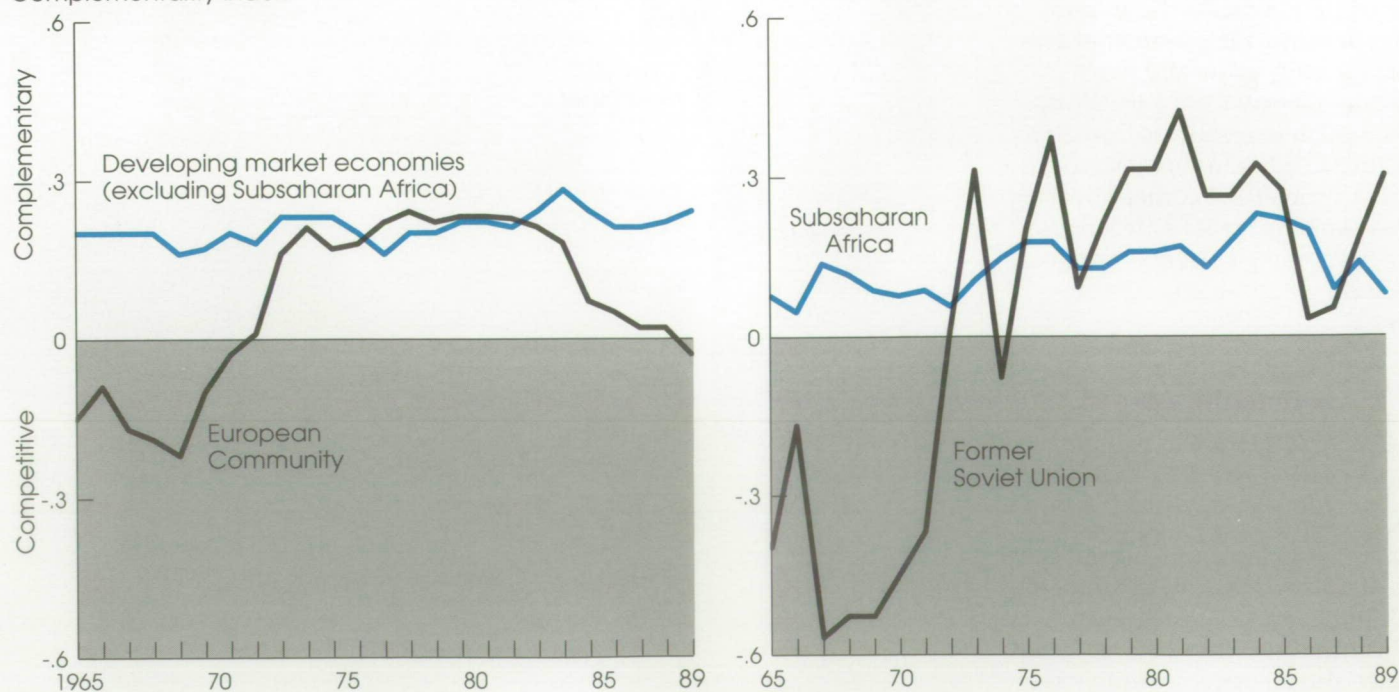
For the past two decades, U.S. agricultural trade has complemented trade by most other countries/regions (fig. 3). However, the U.S.-EC economic relationship characterizing agriculture crossed the threshold into the bilateral competitiveness zone in 1989 because the EC had heavily subsidized agricultural exports.

While agricultural trade typifying the United States and the former Soviet Union is complementary, the U.S.-Soviet OBC index has fluctuated widely. Variations in Soviet output were absorbed by the international market. The former Soviet Union imported large quantities of agricultural products during periods of scarcity, but few commodities when domestic products were in abundance. As the United States has been a reliable agricultural supplier on the world

Figure 3

U.S. Agricultural Trade Often Complements Foreign Agricultural Trade

Complementarity index



market, it was the fluctuations in Soviet imports that affected the OBC index.

Although the United States and developing market countries are both strongly competitive in agriculture, their OBC index is bilaterally complementary—not bilaterally competitive. That is because the United States is competitive in grains and oilseeds, while developing market economies specialize in warm-weather commodities, such as coffee, tea, cocoa, spices, chocolates, and tropical produce.

The United States and Sub-Saharan Africa show strong bilateral complementarity, even though Sub-Saharan Africa has a much greater global competitive advantage for agriculture. This finding should allay concerns about conflicting interests in promoting agricultural development assistance to countries in Sub-Saharan Africa.

What the Future Might Hold

Future competitive advantages for and within U.S. agriculture could move up or down. Many factors will likely contribute to their rise. Lower real domestic interest rates and declining U.S. exchange

rates stimulate domestic investment in agriculture, enhancing the ability of the United States to compete in global markets. Domestic and trade policy liberalization in Europe and Japan will benefit U.S. agriculture. Improved management of U.S. policy, especially macroeconomic policy, will also benefit U.S. agriculture. For example, lower budgetary and trade deficits and a more stable growth in the money supply would help the United States achieve and sustain higher levels of performance in all exporting industries, including agriculture.

"U.S. trade and Sub-Saharan Africa's trade within agriculture are complementary—even though Sub-Saharan Africa has a much greater global competitive advantage for the sector as a whole. This finding should allay concerns about conflicting interests in promoting assistance for agricultural development in Sub-Saharan Africa."

Income growth in developing countries will raise demand for agricultural commodities and increase the demand for agricultural exports. The United States can capture this demand by focusing more on processed agricultural products. Sophisticated and discriminating U.S. consumers already induce domestic firms to innovate and generate quality, value-added agricultural products. These products will likely be competitive in the international marketplace as well. And since the United States possesses clear comparative advantages in many bulk agricultural commodities, linking these bulk commodities with their value-added, consumer-ready final products should allow the U.S. competitive trade advantage in value-added products to grow.

U.S. competitive advantage in agriculture may, however, diminish. Factors that could contribute to such a decline include productivity gains in the U.S. nonagricultural economy outstripping technological gains in the agricultural sector, increases in the value of the U.S. dollar, lower taxation of agriculture in developing countries, and continued trade protection of agriculture in developed countries. ■

Food and Agriculture in the EC's Single Market

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By the end of this year, the European Community (EC) is scheduled to become the world's largest single market, with free movement of goods, people, capital, and services among the 12 member nations (Belgium, Denmark, France, Germany, Greece, Luxembourg, Ireland, Italy, the Netherlands, Portugal, Spain, and United Kingdom).

By harmonizing rules and regulations, the EC is effectively setting standards for a community of nearly 500 million affluent consumers—as such standards will affect 340 million consumers in the EC and another 160 million in non-member European nations that wish to trade with the EC (table 1).

Such countries are likely to adopt EC rules and regulations in order that their firms will not have to meet differing standards when exporting to the EC. By adopting EC regulations, nonmember European nations hope to enhance their possibilities of EC membership, which most desire to obtain.

"EC-92" is not directed at agriculture or external borders, but it will have far-reaching indirect implications for agriculture. For in-

Table 1
The EC Has a Larger Economy Than the United States

1988 item	EC ¹	US
Population (million)	324.8	243.8
Gross national product (billion \$US)	5,127.6	4,880.6
Per capita income (\$US)	15,787	19,813
Grain area (million acres)	87.7	133.5
Grain production (million metric tons)	164.7	198.5
Meat production (million metric tons)	25.7	60.8

¹ Excludes the former East Germany.

Sources: Kelch, David, and Ruth Elleson. "Implications of EC 1992 for U.S. Agricultural Trade," *EC 1992: Implications for World and Agricultural Trade*, Staff Report No. AGES 9133. USDA, ERS, Oct. 1991.

stance, some aspects of the Common Agricultural Policy (CAP) will have to be changed.

Harmonizing plant health, animal health, and food safety standards will directly affect the processed food industry. Changes in the production, consumption, and trade of EC food and agricultural products will in turn affect the net trade position of non-EC countries, including the United States.

It is not clear how exports to the EC by trading partners outside the EC will be treated, or how successful the EC will be in eliminating all barriers to internal trade. If successful, the EC could become more competitive in the trade of processed food products and could export smaller amounts of bulk commodities that compete directly with U.S. exports.

EC-92 Eliminates Internal Trade Barriers

A true single market requires the elimination of internal borders and the development of a single, or common, currency. Developing such a currency is a very complex task, which will require constitutional changes in some countries. Harmonization of national standards at the EC level will also require many changes in national rules and regulations. Not all EC members are happy with all the proposed changes required.

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But despite maneuvers by some states to either weaken or delay some standards, the EC seems poised to meet the goal of lifting all internal borders by January 1, 1993. As of January 1, 1992, all but 69 (20 relating to food and agriculture) of the 282 directives required to eliminate internal EC borders had been adopted by the EC Council and sent to member states for implementation. Implementation and enforcement of EC legislation at national levels are expected to be very controversial.

Economic Integration Reforms EC's Agricultural Policies

Agriculture played a critical role in the development of European unity with the establishment of the CAP in 1967. EC farm groups successfully lobbied for high prices. The resulting production increases changed the EC from a large net importer to a large net exporter of grains and meats. However, the EC remains the world's largest importer of total agricultural products.

Reform of the CAP (mainly through the lowering of farm prices) has been resisted until recently, largely because EC farmers have been politically successful in arguing that agriculture is the only example of a "common market" in Europe. The forming of a common market for all economic sectors through the EC-92 proposals and the drive to a single EC currency undermine the political power of the EC farm lobby, and is a driving force behind the limit placed on the growth of the CAP budget.

Further reforms of the CAP will likely come in the elimination of the agrimonetary system. Under this system, agricultural exchange rates (called green rates) differ from official exchange rates in EC member nations. This means prices for CAP products differ between members. The system requires bor-

der taxes and subsidies (called monetary compensatory amounts, or MCA's) to equalize agricultural prices. In addition, the Deutschmark's rise in value within the European Monetary System resulted in farm prices in all national currencies rising above the so-called common price.

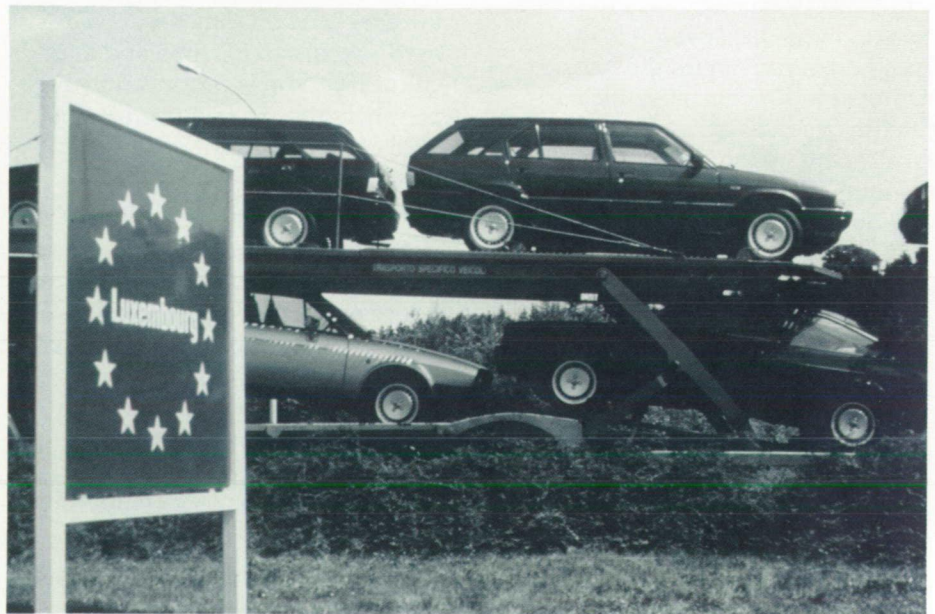
The agrimonetary system as it is now constituted will come to an end with the removal of frontier controls—the only practical way to collect MCA's. Also, the movement to a single EC currency removes the need for such a system.

Price Reform To Reduce and Shift Farm Production

As farm prices fall due to elimination of the agrimonetary system, farm production should decline, while EC per capita food consumption should increase because food prices would be lower. Higher incomes from the increase in economic activity that EC-92 should stimulate are also expected to increase per capita food consump-

tion. Given the anticipated rise in per capita food consumption and lower farm production, total reduction in EC net agricultural exports between 1993 and 2000 compared with trend projections is estimated as follows: wheat, 5.0 million metric tons; coarse grains, 6.0 million metric tons; beef, 5.6 million metric tons; butter, 782,000 metric tons; and nonfat milk powder, 835,000 metric tons (these estimates are derived from sources listed at the end of this article and are not official USDA estimates).

Other effects for EC agriculture include increased intra-EC competition in the EC sugar and dairy industries. At present, national sugar and dairy quotas cannot be transferred across borders. Countries with the least-cost producers will pressure for the transfer of quotas (and thus production) across borders. (Ireland and the Netherlands are low-cost in dairy and France is low-cost in sugar.) Processors searching for low-cost raw materials will join in the push for quota transfers. If successful, such a restructuring would allow the EC to



Roads without borders: an example of trade liberalization.

lower CAP prices for sugar beets and milk, and thereby lower CAP expenditures.

EC-92 legislation for the environment will also affect agricultural production. An EC-wide environmental agency has been established. Proposed regulations on nitrates would limit manure- and fertilizer-application rates. Countries already affected by domestic environmental legislation include the Netherlands and Denmark, where pork production has been constrained by manure-application restrictions. With a high concentration of swine, many farms are producing surplus manure, which must be transported at great cost to manure-deficit areas. Potential legislation regarding animal rights could also affect how animal products are produced and traded.

Changing Taxes Impact Food Production and Consumption

EC-92 will also affect farm input use, as indirect tax regimes are harmonized. German, Italian, and Dutch farmers are the main beneficiaries of the current system, which subsidizes farmers for the value-added tax (VAT) paid on input purchases. The subsidy is a rebate based on output. With the harmonizing of indirect taxes (which approximates rates across countries), farmers are no longer expected to continue to benefit from overcompensation on VAT rebates.

Harmonizing VAT and excise taxes on consumption will affect food-consumption patterns across the EC. VAT on some foods vary from 0 percent in the United Kingdom to 39 percent in Italy. Excise-tax harmonization will lower taxes on wine in northern EC countries and increase consumption, while higher excise taxes on distilled alcohol in southern countries will decrease consumption.

Table 2

Agricultural Trade Within the EC Is Becoming More Important

Commodity	1978-80	1985-87	Projected 1992
<i>Percent of trade that is intra-EC</i>			
Total agriculture	50	59	67
Livestock and products ¹	80	84	88
Fish and preparations	42	42	41
Food grains and preparations	61	79	94
Feed grains	35	70	100
Oilseeds	5	27	45
Other animal feeds	33	38	43
Fruit and vegetables	54	58	62
Sugar	43	52	59
Coffee, tea, cocoa, and spices	20	27	32
Beverages and tobacco	68	74	79
Other agriculture ²	47	59	71

¹Includes live cattle, pigs, sheep, and chickens; poultry, meat, and eggs; and dairy products.

²Excludes textile fibers, natural rubber, and wood products.

Source: Raney, Terri. "The Single European Market: Implications for European Community Trade," EC 1992: *Implications for World and Agricultural Trade*, Staff Report No. AGES 9133. USDA, ERS, Oct. 1991.

EC's Food and Drink Industry Faces More Competition

As the EC became more economically integrated, trade among member nations increased, often at the expense of nonmembers. The market share of EC food and agricultural products produced by EC members rose from 50 percent in 1978-80 to 59 percent in 1985-87. It is projected to rise to 67 percent this year (table 2).

With the harmonization of plant health, animal health, and food-safety regulations, EC food firms will become more competitive as they expand beyond their local and national markets. Economies of scale in production, marketing, and distribution will be the main reasons behind a more competitive EC food industry.

But, harmonizing regulations and eliminating internal borders is a two-edged sword. While harmon-

ization makes it easier for EC firms to grow and become more competitive, it could also make it easier for non-EC firms to enter the EC market if they have to meet only 1 set of standards instead of 12.

Increased competitiveness will be important to the survival of EC food firms, as world trade in processed food becomes more competitive and increasingly dominated by large corporations. The growing market in eastern Asia for high-quality food that is well packaged and tailored to consumers' tastes is a likely target for the more competitive EC food companies.

Increased Competition From U.S. Food Firms

Although the elimination of EC borders offers EC food firms the chance to improve competitiveness and increase in size, constraints will remain. The EC will still be a

Table 3

Six of the World's Top 10 Food Manufacturing Firms Are U.S. Companies

Company	Headquarters location	Processed food sales	Total sales	Major product
	Country	Billion \$US		Item
1. Nestle' S.A.	Switzerland	31.0	32.0	Diversified foods, restaurants
2. Philip Morris/ Kraft General Food ¹	United States	29.8	47.0	Foodstuffs, tobacco, beer
3. UnileverUK/	Netherlands	17.2	34.4	Diversified foods, soap
4. ConAgra (includes Beatrice) ²	United States	15.3	19.8	Foodstuffs, meat, poultry
5. Kirin Brewery	Japan	11.2	11.4	Beer, soft drinks
6. RJR Nabisco	United States	9.9	16.9	Foodstuffs, tobacco
7. IBP	United States	9.5	9.5	Meat
8. Anheuser-Busch	United States	9.3	9.7	Beer, snacks
9. Pepsico	United States	9.0	15.2	Soft drinks, snacks, restaurants
10. Grand Metropolitan	UK	8.8	14.5	Diversified foods, restaurants
11. Coca Cola	United States	8.5	8.9	Syrup concentrates, fruit juices
12. Taiyo Fishery	Japan	8.1	9.0	Seafood products
13. Cargill	United States	7.9	43.0	Meat, grains
14. Allied Lyons	UK	7.6	7.6	Beverages, restaurants
15. BSN	France	7.5	8.0	Snacks, bakery, beverages
16. Archer Daniels Midland	United States	7.3	7.9	Food products, grains
17. Sara Lee	United States	7.1	11.7	Frozen food, meals
18. Mars	United States	7.0	8.0	Confectionery, pet food
19. Snow Brand Milk Products	Japan	6.6	6.6	Dairy products
20. Borden	United States	6.5	7.6	Dairy, pasta, adhesives
21. Hillsdown Holdings	UK	6.5	7.0	Poultry, flour, seafood
22. Gruppo Ferruzzi	Italy	6.4	29.3	Sugar, vegetable oils
23. Ralston Purina	United States	6.1	6.7	Pet food, cereal, food products
24. Bass	UK	6.1	6.1	Beverages
25. H.J. Heinz	United States	5.9	6.0	Diversified food products
26. Campbell Soup	United States	5.8	6.0	Soups, prepared food
27. Elders	Australia	5.8	8.4	Beer, food products, meat
28. Asahi Breweries	Japan	5.7	5.7	Beer
29. Quaker Oats	United States	5.6	5.7	Cereal, food products
30. CPC International	United States	5.1	5.1	Fats and oils, corn milling
31. Guinness	UK	5.1	5.2	Beer
32. Cadbury Schweppes	UK	4.8	4.8	Confectionery, beverages
33. Kellogg	United States	4.7	4.7	Cereal, prepared foods
34. Dalgety	UK	4.6	8.0	Meat products
35. Seagram	Canada	4.6	4.6	Beverages
36. General Mills	United States	4.5	6.1	Foodstuffs, flour, restaurants
37. United Biscuits	UK	4.4	4.6	Cookies, snacks
38. Nippon Meat Packers	Japan	4.3	4.3	Meat
39. John Labatt	Canada	4.2	4.2	Beer, dairy products, fruit juices
40. Tate & Lyle	UK	4.1	5.7	Sugar
41. Associated British Foods	UK	4.0	4.2	Bread, flour, foodstuffs
42. Coca Cola Enterprises	United States	3.9	3.9	Soft drinks, fruit juices
43. Sapporo Breweries	Japan	3.8	4.0	Beer
44. Chiquita Brands	United States	3.8	3.8	Fruit, meat
45. Unigate	UK	3.7	3.9	Dairy products, fresh food
46. St. Louis	France	3.7	3.7	Sugar
47. Heineken	Netherlands	3.6	3.7	Beer
48. Nippon Suisan	Japan	3.5	3.8	Seafood
49. Ajinomoto	Japan	3.2	3.5	Soups, sauces, coffee
50. Itoham Foods	Japan	3.2	3.2	Meat products

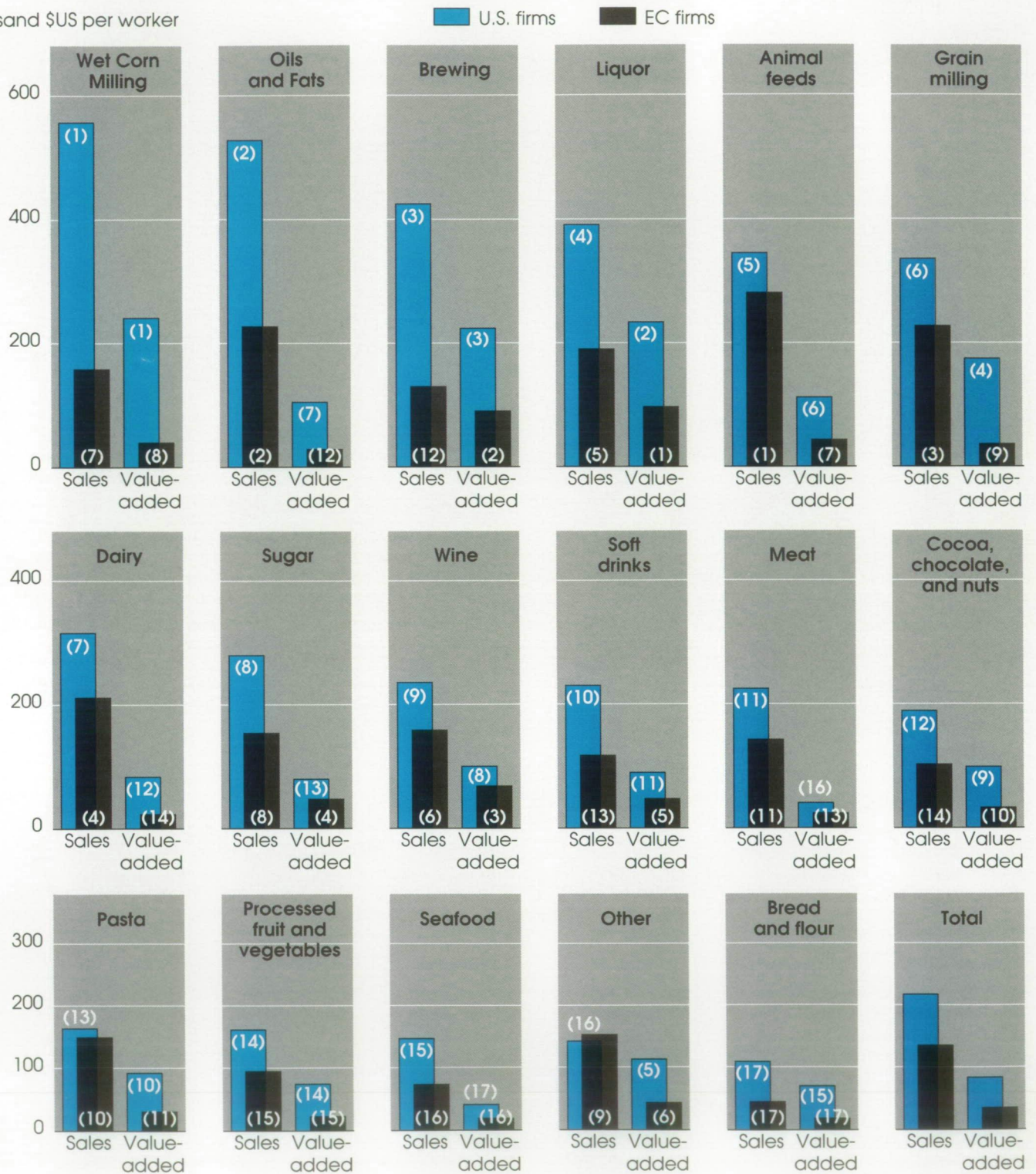
¹Includes Jacobs Suchard, acquired in 1990. ²ConAgra announced its acquisition of Beatrice in 1990.

Source: Handy, Charles R., and Dennis R. Henderson. "Implications of a Single EC Market for the U.S. Food Manufacturing Sector," *EC 1992: Implications for World and Agricultural Trade*, Staff Report No. AGES 9133. USDA, ERS, Oct. 1991.

Figure 1

U.S. Food Manufacturing Workers Are More Productive Than EC Workers

Thousand \$US per worker



Note: Numbers in parentheses represent ranking by sales and value within U.S. and EC, respectively.

Source: Handy, Charles R., and Dennis R. Henderson. "Implications of a Single EC Market for the U.S. Food Manufacturing Sector," *EC 1992: Implications for World and Agricultural Trade*, Staff Report No. AGES 9133. USDA, ERS, Oct. 1991.



Wealthy EC consumers may choose from a wide variety of agricultural products.

fragmented market, as national and local tastes and preferences continue.

In such an environment, U.S. food companies already in the EC could thrive, as they are used to operating in a large market that is regionally fragmented. With the coming single set of EC standards, U.S. food companies are developing marketing and production strategies to increase their EC sales.

U.S. food companies can be formidable competitors in the EC, as they dominate the world market for processed food (table 3), are already well established in the EC (table 4), and are more efficient than EC food companies (fig. 1).

External EC Trade Barriers Remain

While having to meet only one community-wide standard may make it easier to export to the EC, stricter EC food safety and plant

and animal health standards will also limit some imports of non-EC foods.

U.S. beef has already been banned because the animals are treated with growth hormones. Stricter foot-and-mouth disease regulations in the EC could eliminate beef imports from many other countries. Also, the elimination of internal EC borders will affect the preferential treatment granted to selected developing countries, making it much harder for them to export to the EC. Bananas from the Caribbean are an example of an imported food that enjoys preferential treatment (low tariffs).

Increased difficulties in exporting to the EC will force some non-EC countries to find alternative markets, such as the United States.

With the EC commitment to a single market, many non-EC European countries are hastening to join. Austria, Sweden, Norway, Finland, Hungary, Czechoslovakia, and Poland have either applied for EC membership or have expressed intentions to do so. Consequently, many of these countries are adopting EC-92 legislation as their own.

References

This article is based on information obtained from *EC 1992: Implications for World Food and Agricultural Trade*, Staff Report No. AGES 9133. USDA, Economic Research Service, Oct. 1991.

For more details, see the following chapters in that report:

"Indirect Tax Harmonization in the EC and Implications for Agriculture," by H. Guyomard and L. Mahe'.

"Implications of a Single EC Market for the U.S. Food Manufacturing Sector," by Charles R. Handy and Dennis R. Henderson.

"Dismantling the EC's Agri-monetary System: Effects on European Agriculture," by Timothy E. Josling and Walter H. Gardiner.

Table 4
Many U.S. Companies Have Food Manufacturing Plants in the EC

Company	Number of plants, 1989
Campbell Soup	31
H.J. Heinz	30
CPC International	24
Mars	22
Ralston Purina	22
ConAgra	21
Borden	20
Philip Morris	19
Quaker Oats	13
Pepsico	11
RJR Nabisco	9
Anheuser-Busch	9
Coca Cola	8
Kellogg	6
Sara Lee	5
General Mills	3
Archer Daniels Midland	3
Wm. Wrigley	2

Source: Handy, Charles R., and Dennis R. Henderson. "Implications of a Single EC Market for the U.S. Food Manufacturing Sector," *EC 1992: Implications for World and Agricultural Trade*, Staff Report No. AGES 9133. USDA, ERS, Oct. 1991.

"EC 1992 Harmonization: Issues for Agricultural Trade," by David Kelch and Ruth Elleson.

"Implications of EC 1992 for U.S. Agricultural Commodity Trade," by Howard McDowell.

"Implications of the Single Market Program for National Production Quotas on Milk and Sugar," by Steven A. Neff, Dale J. Leuck, and Timothy E. Josling.

"European Community Trade with African, Caribbean, Pacific, and Other Developing Countries," by Liana Neff and Terri Raney.

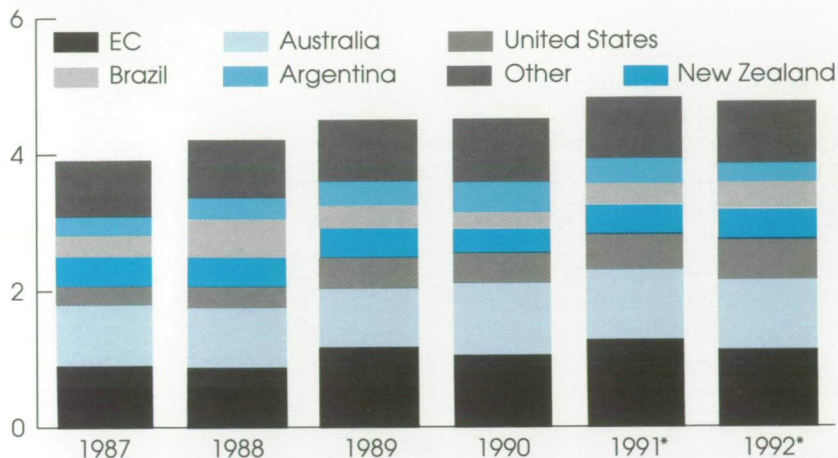
"The Single European Market: Implications for European Community Trade," by Terri Raney.

"Environmental Considerations of the Single European Act," by James A. Tobey and David E. Ervin. ■

World Beef Trade . . . At a Glance

The European Community Is the World's Largest Beef Exporter . . .

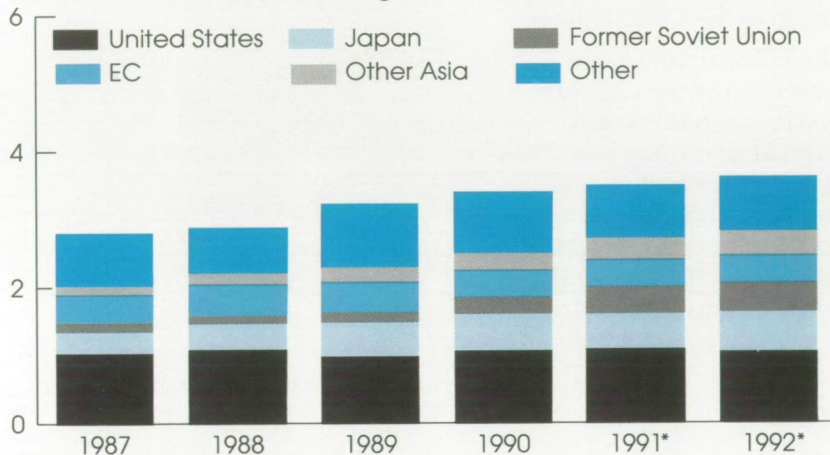
Million metric tons (carcass weight)



European Community (EC) regained its rank as the world's leading beef exporter after Australian exports declined from their drought-induced peak of 1990. The United States climbed into third place in 1989 with increased exports of high-quality beef. Brazil's exports should increase, as they now have an acceptable residue-testing program which allows them once again to export to the United States.

. . . While the United States Is the World's Largest Beef Importer

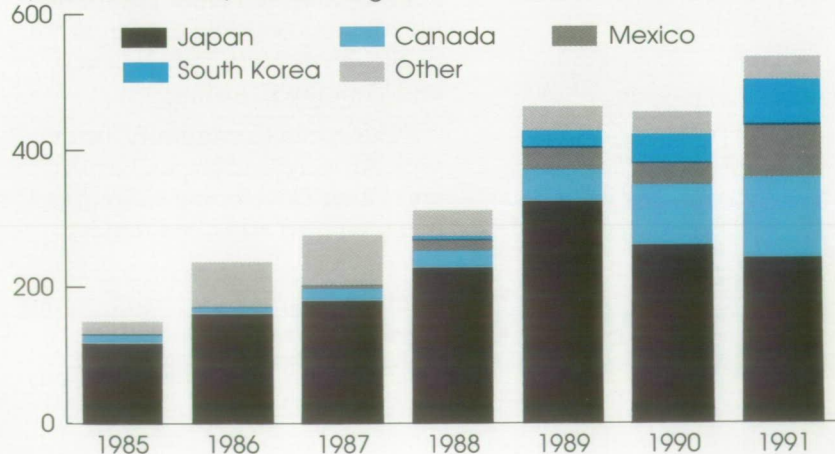
Million metric tons (carcass weight)



With high demand for lean (hamburger) meat, the United States leads all countries in beef imports. Imports by Japan and other Asian countries are increasing as a result of fewer import restrictions and rising incomes stimulating consumer demand. Beef imports by the former Soviet Union are also growing, due to subsidized or donated beef from the EC and canned beef from China.

Trade Liberalization and Increased Demand for Top Quality Spur U.S. Beef and Veal Exports

1,000 metric tons (carcass weight)



South Korea has agreed to eliminate beef restrictions by 1997. In the meantime, it has increased the quantity allowed to enter the country.

Canada is also importing more U.S. beef for its quality-driven food service industry. Growing demand for the high-quality U.S. meat has also helped increase beef exports to Mexico.

In 1991, Japan's beef quota (volume) restrictions were replaced by a 70-percent tariff, which declined to 60 percent in 1992 and will decline to 50 percent in 1993. Large speculative beef purchases were made in 1989 in anticipation of the removal of the import quotas. These stocks have been overhanging the market and holding down total meat imports. Frozen meat imports have declined, overshadowing gains in fresh meat imports.

*1991 data preliminary. 1992 data forecast.

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Per Capita Food Expenditures Declining Around the World

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Abundant and relatively inexpensive food has contributed significantly to the high standard of living in the United States. Lower food costs enable Americans to spend less income on food and more on other goods and services or to save more. In 1989, Americans used a little under 10 percent of their total personal consumption expenditures (PCE) on food at home—the lowest share in the world.

“Food’s share of total personal consumption expenditures” is the value of food purchased by consumers for at-home consumption relative to the value of all purchases for personal consumption. This expenditure series is based on ERS data and national accounts data, which are provided by the United Nations for 44 economies (see box for a discussion of the data).

High-income Economies

Canadians, with a similar cultural and economic environment as the United States, spend 11.3 percent of their PCE for food and non-

What’s Behind the Estimates

Personal consumption expenditures cover money spent on goods (nondurable and durable) and services. Nondurable goods include gasoline, food, tobacco, and clothes. Durable goods, lasting over a year, include automobiles, televisions, and refrigerators. Services include rent, medical and recreational expenses; repairs; personal care; utilities; and transportation.

The gross national product (GNP) measures the total market value of national output. GNP can be defined in terms of goods and services provided or in the income generated in producing the goods and services. The measure for GNP is the same whether based on products made and services rendered or on income generated, because an expense for one person represents revenue for another. The product side of GNP consists of individual consumption (personal consumption expenditures), business and government

purchases of goods and services, and investment. Sources of income include personal income (wages and salaries), rents and profits (money received from investments in plants, equipment, and residential buildings), and interest from financial investments.

Both of these measures are converted to a per capita basis, to account for population differences between countries.

What About Away-From-Home Food Expenditures?

Although we know that over a third of all U.S. food expenditures went for food consumption away from home in 1990, comparable international data do not exist. United Nations data, the source for this article, group the away-from-home food expenditures with motel and hotel expenditures.

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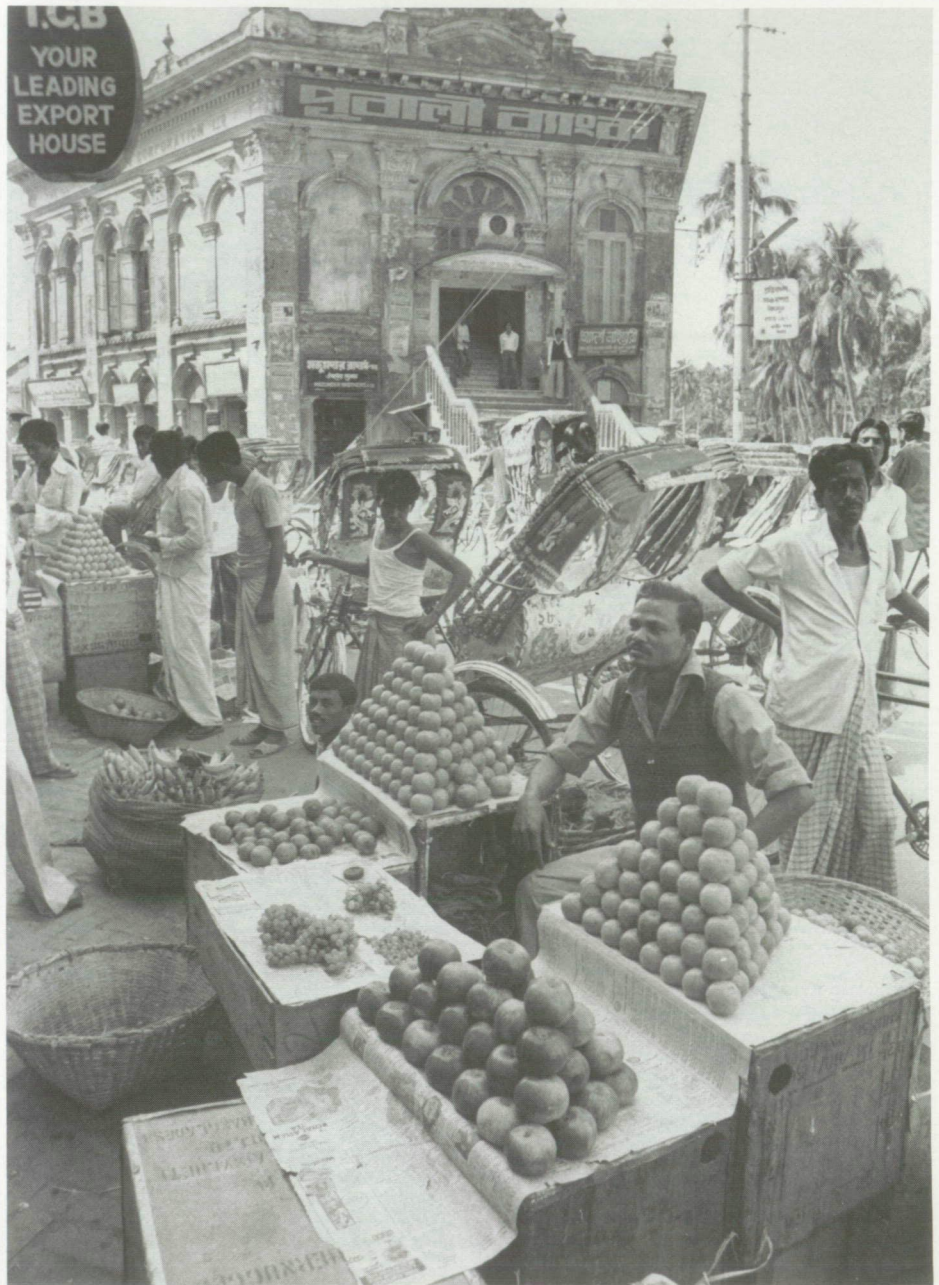
alcoholic beverages (Canada reports food and nonalcoholic beverages expenditures as a single value). Americans spend only 9.8 percent (table 1).

Other economies spend a similar share of personal consumption expenditures on food. Most are referred to as high-income economies. (The World Bank, in 1989, defined high-income economies as those that had an annual per capita gross national product (GNP) of \$6,000 or greater in 1987). Each of these economies has desirable soil and climate, skilled workers, high-technology, infrastructure, and financing. Collectively, these factors enable their agricultural systems to produce and deliver a variety of food at competitive prices.

Only 4 of the 22 high-income economies included in the study have shares greater than 20 percent. The average share spent by high-income economies was 16.3 percent. Low shares, combined with a high level of personal consumption expenditures (which necessitates a high personal income), translate into substantial purchasing power and generate additional market demand and economic activity.

Middle-income Economies

People in middle-income economies (having per capita GNP between \$480 and \$6,000 in 1987) spend for food, on average, \$3.20 for every \$10 of their personal expenditures. This food share is much higher than that of high-income economies, largely because per capita personal expenditures are much lower. However, only some farmers in middle-income economies have access to modern



In Sri Lanka and other low-income countries, the per capita share of income spent on food remains high.

technology or an efficient infrastructure for moving goods to market. These inefficiencies add to the

overall cost of production and marketing of food in many of these countries.

Table 1

U.S. Consumers Spent the Least on Food at Home

Economy	Share of personal consumption expenditures			Expenditures per person
	Food	Beverages	Tobacco	
	Percent			
				\$US
High-income:¹				
United States	9.8	1.7	1.2	14,223
Canada	11.3 ²	2.7 ²	2.2	12,106
United Kingdom	11.6	7.2	2.2	8,952
New Zealand	12.2	3.2	2.4	7,680
Luxembourg	12.5	2.2	5.7	10,631
Netherlands	14.2	2.3	1.6	8,961
Denmark	14.7	4.0	2.6	10,698
Australia	14.8 ²	4.2 ²	1.9	10,275
Belgium	15.7	1.8	1.5	9,303
France	15.9	2.5	1.2	11,241
Hong Kong	16.1	1.2	1.0	5,947
Sweden	16.2	3.8	1.9	11,298
Finland	16.2	4.8	2.1	11,615
Austria	16.3	2.7	2.2	9,204
Singapore	18.4	3.6	2.2	4,932
Norway	18.7	4.5	2.4	10,683
Italy	18.8	1.5	1.6	9,238
Switzerland	19.1	7.1 ³	NA ³	15,209
West Germany	20.2 ⁴	NA ⁴	2.0	10,254
Ireland ⁵	21.3	13.5	4.3	5,351
Spain ⁶	21.6	2.0	1.6	4,748
Israel	24.0	3.0	1.4	6,051
Middle-income:⁷				
Zimbabwe ⁶	13.4	16.7	NA	278
Malaysia ⁸	25.0	2.9	3.8	1,063
South Africa	27.0	6.8	2.4	1,282
Thailand	27.1	7.7	2.2	754
Colombia	28.4	5.0	1.0	706
Greece	31.3	4.2	3.6	3,860
Ecuador	31.7	3.8	2.1	583
Portugal ⁹	34.1	2.3	2.4	1,869
Venezuela	35.5	3.7	1.9	1,160
Jordan ⁹	37.5	1.3	1.9	1,334
Jamaica ⁵	38.1	6.2	5.4	859
Honduras ⁹	41.3	3.2	.6	582
Philippines	52.8	2.4	1.8	503
Low-income:¹⁰				
Sri Lanka	49.9	2.6	5.8	301
India ⁵	51.3	1.2	2.4	224
Sudan ⁸	62.9	.6	1.2	588
Not classified:				
Iceland ⁶	15.6	4.7	1.9	13,898
Bahamas ⁵	17.4	2.3	.3	469
Puerto Rico	20.4	3.3	1.7	5,795
Fiji ⁶	24.3	5.1	2.2	1,044
Malta	28.7	7.8	3.4	3,488
Cyprus ⁵	30.1	4.7	3.1	3,724

Note: All information is from 1989 data, unless otherwise noted. NA = Not available. ¹High-income countries, as defined by the World Bank, have an annual per capita gross national product (GNP) of \$6,000 or greater. ²Food expenditures include nonalcoholic beverages. ³Beverages expenditures include tobacco. ⁴Food expenditures include nonalcoholic and alcoholic beverages. ⁵1988 data. ⁶1987 data. ⁷Middle-income countries, as defined by the World Bank, have an annual per capita GNP of more than \$480 but lower than \$6,000. ⁸1983. ⁹1986. ¹⁰Low-income countries, as defined by the World Bank, have an annual per capita GNP of \$480 or lower.

Over time, income in these countries rises. Their ability to produce food increases as access to modern farming technologies expands. At the same time, these economies invest more in transportation, processing, and distribution. Food supplies increase, and prices and the share of income spent on food decline.

Low-income Economies

In lower income countries, low productivity and a weak marketing system mean that much of the farm population is involved in subsistence farming. Consumers in these countries spend a large portion of their income on food.

For example, personal consumption expenditures for food in India, Sri Lanka, and the Sudan exceed 49 percent. People in the Sudan spend the most—almost 63 percent. These three countries, defined as low-income economies by the World Bank in 1989, have per capita GNP below \$480.

Worldwide, Food Share of PCE Is Declining

Over time, an economy's prosperity and productivity of its food production and delivery system can affect its share of income spent on food. Over the past two decades, all but 4 of the 44 economies included in the study saw their share of income spent on food decline (table 2). On average, their share declined by 12.3 percent (changes in shares are weighted by a country's PCE in 1989 relative to U.S. PCE). But high-income economies experienced the largest decline, at 21.1 percent. Middle-income economies and low-income economies experienced declines of 1 and 0.2 percent, respectively. ■

Table 2

Food Expenditures Have Declined Over the Past Two Decades

Economy	1970	1980	1989
<i>Percent of personal consumption expenditures spent on food at home</i>			
United States	14.1	12.1	9.8
Australia ¹	18.5	16.8	14.8
Austria	26.1	19.9	16.3
Bahamas	24.1	17.5	17.4 ²
Belgium	24.1	17.5	15.7
Canada ¹	15.5	13.7	11.3
Colombia	33.4	32.0	28.4
Cyprus	NA	29.5	30.1 ²
Denmark	20.7	17.3	14.7
Ecuador	38.0	28.2	31.7
Fiji	24.0	24.1	24.3 ³
Finland	24.2	20.9	16.2
France	21.0	17.5	15.9
West Germany ⁴	27.1	22.0	20.2
Greece	35.5	37.0	31.3
Honduras	40.7	41.3	41.3 ⁵
Hong Kong	34.4	21.7	16.1
Iceland	23.8	19.0	15.6 ³
India	58.0	54.8	51.3 ²
Ireland	26.7	25.2	21.3 ²
Israel	NA	29.1	24.0
Italy	32.7	25.1	18.8
Jamaica	NA	38.8	38.1 ²
Jordan	50.0	43.0	37.5 ⁵
Luxembourg	23.7	16.8	12.5
Malaysia	37.7	NA	25.0 ⁶
Malta	31.7	29.4	28.7
Netherlands	20.4	14.9	14.2
New Zealand	NA	NA	12.2
Norway	24.4	20.2	18.7
Philippines	51.9	59.0	52.8
Portugal	41.7	33.1	34.1 ⁵
Puerto Rico	23.7	23.5	20.4
Singapore	27.7	24.1	18.4
South Africa	23.5	25.1	27.0
Spain	NA	26.0	21.6 ³
Sri Lanka	54.2	51.1	49.9
Sudan	NA	61.7	62.9 ⁶
Sweden	20.8	17.7	16.2
Switzerland	21.8	20.1	19.1
Thailand	41.6	37.8	27.1
United Kingdom	19.9	16.4	11.6
Venezuela	NA	NA	35.5
Zimbabwe	25.8	20.9	13.4 ³

Note: Data exclude expenditures on food away from home. NA = Not available. ¹Food expenditures include nonalcoholic beverages. ²1988 data. ³1987 data. ⁴Food expenditures include nonalcoholic and alcoholic beverages. ⁵1986 data. ⁶1983 data.

Growth in World Food Consumption Slowed in the Late 1980's

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Global per capita food consumption continued to grow in the late 1980's, but slower than in the 1960's or 1970's. All nations, however, did not share in the increase. Developed North America and centrally planned Asia had the strongest growth, while Africa endured a decline. Africa has become the poorest fed geographic region, containing 8 of the world's 10 poorest fed countries.

As the 1980's progressed, however, the world increase slowed. Consumption increased 92 calories between 1980 and 1986, but 1988 consumption was unchanged from the 2,678 calories consumed in 1986. Developed North America (see box for regional composition), with a pace-setting 3,645 calories per capita in 1988, and centrally planned Asia (primarily China) were the only two regions whose growth in the 1980's exceeded the previous two decades.

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Developed Countries

Consumption in the developed countries increased by 66 calories between 1980 and 1988, to reach a total of 3,410 calories per capita per day. But the growth was not consistent across regions (fig. 1).

Consumption in North America, especially strong in both Canada and the United States, increased by 156 calories.

Europe (which has been redefined to include eastern Europe), Oceania, and "other" developed countries have not kept pace. In fact, 1988 consumption in Europe and Oceania fell below 1986 levels. (Consumption in eastern Europe mirrored the rest of Europe in 1986, so combining the two areas had little effect.)

Most of the growth in the "other" developed region came from large increases in South Africa and Israel—not from Japan. They had increases of 248 and 180 calories, respectively. In contrast, Japanese consumption, at only 2,848 calories in 1988, increased by only 56 calories. Japan's underreporting of processed food imports and omission of high-fructose corn

syrup from consumption data are thought to cause a downward bias in their consumption data.

The Japanese case illustrates one of the problems with food consumption data. Another problem, especially in developing countries, is underreporting of home-grown production. Furthermore, the data measure food available for consumption. Food lost in storage, processing, or simply wasted is not deducted. Finally, food consumption may be measured in several different units. Calories are the most common unit, but pounds, protein, and fat are also used—and each may result in much different comparisons.

Situation in the Former Soviet Union

Consumption growth in the former Soviet Union came to a virtual standstill during the 1980's after very modest growth during the two previous decades. This area has been notorious for people waiting in lines to purchase limited quantities of low-quality food. Nevertheless, consumption in 1988—at 3,386 calories per person per day—was on a par with the developed

countries. Food production reached a record high in 1989, and livestock product consumption was at a record level in 1990.

Last fall, after the breakup of the Soviet Union, there was concern that there would be inadequate food to last through the winter. After a modest decline in 1990, food production in 1991 fell 14 percent and cereal production fell 27 percent. There were reports of local shortages causing some cities to restrict the sale of food to local residents. On the other hand, tangential information indicated that the shortages were not as severe as was being suggested. For example, the potato—a basic staple of the Soviet diet and a good indicator of the general food situation—was in plentiful supply. In addition, a wide variety of domestic and foreign food was available in the “free market,” albeit at relatively high prices in hard currency.

The shortages have been blamed primarily on macroeconomic policies. First, beginning in 1988, the Soviets began a major increase in imports of durable goods and non-food consumer goods. At the same time, exports fell, resulting in a large trade deficit in 1990. Instead of reducing imports of nonfood items in order to import more food, the Soviets waited to secure U.S. export credit guarantees before making large food purchases.

Second, large wage increases, combined with price controls and subsidies (especially on meat), inflated demand—consumers could not spend all their money. At the same time, the government printed so many rubles that they rapidly became nearly worthless as a medium of exchange. This evoked supplier hoarding—at the farm, region, and republic levels. Consumers wanted to buy, but producers did not want to sell products for rubles. Instead, commercial transactions in hard (foreign) currencies and barter became common.

Price controls were removed from many food items at the first of this year. Now, prices more realistically reflect costs. The ruble has reportedly regained some strength. As a result, food is reportedly becoming relatively more available. Calorie consumption has not changed greatly, but more grain and potatoes and considerably less meat are being consumed.

Developing Countries

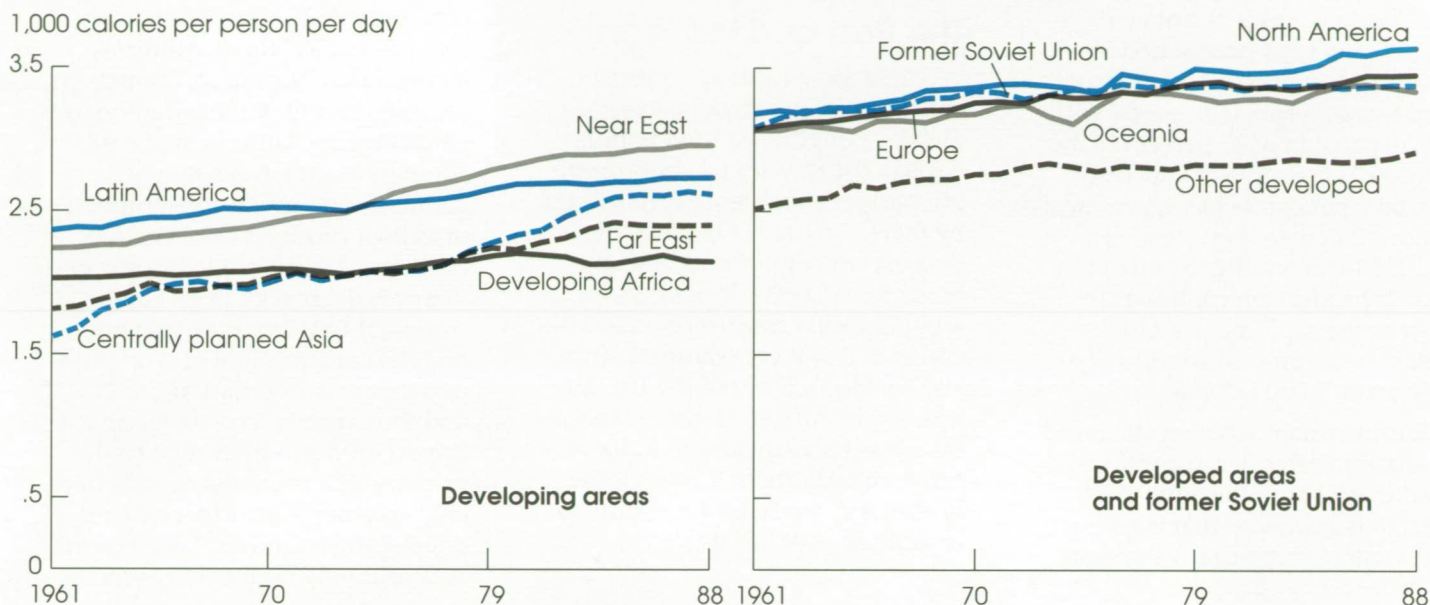
Food consumption grew faster in developing countries than in developed countries during the 1980's, but slowed after the mid-1980's (fig. 1). Africa was the only region to experience a decline throughout the period, including a 45-calorie reduction between 1986 and 1988.

World Economic Regions

The Food and Agriculture Organization of the United Nations classifies the nations of the world into economic regions:

Developed countries	Developing countries	Unclassified
North America Canada United States	Far East Bangladesh Bhutan Brunei Burma East Timor Hong Kong India Indonesia Laos Macau Malaysia Maldives Nepal Pakistan Philippines Singapore South Korea Sri Lanka Thailand	Near East Afghanistan Bahrain Cyprus Egypt the Gaza Strip Iran Iraq Jordan Kuwait Lebanon Libya Oman Qatar Saudi Arabia South Yemen the Sudan Syria Turkey United Arab Emirates Yemen
Europe All countries excluding the former Soviet Union and Turkey	Centrally planned Asia China Kampuchea Mongolia North Korea Vietnam	Africa All countries, excluding Egypt, Libya, South Africa, and the Sudan
Oceania Australia New Zealand	Latin America the Caribbean, including Cuba; Central America, including Mexico; and South America	Former Soviet Union
Other Israel Japan South Africa		

Figure 1

There Are Wide Disparities in the Growth and Level of Food Consumption

Consumption in the three Asian regions (centrally planned, Near East, and Far East) increased rapidly. But only centrally planned Asia (dominated by China) improved upon the rapid growth of the 1960's and 1970's. China rapidly increased food production in the early 1980's through economic reforms. Production growth slowed after 1985, leading to modest increases in consumption. However, production of grain, oilseeds, and meat jumped again in 1990, which likely led to increased consumption. The favorable weather and increased input use—which led to the increases—are not indicative of a new round of rapid food production growth.

The Near East and Far East have made major gains since 1961. Consumption increased by over 700 calories in the Near East and by nearly 600 calories in the Far East. But there were differences among countries. For example, high consumption in the high-income oil exporters in the Near East masks low

consumption elsewhere, such as in Afghanistan. Similarly, rapid increases in countries in East Asia (such as Indonesia, Thailand, and South Korea) offset the lack of improvement in South Asia (particularly Bangladesh, India, and Pakistan). Rapid population growth, especially in the Near East, continues to impede improved levels of food consumption.

Excluding Africa, Latin America had the lowest growth rate in the 1980's, up by only 50 calories. The region was hit hard by the debt crisis in the early 1980's and with political turmoil in Central America, Haiti, and Chile. Many countries are recovering from the debt crisis and are implementing reforms that should stimulate economic growth. Combined with reduced population growth rates, food consumption should improve. Likewise, improving political stability in Chile and Central America should help the food situation. For example, the amount and variety of food on grocers' shelves in Nicaragua

have improved dramatically in the last year, albeit, at relatively high prices.

Africa: An Impending Disaster?

Developing Africa may be facing a food crisis. The major culprit: exploding population compounded by civil strife, drought, and low incomes. During the 1960's and 1970's, the 2.7-percent annual population growth was the highest in the world. And the rate increased during the 1980's to 3 percent—an additional 13.3 million mouths to feed each year. The United Nations projects that Africa's population will reach 724 million in the year 2000 (an average annual increase of 18 million people) and will swell to 1.264 billion by the year 2020 (an average annual increase of 27 million people).

Although food production is increasing rapidly, it has not been able to keep pace with the burgeoning population. And, the region

lacks the resources to fill the growing gap with commercial imports. After small but steady increases during the 1960's and 1970's, consumption peaked in 1980 and then fell 55 calories over the next 8 years. Total food production increased an impressive 28 percent over those 8 years (compared with U.S. expansion of 25 percent in the 18 years between 1970 and 1988). But, on a per capita basis, production fell 3 percent between 1980 and 1988 and another 5 percent by 1990. If production continues to grow at the rapid pace set in the 1980's, consumption would fall to only about 2,090 calories.

It is uncertain whether the rapid production growth can continue. On the one hand, the environmental degradation that is taking place will have a negative impact

on yields. On the other hand, African yields are very low relative to world levels, so there is considerable room for improvement.

The Best and the Worst

There are wide disparities in consumption levels across the globe—from the well-fed populations in the developed countries to the meager subsistence levels faced by many Africans. People in the 10 poorest fed countries in 1988 ate fewer than 2,000 calories per day, and per capita consumption has declined in 7 of these countries since 1980 (table 1). Eight of the 10 countries are in Africa, where the recommended daily consumption for an active male is about 2,700 calories. In contrast, the 10 best fed nations consumed over 3,500 calories.

Per capita income is the primary determinant of food consumption. The disparity in income between the countries with the highest and lowest consumption is clearly evident in table 1. A statistical analysis of 1975-1988 for 46 countries showed that income accounted for over 60 percent of the variation in consumption, but this can be misleading. Income has a much greater influence on consumption of animal products than on crop products (fig. 2). While income influences the mix of crops consumed, it has very little influence on total consumption of crop products. Instead, population growth and the capacity to produce and import crop products may be the primary determinants of per capita crop consumption, especially for developing countries. Low exports and relatively high debt payments

Table 1
Food Consumption: The Best and Worst

Economy	Food consumption per capita		Income per capita		Export earnings less debt service 1988	Fertilizer use 1987
	1980	1988	1980	1988		
	<i>Calories per day</i>		<i>\$US</i>		<i>\$US per capita</i>	<i>kilograms per hectare</i>
Mozambique	1,814	1,649	NA	100	15	1
Ethiopia	1,809	1,688	120	120	8	6
Angola	2,169	1,787	NA	NA	236*	4
Rwanda	2,000	1,799	240	310	23	1
Sierra Leone	2,056	1,829	320	240	31	0
Chad	1,783	1,870	160	160	40	2
Haiti	2,026	1,911	250	380	32	2
Namibia	1,870	1,917	NA	NA	NA	NA
Bangladesh	1,899	1,925	140	170	10	83
Somalia	2,043	1,963	140	170	17	2
Czechoslovakia	3,398	3,564	4,742	5,286	1,598*	314
Italy	3,631	3,566	7,480	13,320	2,969	172
Denmark	3,572	3,577	13,120	18,440	7,877	239
Hungary	3,507	3,601	4,390	4,717	868	268
Bulgaria	3,611	3,614	3,559	4,155	2,025*	222
United States	3,510	3,666	12,000	19,870	2,153	94
Greece	3,527	3,698	4,370	4,790	736	165
Ireland	3,632	3,699	5,040	7,670	6,133	718
East Germany	3,640	3,890	5,909	6,865	1,908*	367
Belgium- Luxembourg	3,676	3,942	12,516	14,775	8,967*	504

NA = Not available. * Excludes debt service. Angola's exports under 1988 are for 1985.

Sources: Food consumption and fertilizer data are from FAO; income and export data are from the World Bank.

limit the amount of foreign exchange available for commercial food imports, while the lack of inputs and modern production technology constrains domestic production.

Composition of the Diet

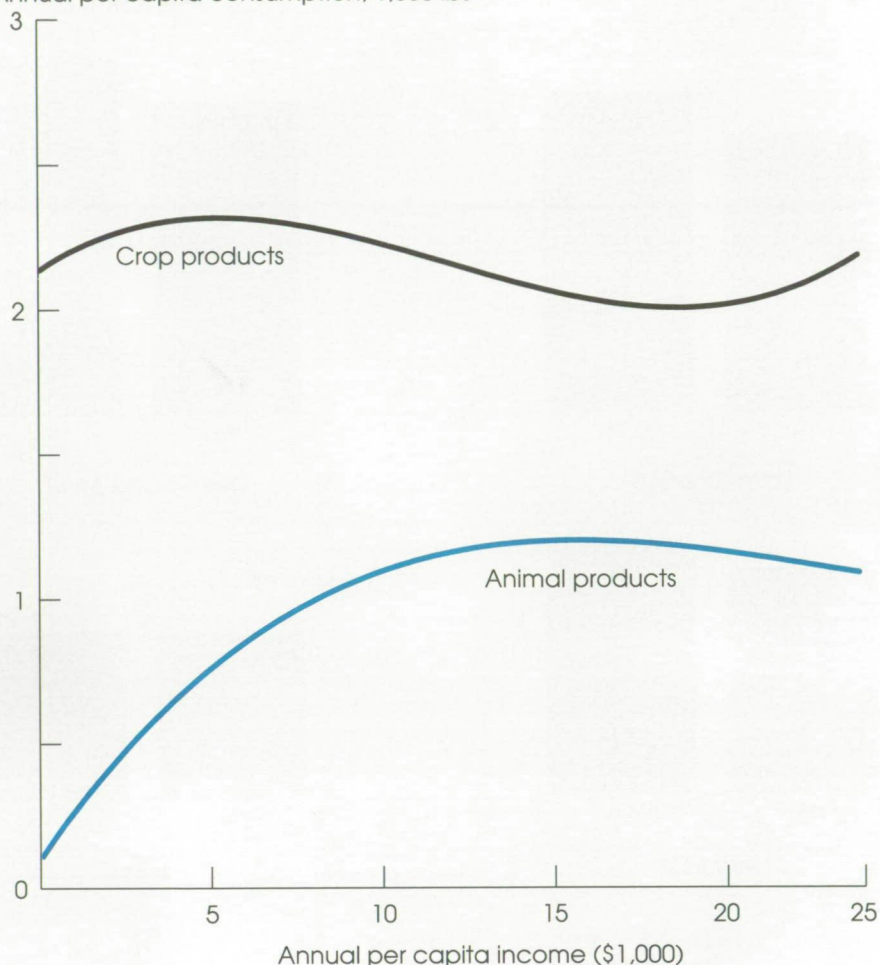
The diets in most regions are improving in both quality and variety. While year-to-year changes in the composition of diets are generally modest, changes become evident over the long run. People on subsistence incomes typically consume mostly "inferior" foods, such as starchy roots and tubers. As incomes rise from a subsistence level, people consume more grains—first coarse grains (corn, oats, barley, and sorghum) and then food grains (wheat and rice). As incomes rise further, more animal products and other products are consumed to improve the quality and variety of the diet as well as to show status. At higher income levels, consumption of grains frequently declines. In the process, the diet becomes more nutritionally balanced.

Developing Africa has a subsistence diet, including relatively large amounts of starchy roots and virtually no animal products. The African diet has remained virtually unchanged in the last 27 years. In contrast, all the other developing regions consumed substantially more grain. China's grain consumption, for example, rose dramatically from 282 pounds per capita in 1961 to 512 in 1988. The Near East rose from 384 to 444 pounds and Far East from 315 and 430. These areas also increased their consumption of fruit, vegetables, and animal products. ■

Figure 2

Consumption of Animal Products Is More Sensitive to Income

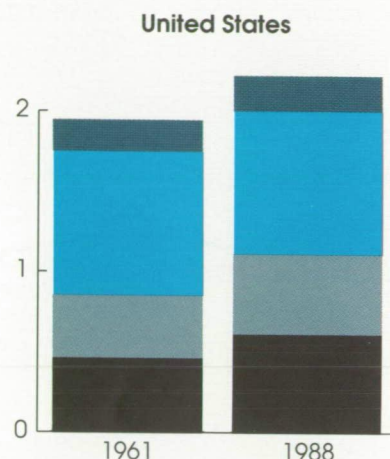
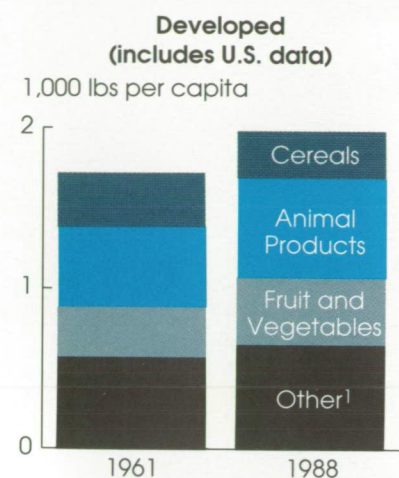
Annual per capita consumption, 1,000 lbs



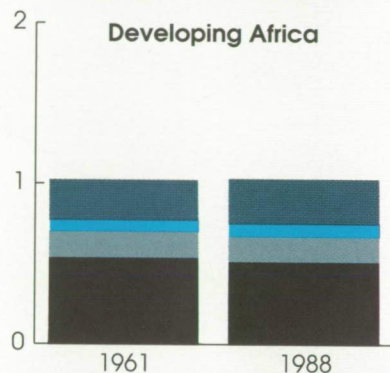
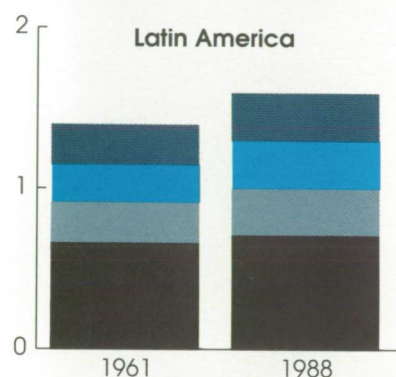
Source: Regressions based on FAO and World Bank data for 46 countries.

World Food Consumption . . . At a Glance

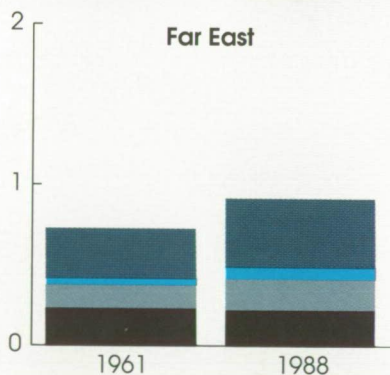
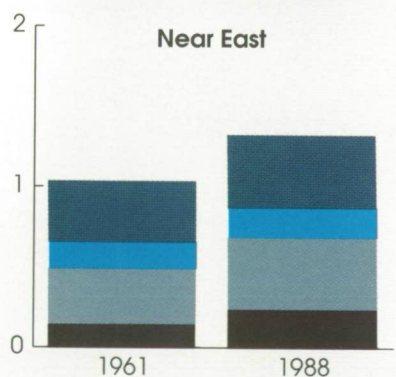
Diet Quantity and Consumption Vary Across Regions



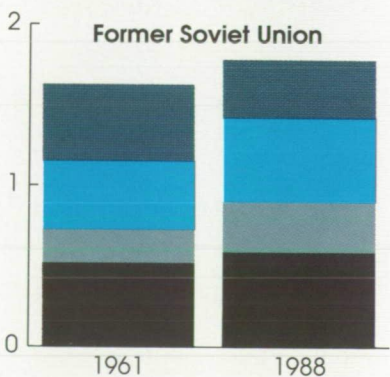
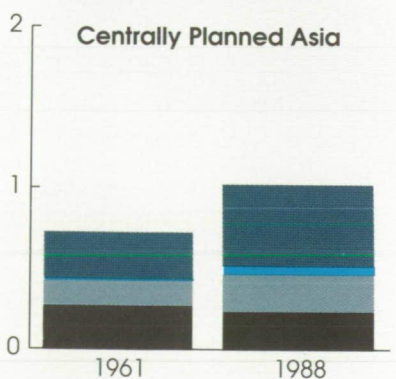
The developed countries—particularly the United States—are major consumers of animal products, especially dairy products. The United States is also the leading consumer of fruit and vegetables.



The African diet contains a heavy dose of starchy roots and tubers, but very few animal products, fruit, or vegetables. Income is the major determinant of consumption, especially of animal products.



Cereals account for much of the Far East's and centrally planned Asia's increase in consumption. Cereals consumption is relatively consistent across regions.



The former Soviet Union has a diet very similar to the developed countries. But the quality, especially of meat, is inferior. Major changes in the diet are likely due to the removal of price subsidies.

¹Includes starchy roots, sweeteners, alcohol, beverage crops, nuts, spices, vegetable oils, and their products.

Source: Food and Agriculture Organization of the United Nations.

Animal Products: Their Contribution to a Balanced Diet

Joanne F. Guthrie and Nancy Raper
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As a regular part of the diets of most Americans, animal products contribute important amounts of protein and essential vitamins and minerals to the American food supply. They are an especially important source of iron and calcium—low intakes of which were identified as public health concerns in 1989 by the U.S. National Nutrition Monitoring System, which coordinates food, nutrition, and health information from Federal agencies.

Meat, fish, and poultry are particularly important sources of iron. Milk and milk products supply most of the calcium in the American food supply.

The Dietary Guidelines for Americans—issued jointly by USDA and the Department of Health and Human Services—recommend a diet low in fat, saturated fatty acids (saturated fat), and cholesterol (see box). But following the guidelines does not mean omitting animal foods from diets.

When consumed in recommended amounts (see box), animal products provide important



amounts of several essential nutrients without resulting in excess fat, saturated fat, and cholesterol intakes.

Spurred by consumer interest in diet and health, the food industry is making changes in production and marketing that offer increased options for leaner and lower fat food choices.

Use Shifting

Recent trends in consumer "use" of animal products are assessed us-

ing data from the U.S. Food Supply Series, the only source of information on long-term food and nutrient trends. This series, maintained by USDA, compiles data on food use, which represents amounts available for consumption from the U.S. food supply. Estimates are based on foods that disappear into marketing channels and are assumed to have been used for human consumption.

In the last two decades, the types of animal products used by Americans have shifted considerably. Among the most noteworthy of these changes are: declining use of red meats and eggs; increasing poultry, fish, and cheese; and shifts from whole to lowfat milks and from animal to vegetable fats. (For more details, see "Food Consumption, 1970-90," in the July-September 1991 issue of *FoodReview*.)

Important Contributors of Essential Nutrients

HNIS nutritionists convert food supply data into estimates of nutrients available in the food supply, using data from USDA's National Nutrient Data Bank. USDA also conducts surveys of food consump-

The authors are nutritionists with the Human Nutrition Information Service, USDA.

The Dietary Guidelines and Food Guide Pyramid

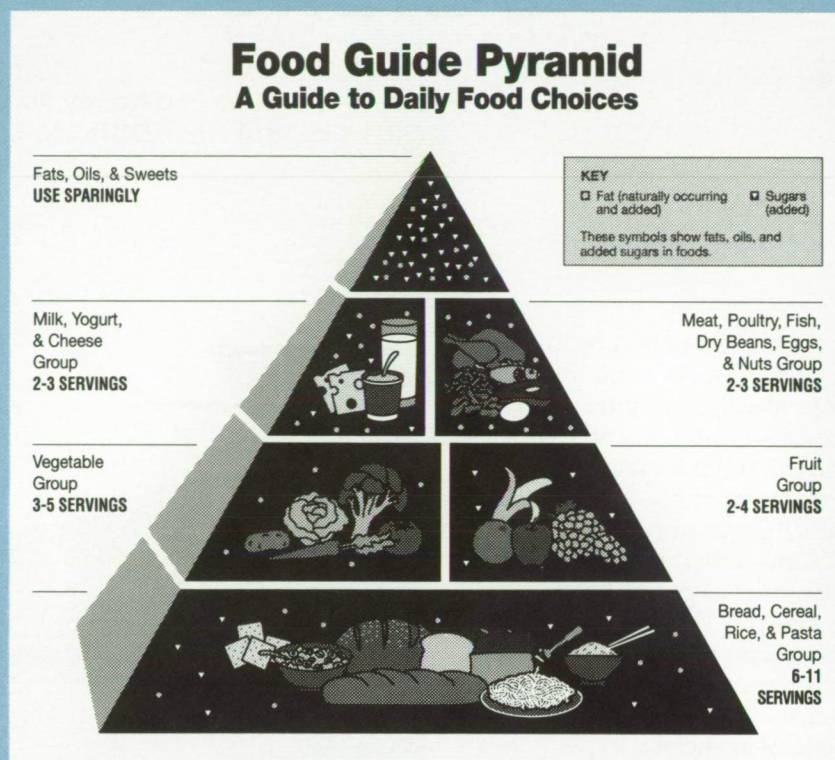
The 1990 *Dietary Guidelines for Americans*, published jointly by USDA and the U.S. Department of Health and Human Services, provide Americans with a simple guide to what to eat to be healthy. The guidelines, which apply to healthy Americans over the age of 2 years, recommend:

- Eat a variety of foods
- Maintain healthy weight
- Choose a diet low in fat, saturated fat, and cholesterol
- Choose a diet with plenty of vegetables, fruits, and grain products
- Use sugars only in moderation
- Use salt and sodium only in moderation
- If you drink alcoholic beverages, do so in moderation

To help consumers put the guidelines into practice, USDA

developed a food guide. The guide separates foods into six groups and recommends the number of daily servings from each group for a nutritious diet.

Recently, USDA and the U.S. Department of Health and Human Services developed the Food Guide Pyramid, to graphically illustrate the food guide.



tion that provide additional information on eating patterns and nutrient intakes of individuals.

Protein

In 1988, animal foods contributed about two-thirds of all protein available in the U.S. food supply (table 1).

Calcium

Milk and milk products are the major source of calcium in the food supply, accounting for three-fourths in 1988.

Adequate calcium is essential for developing teeth and bones, mus-

cle contraction, and normal blood clotting. According to recent research, adequate calcium intake in childhood and early adulthood may reduce the risk of bone fractures later in life. However, recent USDA food consumption surveys indicate that the calcium intake of many Americans, especially women, is below their Recommended Dietary Allowance (RDA), as established by the National Academy of Sciences.

Iron

Meat, poultry, fish, and eggs contributed 25 percent of the iron in the food supply in 1988, second only to grains. Since only about 5-

15 percent of the iron we consume is absorbed and used by the body, animal products are considered an important source. Meat, poultry, and fish contain heme iron, a type that is more absorbable than the type in plant products or the iron added through enrichment.

Iron-deficiency anemia is believed to be the most prevalent nutritional deficiency in the United States. Infants, young children, adolescents, and women of childbearing age are most at risk. In 1985, less than half of young children and less than one-quarter of women of childbearing age consumed their RDA of iron.

Table 1
Animal Products Are Important Sources of Many Vitamins and Minerals

Item	Meat, fish poultry, eggs	Dairy products	Animal fats	Amount available per person
	Percent of total daily supply			Daily amount
Protein	47	20	*	105 grams
Carbohydrates	*	5	*	425 grams
Fat	34	12	7	168 grams
Saturated fatty acids	42	20	11	60 grams
Cholesterol	80	15	5	440 milligrams
Calcium	6	75	*	890 milligrams
Phosphorus	33	34	*	1,540 milligrams
Magnesium	16	19	*	330 milligrams
Iron	25	2	*	17.1 milligrams
Zinc	50	19	*	12.7 milligrams
Copper	18	4	*	1.7 milligrams
Potassium	20	20	*	3,480 milligrams
Vitamin A	25	16	3	1,630 retinol equivalents
Vitamin E	8	3	2	16.7 milligrams alpha-TE
Vitamin C	2	3	0	118 milligrams
Thiamin	26	8	*	2.2 milligrams
Riboflavin	29	33	*	2.4 milligrams
Niacin	45	2	*	26 milligrams
Vitamin B-6	43	10	*	2.2 milligrams
Folic acid	15	8	*	284 micrograms
Vitamin B-12	80	18	*	9.1 micrograms

*Less than 1 percent.

Source: N.R. Raper, C. Zizza, and J. Rourke. *Nutrient Content of the U.S. Food Supply*, Home Economics Research Report No. 50. USDA, HNIS, 1992.

Other Minerals

Animal foods were the largest contributors of zinc and phosphorus, providing two-thirds of the supply of each. The meat, poultry, fish, and egg group provided the largest share of zinc, 50 percent. Dairy products and the meat, poultry, fish, and egg group each provided a third of the phosphorus.

Animal foods also contributed substantial proportions of potassium (40 percent), magnesium (35 percent), and copper (22 percent) in the food supply.

Vitamins

Animal products are important sources of many vitamins. Except for small amounts added to cereals, animal foods are the only source of

vitamin B-12 in the food supply. Animal foods are also the primary source of riboflavin. In 1988, milk and milk products accounted for a third of the available riboflavin, and the meat, poultry, fish, and egg group provided another 29 percent.

The meat, poultry, fish, and egg group is the leading source of vitamin B-6 and niacin, providing 43 percent of vitamin B-6 and 45 percent of niacin in 1988. This group ranks second as a source of vitamin A and thiamin, accounting for about a fourth of the total supply of each in 1988.

Animal fats add little to the amount of essential nutrients available in the food supply. The only significant contribution is the small amount (3 percent) of vitamin A provided by butter.

Primary Contributors of Fat and Cholesterol

In 1988, animal products contributed about half the total dietary fat in the food supply. Meat, poultry, fish, and eggs provided 34 percent of total fat, milk and milk products contributed 12 percent, and animal fats 7 percent. The remainder came from plant products, primarily vegetable fats and oils.

Saturated fats are found primarily in high-fat animal products, hydrogenated vegetable fats, and some vegetable oils, such as coconut and palm oil. In 1988, animal products contributed slightly less than three-fourths of saturated fats in the food supply. The meat, poultry, fish, and egg group provided the largest share, 42 percent. Milk and milk products accounted for 20

Obtain Nutrient Data Electronically

USDA's Human Nutrition Information Service (HNIS) operates a Nutrient Data Bank Bulletin Board as a service to professionals and consumers. Data files, such as those on pork and beef composition, are available to those using MS-DOS or PC-DOS computer systems.

To access the bulletin board, you need a computer, modem (1,200 or 2,400 baud), telephone line, and communication software. Users should set the following parameters on their modems or through their communication software: no parity, 8 bits, stop bit = 1 (n/8/1).

Dial (301) 436-5078 to access the bulletin board. Once connected, just respond to the series of prompts.

The bulletin board is on line 24 hours a day, 7 days a week (except a few hours a month for maintenance). For further information, contact David B. Haytowitz at HNIS: (301) 436-8491.

percent, and animal fats 11 percent. Most of the remainder came from vegetable fats and oils.

Cholesterol is found only in animal foods. Meat, poultry, fish, and eggs contributed 80 percent of the cholesterol in the food supply in 1988. Eggs, an especially rich source of cholesterol, contributed 33 percent, and meats provided 31 percent. (The figure for eggs is based on USDA's new 1989 data, which show cholesterol values for eggs to be 22 percent lower than previously published). Milk and milk products accounted for 15 per-

cent, and animal fats contributed 5 percent.

The third edition of *Nutrition and Your Health: Dietary Guidelines for Americans* recommends that fat intake not exceed 30 percent of calories, and that saturated fats provide less than 10 percent of calories. But according to USDA survey data, adults age 19-50 years consumed 36-37 percent of calories from fat in 1985 and 13 percent of total calories from saturated fat.

Moderation and Variety Are the Keys

The dietary guidelines stress variety and moderation as the cornerstones of a healthy diet, since no single food can supply all of the more than 40 essential nutrients needed for good health. For example, milk supplies calcium but little iron, and meat supplies iron but little calcium.

Vegetables and fruit are important sources of vitamins A and C, folacin, and several minerals. Breads and cereals supply B vitamins, iron, and protein. Plant foods, including fruit, vegetables, breads, cereals, nuts, and legumes, are sources of dietary fiber.

USDA's Food Guide describes a nutritionally adequate diet that follows the dietary guidelines. The Food Guide recommends consumption of two to three servings from the meat, poultry, fish, eggs, nuts, dry beans, and peas group each day. This is equivalent to about 6 ounces of cooked meat, poultry, or fish. The American Heart Association and the National Cholesterol Education Program recommend similar amounts.

Choosing lean cuts and lowfat cooking methods will keep fat and saturated fat levels within acceptable limits. Since both the lean and fat portions of meat and the meat and skin of poultry contain cholesterol, limiting portion size will limit cholesterol intake. A 3-ounce serv-

ing of lean beef or pork provides 70-80 milligrams of cholesterol, one-fourth of the maximum daily limit of 300 milligrams suggested by several health authorities. The dietary guidelines recommend moderating use of egg yolks and organ meats, since they are concentrated sources of cholesterol.

The Food Guide recommends consumption of two-three servings of milk or milk products daily, with 1 cup of milk or yogurt or about 1-1/2 ounces of cheese considered a serving. Nonfat and lowfat choices from this food group, such as skim and lowfat milks and reduced-fat cheeses, provide as much or more calcium and protein as higher-fat choices. Most of the cholesterol in milk products is found in the fat fraction, so products that are lower in fat also contain less cholesterol.

Fats and oils from both animal and vegetable sources (like cooking oils and salad dressings) are concentrated sources of fat and saturated fat, but add little to nutrient intake. The dietary guidelines advise consumers to use fats and oils sparingly.

Product Composition and Marketing Are Adapting to Consumer Preferences

Consumer demand has prompted the food industry to develop lower fat products and incorporate dietary recommendations into consumer information programs.

Retailers are trimming more fat from beef cuts. Today, beef is trimmed to 1/4 inch or less of outside fat. And, over 40 percent of retail beef cuts are marketed with all the outside fat removed. Trimming outside fat also reduces the fat in the cooked lean portion. For example, beef eye of round, when cooked with the 1/2-inch trim, contains 7 grams of fat per 100 grams

USDA 'Select' Beef Makes the Grade

USDA's Select grade provides health-conscious consumers a reliable guide for buying leaner beef.

Until 5 years ago, leaner beef was graded as "Good," as it had less intramuscular fat than either Prime or Choice beef. However, because consumers regarded Good as less tender than Prime or Choice, much of the beef that would have qualified as Good actually went ungraded.

To encourage the grading of this leaner beef and to let con-

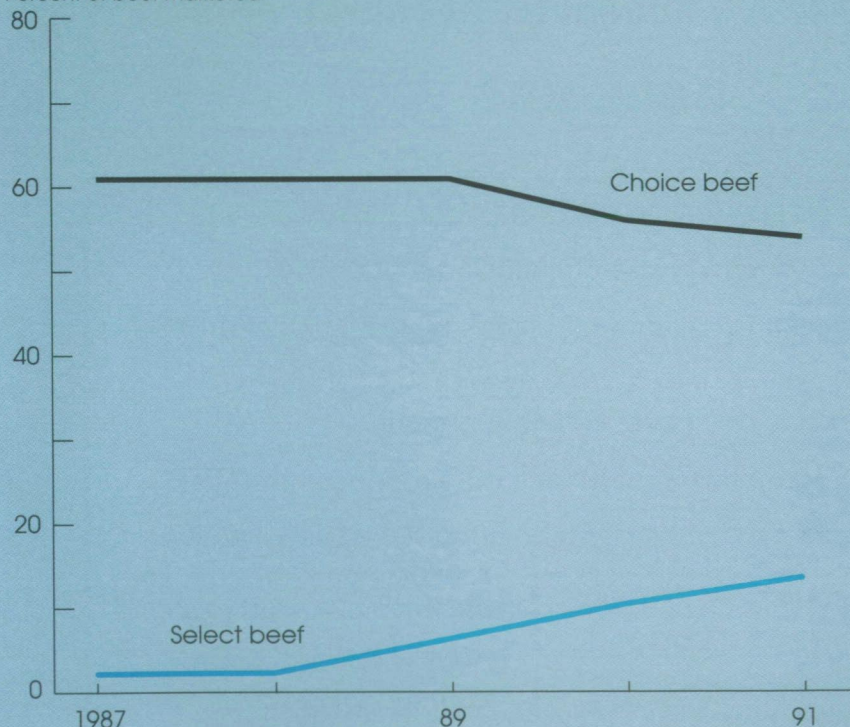
sumers know in a positive way that there is a lower fat alternative, USDA replaced Good with Select in November 1987.

Retailers and consumers have responded, and Select beef is gaining in popularity. As more beef is marketed as Select, market signals are sent back to packers and cattle producers to produce leaner meat.

Contact: Connie Crunkleton, Agricultural Marketing Service, (202) 720-8998.

Select Grade Gains in Popularity Among Consumers

Percent of beef marketed



Contact: Connie Crunkleton, USDA's Agricultural Marketing Service, (202) 720-8998

of cooked lean portion. If cooked after trimming all the fat, the meat contains 5 grams of fat per 100 grams of lean portion.

Pork has also become leaner. A nationwide study indicates that the fat content of most fresh pork cuts is lower than in 1983.

In response to leaner beef and pork, USDA has revised the data on the nutrient content of these meats. (Updated data on fresh pork composition are available through an electronic bulletin board, see box.)

Many new food products have been developed with lower fat contents. New milk products are particularly notable. Skim and lowfat milks have been available for many years, but other products, such as nonfat and lowfat regular and frozen yogurt, reduced-fat cheeses, and reduced-fat dairy desserts, are becoming common.

Changes in marketing practices assist consumers in making appropriate dietary choices. USDA has encouraged the marketing of leaner beef by changing the name of the beef grade USDA Good to USDA Select (see box). Select beef contains less fat than USDA Prime or Choice.

Private information programs are helping consumers select low-fat food items. The "Meat Nutri-Facts"—developed by the Food Marketing Institute, the American Meat Institute, and the National Livestock and Meat Board—is an example. Drawing on USDA's nutrient composition data, Meat Nutri-Facts provides consumers with nutrient and caloric information. The program also includes suggestions on lowfat cuts and lowfat cooking methods. Similar programs provide consumers with point-of-purchase information on poultry and seafood.

Future Food Labels Will Have More Nutrient Information

With the passage of the Nutrition Labeling and Education Act of 1990, consumers can look forward to more and more easily understood information on the nutrient content of foods. (See "Food Labeling Regulations Changing" in the

October-December 1991 issue of *FoodReview*.) Both the Food and Drug Administration, which regulates most processed food labeling, and USDA, which regulates labeling of meat and poultry products, have proposed new regulations.

New nutrition labels are proposed to include information on fat, saturated fat, cholesterol, carbohydrates, dietary fiber, protein, sodium, vitamins A and C, calcium, and iron, as well as total calories and calories from fat. Providing this information will help consumers plan their diets on the basis of dietary recommendations.

References

Cronin, F.J., A.M. Shaw, S.M. Krebs-Smith, P.M. Marsland, and L. Light. "Developing a Food Guidance System to Implement the Dietary Guidelines," *Journal of Nutrition Education*, Vol. 19, pp. 281-302, 1987.

Food and Nutrition Board, Subcommittee on the Tenth Edition of the RDA's. *Recommended Dietary Allowances*, 10th edition. Washington, DC: National Academy Press, 1989.

Life Sciences Research Office, Federation of American Societies for Experimental Biology. *Nutrition*

Monitoring in the United States—An Update Report on Nutrition Monitoring, DHHS Publication No. (PHS) 89-1255. Prepared for the U.S. Department of Agriculture and the U.S. Department of Health and Human Services. Sept. 1989.

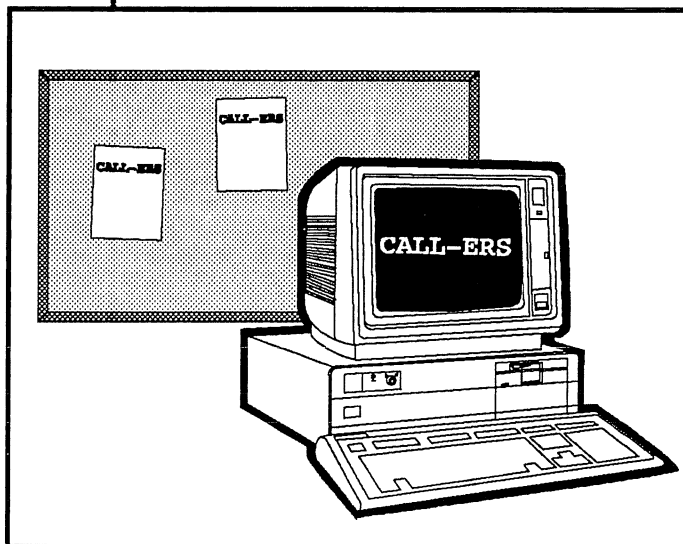
Raper, N.R., C. Zizza, and J. Rourke. *Nutrient Content of the U.S. Food Supply*, Home Economics Research Report No. 50. USDA, Human Nutrition Information Service. 1992. ■

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Fruit and Vegetables: Their Importance in the American Diet

Joanne F. Guthrie, Claire Zizza, and Nancy Raper
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Fruit and vegetables play an important role in the American diet. They are good sources of many essential vitamins and minerals, low in fat, and high in dietary fiber and complex carbohydrates.

Encouraging fruit and vegetable consumption is a major emphasis of the Federal Government's dietary guidance policy. "Choose a diet with plenty of vegetables, fruits, and grain products," is one of the seven basic recommendations of the Dietary Guidelines for Americans, the official statement of Federal dietary guidance policy, which is published jointly by the U.S. Department of Agriculture (USDA) and the Department of Health and Human Services (DHHS) (see "Animal Products: Their Contribution to a Balanced Diet," elsewhere in this issue). Since the early 1900's, food guides from USDA have urged Americans to include plenty of fruit and vegetables in their daily diet.

Yet consumption of fruit and vegetables continues to fall below recommended amounts. To address this problem, public and private organizations are instituting

programs aimed at consumer education. Nutrition labeling may also increase consumers' awareness of the nutritional value of fruit and vegetables and promote consumption.

Use of Fruit and Vegetables Up

Since the 1970's, the overall "use" (see box on data sources) of fruit and vegetables has increased—especially fresh noncitrus

fruit, such as bananas, grapes, apples, avocados, pineapples, and strawberries, as well as certain fresh vegetables, including lettuce, onions, tomatoes, carrots, cauliflower, and broccoli.

Among the processed products, the quantity of vegetables used for freezing has increased, while that used for canning has declined.

Potato use has increased due to the popularity of frozen french fries. Americans also are drinking



Vegetables, especially dark-green and deep-yellow types, are the major sources of carotenes in the U.S. food supply.

Guthrie and Raper are nutritionists, Zizza is a home economist, with USDA's Human Nutrition Information Service.

more fruit juices, especially orange juice.

Important Contributors of Vitamins and Minerals

Estimates of nutrients available from the U.S. food supply and the nutrient contribution of major food groups are calculated by nutritionists at USDA's Human Nutrition Information Service (HNIS) (see box on data sources).

Fruit and vegetables are important sources of numerous vitamins and essential minerals, as well as dietary fiber, while providing little fat and calories. In 1988, for example, fruit and vegetables accounted for only 8 percent of the calories and 1 percent of the fat in the American food supply, while providing 94 percent of the carotenes and 90 percent of the vitamin C.

Vitamin A, Carotenes

Although retinol—the essential nutrient known as vitamin A—is found only in animal foods, plant foods contain compounds called carotenes that can be converted to retinol or vitamin A in the body. Therefore, foods containing carotenes are considered a source of vitamin A.

Vitamin A has long been known to be essential to normal vision, as well as other physiological functions. There has been recent interest in carotenes as a separate dietary component, because some research findings indicate that foods high in carotenes may protect people against some forms of cancer.

Vegetables, especially dark-green and deep-yellow types, are the major sources of carotenes, providing 88 percent of the total supply in 1988 (table 1). Fruit, especially deep-yellow fruit like cantaloupe and dried apricots, are also good sources of carotenes.

USDA food consumption survey data from 1985 indicate that average diets of adult men and women

Data Sources

The U.S. Food Supply Series is the only source of data available on long-term food and nutrient trends in the American food supply. Instead of measuring foods consumed by individuals, foods available for consumption are measured from foods which flow through the food-distribution system.

Quantities of food available for consumption are measured by subtracting exports, ending inventories, and nonfood use from total production, imports, and beginning inventories. Estimates overstate actual intakes because they include food that is discarded in processing, lost in spoilage, or thrown away at home. Nutritionists at USDA's Human Nutrition Information Service (HNIS) convert data on foods available for consumption into per capita nutrient availability, using nutrient data from USDA's National Nutrient Data Bank.

Since the early 1980's, gaps in the data on commercially produced fresh and processed fruit and vegetables have presented problems in estimating availability. Trade organizations no longer furnish data for estimating the canned and frozen vegetable supply due to disclosure problems and a decline in the number of firms reporting. USDA's National Agricultural Statistics Service (NASS) data have replaced the industry data, but the NASS estimates are based on farm weight rather than on pack weight. Also,

NASS estimates do not include all of the vegetables for which pack data were formerly available. Budget considerations have eliminated some NASS data as well.

To compensate for the missing data, HNIS researchers have assumed that use of the unreported fruit and vegetables has remained constant since 1981. Because use of some of these is large, the accuracy of some of the nutrient estimates is uncertain.

Nevertheless, this data series is a unique source of information on the U.S. food supply and its nutrient content since the turn of the century. Therefore, it is the most appropriate data source for examining trends in food and nutrient availability.

Data on per capita nutrient availability permit assessment of the potential of the food supply to satisfy the nutritional needs of Americans. USDA also conducts food-consumption surveys that provide additional information on the food and nutrient intakes of Americans. These data can be used to assess nutrient intakes of population groups and compare intakes to dietary recommendations, such as the Recommended Dietary Allowances (RDA's) established by the National Academy of Sciences. Food consumption survey data used in this article were obtained from USDA's Continuing Survey of Food Intakes of Individuals, conducted in 1985 and 1986.

(age 19-50 years) met the Recommended Dietary Allowance (RDA) for vitamin A, as established by the National Academy of Sciences (NAS) (see box on data sources).

However, data from surveys conducted by the U.S. Department of Health and Human Services indicate that low-income young children, particularly those of

Table 1
Vegetables and Fruit Are Low in Fat, High in Many Vitamins and Minerals

Item	Citrus fruit and juices	Other fruit	Dark-green and deep-yellow vegetables	Other vegetables	White potatoes	Total amount available per person
	Percent of total daily supply					Daily amount
Food energy	1.0	2.2	0.4	1.8	2.6	3,600 kilocalories
Protein	.6	.7	.5	2.5	2.3	105 grams
Carbohydrates	2.0	4.5	.8	3.4	4.9	425 grams
Fat	*	.4	.1	.3	.1	168 grams
Saturated fatty acids	*	.2	*	.1	.1	60 grams
Calcium	1.4	1.3	1.4	4.4	.9	890 milligrams
Phosphorus	.8	1.1	.9	3.9	3.1	1,540 milligrams
Magnesium	2.4	4.5	2.1	7.9	6.2	330 milligrams
Iron	.6	2.4	1.7	6.9	4.7	17.1 milligrams
Zinc	.4	1.0	.7	3.5	3.0	12.7 milligrams
Copper	2.1	5.4	1.7	9.2	11.1	1.7 milligrams
Potassium	4.2	7.1	2.9	11.5	13.9	3,480 milligrams
Vitamin A	.6	2.1	36.5	5.1	0	1,630 retinol equivalents
Carotenes	1.2	4.5	77.5	10.8	0	770 retinol equivalents
Vitamin E	.6	2.8	2.3	4.8	.4	16.7 milligrams alpha-TE
Vitamin C	27.3	14.9	11.3	21.3	15.8	118 milligrams
Thiamin	2.8	2.2	1.3	5.0	5.0	2.2 milligrams
Riboflavin	.8	2.2	1.3	3.8	1.3	2.4 milligrams
Niacin	.7	1.8	1.0	4.6	6.3	26 milligrams
Vitamin B-6	1.8	8.6	2.7	7.5	12.2	2.2 milligrams
Folacin	9.5	3.5	4.4	18.0	4.9	284 micrograms
Vitamin B-12	0	0	0	0	0	9.1 micrograms

*Less than 1 percent.

Source: N.R. Raper, C. Zizza, and J. Rourke. *Nutrient Content of the U.S. Food Supply*, Home Economics Research Report No. 50. USDA, HNIS. 1992.

Mexican-American background, may be at risk of low vitamin A status.

Vitamin C

Fruit and vegetables provided approximately 90 percent of the vitamin C in the food supply in 1988. Citrus fruit provided the largest share, 27 percent.

Most Americans consume their RDA for vitamin C. However, low intakes may be a concern for certain groups. Cigarette smokers, in particular, appear to need more vitamin C than do nonsmokers. NAS recommends that smokers consume at least 100 milligrams of vitamin C per day, compared with the RDA of 60 mg/day for adult nonsmokers. Yet USDA survey data indicate that in 1985 adult female

smokers consumed an average of 64 mg/day of vitamin C.

Vitamin B-6

Vegetables contributed 22 percent of the vitamin B-6 in the food supply in 1988. White potatoes contributed over half the amount from vegetables. Fruit provided an additional 10 percent of the total supply.

Some population groups consumed lower-than-recommended levels of vitamin B-6. According to USDA survey data, average vitamin B-6 intakes of men and women age 19-50 years were below the RDA in 1985.

Folacin

Folacin is a B vitamin essential for healthy red blood cell formation and formation of genetic material (DNA). Adequate folacin intake is particularly important for a healthy

pregnancy—a pregnant woman's RDA for folacin is more than double that of a woman who is not pregnant. Using USDA survey data collected in 1985 and 1986, HNIS researchers found that average intakes of folacin for pregnant women age 19-39 years were higher than those of nonpregnant women—but not high enough to meet their RDA.

In 1988, vegetables were the major sources of folacin in the food supply, accounting for 27 percent. Fruit, primarily citrus, accounted for another 13 percent.

Other Vitamins

Fruit and vegetables contribute important amounts of other vitamins to the U.S. food supply: about 16 percent of thiamin, 14 percent of niacin, 11 percent of vitamin E, and

9 percent of riboflavin. Fruit and vegetables do not contribute to vitamin B-12 in the food supply, because it is found naturally only in animal products.

Potassium

Potassium is a mineral that works with sodium to regulate the body's fluid balance. Vegetables provided the largest share of potassium in the food supply in 1988, 28 percent, and fruit provided 11 percent.

Average potassium intakes of men and women appear to meet the minimum requirements established. (Although consumption of foods like fruit and vegetables that are naturally rich in potassium is recommended, taking potassium supplements without medical supervision may be dangerous, and is not recommended to the general population.)

Iron

Fruit and vegetables contribute about 16 percent of the available iron. Lack of iron is the most common nutrient deficiency in America (see "Animal Products: Their Contribution to a Balanced Diet," elsewhere in this issue). Some dark-green vegetables (like spinach) and dried fruit (such as apricots) are particularly good sources of iron.

Other Minerals

Fruit and vegetables also contribute other essential minerals to the food supply. Most notably, they contribute almost 30 percent of the copper available in the food supply and 23 percent of the magnesium.

USDA survey data show that in 1985, average magnesium intakes of women were below their RDA, while men met their recommended intake.

Dietary Fiber

Dietary fiber is found only in foods of plant origin. Although dietary fiber is not considered a nutrient because it is not digested and

absorbed, its presence in the diet promotes healthy gastrointestinal function.

USDA food consumption survey data indicate that in 1985, American women consumed an average of 12 grams of fiber per day, compared with the National Cancer Institute's recommended intake of 20-30 grams per day (not to exceed 35 grams/day). Fruit and vegetables supplied 42 percent of the total fiber in women's diets.

Efforts To Promote Fruit and Vegetables

Virtually all major Federal and private health organizations agree on a simple fact: that Americans should increase their consumption of fruit and vegetables.

The Food Guide Pyramid, USDA's current food guide, recommends that Americans consume two to four servings of fruit and three to five servings of vegetables each day.

Yet USDA food consumption survey data show that, on average, women consumed fewer than three

servings of vegetables per day in 1985, even when vegetables from mixed dishes (such as the carrots and potatoes in a beef stew) are taken into account. Fruit consumption was also low. In fact, a surprisingly large number of women—almost 20 percent—ate no fruit or fruit juice at all over the course of 4 days.

Why does consumption continue to fall below recommendations? One possible explanation is that despite the efforts of nutritionists and health professionals, many consumers are not aware of the importance of consuming recommended amounts of fruit and vegetables.

Preliminary results from USDA's 1989 Diet and Health Knowledge Survey indicate that about a quarter of all meal preparers felt that it was "not at all important" to eat at least five servings of fruit and vegetables each day.

Responding to a survey conducted by the California Department of Health Services, many consumers stated that eating fruit



Even though Federal and private health organizations encourage Americans to eat more fruit and vegetables, consumption continues to fall below recommendations.

and vegetables was inconvenient, and preparing them took too much time.

To encourage consumers to eat more fruit and vegetables, public and private organizations have undertaken several activities. The 1990 edition of the Dietary Guidelines for Americans modified the guideline "Eat Foods with Adequate Starch and Fiber" to "Choose a Diet with Plenty of Vegetables, Fruit, and Grain Products." The 1990 guidelines also include a daily food guide recommending the number of servings from the major food groups. HNIS has also developed educational materials with tips on simple, convenient ways to add fruit and vegetables to the

daily diet, whether eating at or away from home.

In 1988, the California Department of Health Services launched the "5-A-Day For Better Health" campaign to promote fruit and vegetables. For this effort, public health agencies cooperated with the produce industry and retail grocers to encourage consumers to eat at least five servings of fruit and vegetables each day.

The program's success spurred a national program, developed by the produce industry in conjunction with the National Cancer Institute. The program features point-of-purchase information, consumer education materials, food demonstrations, recipes, and other information promoting fruit and vegetable consumption.

Changes in nutrition labeling may also affect consumption of fruit and vegetables. Under the Nutrition Labeling and Education Act of 1990, nutrition labeling will soon become mandatory for processed fruit and vegetables, while voluntary labeling of fresh produce is encouraged. Nutrition labeling of at least the 20 most frequently consumed fresh fruit and vegetables will soon be available in many grocery stores under a voluntary program. The produce industry expects that by showing the nutritional value, nutrition labeling will promote consumption of fruit and vegetables.

Representatives of the produce industry are looking for ways to use labeling in their marketing strategies. Results of supermarket promotions that featured point-of-purchase nutrition information of fresh produce indicate that labeling can encourage purchases of fruit and vegetables, especially when combined with practical tips on selection, preparation, and menu planning.

Selected References

Cleveland, L.E., and K. Tippet. "Report on the Diet and Health Knowledge Survey," *Agriculture Outlook '91: Agriculture in a World of Change*, Proceedings of the 67th Annual Outlook Conference, USDA, ERS, Washington, DC, Nov. 27-29, 1990.

Cook, D.A., and K.L. Koegel. "Identifying Foods Consumed as Ingredients of Mixtures," *Proceedings of the Fourteenth National Nutrient Databank Conference*, University of Iowa, Iowa City, June 19-21, 1989.

Life Sciences Research Office, Federation of American Societies for Experimental Biology. *Nutrition Monitoring in the United States—An Update Report on Nutrition Monitoring*, DHHS Publication No. (PHS) 89-1255. Prepared for the U.S. Department of Agriculture and the U.S. Department of Health and Human Services. Sept. 1989.

National Academy of Sciences, Food and Nutrition Board, Subcommittee on the Tenth Edition of the RDAs. *Recommended Dietary Allowances*, 10th edition. Washington, DC: National Academy Press, 1989.

Raper, N.R., C. Zizza, and J. Rourke. *Nutrient Content of the U.S. Food Supply*, Home Economics Research Report No. 50. USDA, HNIS. 1992.

U.S. Department of Agriculture and U.S. Department of Health and Human Services. *Nutrition and Your Health: Dietary Guidelines for Americans*, 3rd edition, USDA Home and Garden Bull. No. 232. 1990.

Welsh, S., and J.F. Guthrie. "Changing American Diets," *Micro-nutrients in Health and in Disease Prevention*, A. Bendich and C.E. Butterworth, eds. New York, NY: Marcel Dekker, Inc., 1991. □

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The WIC Program Meets a Special Need

Masao Matsumoto
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The Special Supplemental Food Program for Women, Infants, and Children (WIC) provides food assistance to low-income women, infants, and children who are nutritionally or medically at risk. Launched in 1974, WIC provides supplemental food, nutrition education, and access to health services.

Support for WIC has grown along with increasing evidence that the program's benefits to public health exceed its costs. For example, WIC's share of food assistance expenditures grew to 8 percent in 1991 from 5 percent in 1980. Average monthly participation in 1991 was over 250 percent higher than in 1980 (table 1).

Lower Health Care Costs

Although all Federal food assistance programs promote improved nutrition as an objective, only WIC requires an assessment of the recipient's nutritional status by a health professional. WIC serves pregnant, breastfeeding, and postpartum women and their infants and children up to age 5 whose household income is at or below 185 percent of the poverty level. In addition to nutrition and health care counsel-



By combining nutrition and health education with food vouchers, WIC plays an important role in reducing infant mortality and lowering health care costs.

The author is an agricultural economist in the Commodity Economics Division, Economic Research Service, USDA.

How WIC Works

The Special Supplemental Food Program for Women, Infants, and Children (WIC) operates like a State grant, with annual funding from the Federal Government based on a formula rather than solely on the number of participants.

WIC operates at all three levels of government: Federal, State, and local. At the Federal level, USDA's Food and Nutrition Service (FNS) administers and regulates the program. Seven regional FNS offices provide cash grants to 86 designated WIC State agencies for administration and operation. The regional offices monitor State agencies for compliance with regulations and assist in program improvement. State agencies then allocate the funds to participating local WIC agencies in their jurisdiction, and establish, monitor, and report local WIC agency activities to FNS. Local WIC agencies recruit participants and deliver program services.

There are approximately 1,750 local WIC agencies, with 8,200 delivery sites where monthly food

packages or vouchers are dispensed to participants. While city or county health departments often serve as the local agencies, they may also be public or non-profit health or human-service organizations, such as hospitals, maternal and child health groups, or community action agencies. Local agencies use WIC funds to provide monthly food packages or vouchers to participants and cover administrative costs, including the costs of certifying applicants for eligibility and providing nutrition education, counseling, and referrals to local health and social services.

To qualify for WIC benefits, an applicant must meet three specific eligibility criteria: categorical, income, and nutritional risk. Requirements for the categorically eligible include: pregnant, breastfeeding, and postpartum women, infants under 1 year, and children up to 5 years old.

The income limit for eligibility is set by each State agency, but must meet Federal requirements—not to exceed 185 percent, or be

less than 100 percent, of the Office of Management and Budget's poverty income guidelines for each family size. Additionally, Federal law requires that people receiving food stamps, medicaid, or Aid to Families With Dependent Children be considered automatically income-eligible for the WIC program.

All but a few States have set their WIC eligibility standard at 185 percent of the poverty guidelines. According to this standard, a person from a household of four with \$24,790 in total annual income as of July 1991 would be income-eligible for WIC. Some States give local agencies discretion in setting lower income-eligibility criteria.

WIC applicants who meet the categorical and income requirements are certified for program participation only if they also are determined by a competent professional authority to be nutritionally at risk. This determination is made on the basis of established medical, clinical, or dietary risk criteria set by each State.

ing, participants receive vouchers for a monthly allotment of food, such as infant formula, eggs, fruit juice, milk, cheese, and cereal.

By combining nutrition and health education with food vouchers, WIC plays an important role in reducing infant mortality and lowering health care costs. A 1984 study found the birth weights of infants born to women participating in WIC to be higher than those who did not participate. The study also concluded that participating women and their children were more likely to be healthy during and immediately after pregnancy.

A WIC/Medicaid study confirmed these findings. This study also found that WIC participation during pregnancy reduced medical costs for both mother and infant. Every dollar spent on a pregnant woman's participation in WIC saved between \$1.77 and \$3.13 in Medicaid costs.

The Greatest Good for the Least Cost

WIC uses a priority system to target limited resources to those with the greatest nutritional need. That is, as local WIC agencies ap-

proach budgetary ceilings, eligible pregnant women and infants with nutritional risk receive priority for enrollment.

State WIC agencies have expanded the numbers served by reducing the cost of infant formula. In 1991, about a third of all WIC participants were infants. And, expenditures for infant formula for these babies (under 12 months) accounted for about 25 percent of the total WIC food costs. That compares with 27 percent for infants and 28 percent of costs in 1981.

During the early 1980's, the price of formula rose much faster

Table 1

After Moderating Food Costs and Stabilizing Benefits, WIC Reaches More Needy

Year	Participation			Costs		Average monthly benefits per person
	Women	Infants	Children	Food	Total	
	<i>Thousands</i>			<i>Million dollars</i>		<i>Dollars</i>
1980	411	506	995	584	728	25.43
1981	445	585	1,088	708	871	27.84
1982	478	623	1,088	758	948	28.83
1983	542	730	1,265	901	1,126	29.62
1984	657	825	1,563	1,117	1,388	30.58
1985	665	874	1,600	1,193	1,489	31.69
1986	712	945	1,655	1,264	1,583	31.82
1987	751	1,019	1,660	1,345	1,680	32.68
1988	815	1,095	1,683	1,435	1,797	33.28
1989	952	1,260	1,907	1,489	1,911	30.14
1990	1,035	1,412	2,069	1,637	2,123	30.20
1991	1,120	1,559	2,214	1,752	2,301	29.84

than prices for other foods. As a consequence, States began looking for ways to cut costs and increase enrollment. In 1988, WIC agencies initiated rebate programs with manufacturers for infant formula. The major formula producers granted rebates on infant formula purchased by WIC participants in return for sales contracts with the State. By the end of the 1980's, most States had signed such contracts,

with price reductions of as much as 70 percent of retail.

The price reductions successfully lowered costs, allowing more people to receive benefits. For example, in 1989, participation increased almost 15 percent, the consumer price index (CPI) for food rose by 8 percent, and the shelf price of the average WIC food package rose by 6 percent (table 1). Reduced WIC costs were reflected in average monthly food package

costs per person, which declined by 9 percent, from \$33.28 in 1988 to \$30.04 in 1991.

To gain greater efficiency, USDA's Food and Nutrition Service (FNS) is considering the development of a new inflation index to better forecast WIC food basket costs. This index could help plan for long-term program growth as well as short-term changes in costs and participation. ■

Domestic Food Assistance ... At a Glance

The Federal Government spent a record \$27.1 billion on food assistance benefits in fiscal 1991, a 16.9-percent increase over 1990 (see table 2). The increase was almost entirely due to higher participation (up by 2.6 million) and costs (up by \$3.1 billion) of the Food Stamp Program.

Because the size and timing of the increase varied considerably, no single factor accounts for the growth. The most important factors include:

- An expansion of medicaid eligibility, bringing more people into contact with the welfare system and easing their way into the Food Stamp Program,
- A weakening economy during the recession,
- An increase in the number of legalized immigrants under the Immigration Reform and Control Act of 1986.

Other programs have increased, but not as fast. WIC program costs increased by 8.3 percent, and par-

ticipation rose by 8 percent. More free and reduced-price lunches accounted for a large part of the 8.7-percent increase in School Lunch Program costs. Costs for the School Lunch Program and the School Breakfast Program are also sensitive to the status of the economy. When the economy slows, more children are expected to participate in subsidized meal programs at schools. The Child and Adult Food Care Program also continues to expand, in terms of both participants and program costs.

Increases in Food Stamp and WIC Benefits Lead Food Assistance Spending to Record Levels in Fiscal 1991¹

Programs	1990	1991	FY 1990 quarters*				FY 1991 quarters*			
			I	II	III	IV	I	II	III	IV
Million dollars										
Family food:										
Food stamps	14,205	17,348	3,507	3,551	3,567	3,580	4,100	4,316	4,427	4,505
Puerto Rico ²	940	967	235	235	235	235	242	242	242	242
Food distribution:										
Indian reservations	51	51	12	13	13	13	12	13	13	13
Schools ³	620	687	193	242	96	87	215	263	107	101
Other ⁴	182	176	45	51	43	43	46	43	44	43
TEFAP ⁵	209	212	51	56	56	45	43	42	76	51
Cash-in-lieu of commodities ⁶	156	156	38	39	40	39	38	38	41	39
Child nutrition: ⁷										
School lunch	3,211	3,489	957	1,044	773	436	1,065	1,078	876	469
School breakfast	589	677	171	188	145	85	203	203	172	99
Child care and summer food	865	996	172	188	217	288	202	212	252	330
Special milk	19	20	5	5	4	4	5	5	5	4
WIC ⁸	2,116	2,293	500	548	518	549	520	560	581	635
Total*	23,163	27,072	5,887	6,163	5,708	5,405	6,693	7,016	6,839	6,524

*Data may not add to annual total due to rounding.

¹Administrative costs are excluded unless noted. ²Puerto Rico transferred from the Food Stamp Program to a substitute Nutrition Assistance Program on July 1, 1982. Data represent appropriated amounts. ³National School Lunch, Child Care Food, and Summer Food Service Programs, and schools receiving only commodities. ⁴Commodity Supplemental Food Program and Elderly Feeding Pilot Projects, excluding bonus commodities and donations to charitable institutions. ⁵The Emergency Food Assistance Program. ⁶Child nutrition programs and Nutrition Program for the Elderly. ⁷Cash expenditures. ⁸Special Supplemental Food Program for Women, Infants, and Children—includes administrative costs. Source: Food and Nutrition Service, Program Information Division.

USDA Actions

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

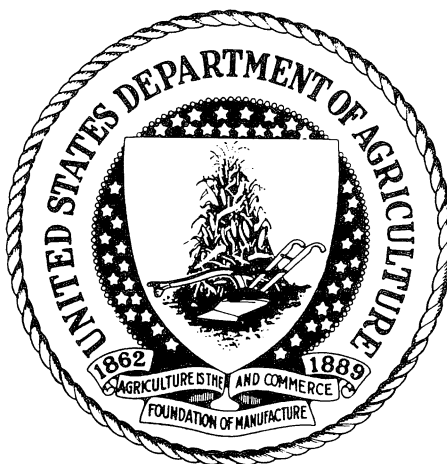
Corn Donated to Cape Verde

The United States has donated 18,000 metric tons of corn to Cape Verde, the island nation off north-west Africa, to address serious seasonal rural unemployment and soil erosion. Proceeds from the sale will be used to employ rural people in labor-intensive soil and water conservation work.

Open Border Proposal for Canadian Meat and Poultry Is Dropped

USDA withdrew a proposal to exempt Canadian meat and poultry products from U.S. inspection when imported into the United States. This "open border" proposal was designed to reduce regulatory burdens between the United States and Canada, since the two inspection systems for meat and poultry are substantially similar.

The author is a statistical assistant in the Agriculture and Trade Analysis Division, Economic Research Service, USDA.



The proposal was published in the June 29, 1990, *Federal Register*, and notice of withdrawal was published on October 18, 1991.

Sulfite Violation Closes Meat Firm

USDA suspended inspection services for 2 weeks at a meat firm in North Carolina, as a penalty for the firm's conviction on charges of illegally adding sulfites to meat products. Because a meat or poultry plant cannot sell products without Federal inspection, the suspension effectively closed the plant.

Special Grade for Glutinous Rice Established

USDA's Federal Grain Inspection Service has established a special grade for glutinous rice. Also known as waxy or sweet rice, glutinous rice is characterized by chalky kernels. In nonglutinous rice, chalky kernels are considered undesirable. Previously, U.S. standards imposed grade limits on all rice with chalky kernels.

Surplus Dairy Products Sold to Mexico

USDA sold \$34 million worth of nonfat dry milk (\$1,780 per metric ton) to Mexico. USDA's Commodity Credit Corporation sold the 19,000 metric tons to Compania Nacional de Subsistencias Populares (CONASUPO). The dry milk was delivered in railcars to the U.S.-Mexican border from November 1991 through January 1992.

USDA Donates Nonfat Milk to Jamaica

USDA donated 2,000 metric tons of nonfat dry milk to Jamaica which, in turn, sold it to the private sector. The proceeds will be used to provide food assistance to the needy and to support the Jamaican food stamp program, which aids about 250,000 residents each year. The supply period was fiscal year 1991.

Former Soviet Union, China, and Morocco Eligible for More U.S. Wheat

USDA announced an opportunity for sales of an additional 3 million metric tons of U.S. wheat to the former Soviet Union, 2 million to China, and 1 million to Morocco under the Export Enhancement Program (EEP). Sales will be made to buyers in those countries through normal commercial channels at competitive world prices. The sales will provide commodities from USDA's Commodity Credit Corporation. EEP sales will enable U.S. exporters to compete in these markets.

Algeria Eligible for More Butterfat

USDA announced that Algeria is eligible for an additional 5,000 metric tons of butterfat under the Dairy Export Incentive Program. Export sales will be facilitated through payment of bonus commodities from USDA's Commodity Credit Corporation. Sales of butterfat will be made through normal commercial channels at competitive world prices.

Restrictions on Canadian Potatoes Continue

Restrictions on imports of Canadian potatoes are being extended to include additional production areas because of the discovery of new outbreaks of a foreign potato disease. The disease is caused by a virus that infects potatoes, tomatoes, peppers, and tobacco. Although not yet confirmed in the

United States, this strain of virus—called PVY-N—can be transmitted long distances through the movement of seed potatoes. PVY-N also can be spread by aphids feeding on infected plants and transmitting the virus to healthy plants.

Imports of Papayas From Costa Rica Are Being Considered

USDA is proposing to allow imports of Solo papayas from three western provinces of Costa Rica.

Studies have shown that these papayas can be shipped from these regions without any significant pest risk if proper precautions are taken. For example, fruit flies of western Costa Rica that potentially threaten U.S. agriculture do not attack Solo papayas if they are not quite ripe.

Under the proposed new import rules, growers would have to harvest all papayas before they are half ripe, keeping orchards free of more developed papayas.

The risk of pests from other types of papayas, or from Solo papayas from other areas, has not been studied. Notice of the proposed rule was published in the January 3, 1992, *Federal Register*.

Lithuania and Estonia To Receive U.S. Corn

The United States has donated 100,000 metric tons of corn (valued at \$1 million) to Lithuania and Estonia for fiscal 1992.

The Lithuanian and Estonian governments will sell the corn to private feed millers and livestock and poultry producers for feed. The proceeds will go to private voluntary organizations operating there and to developing private sector farms.

Imports of Additional Fruits From Mexico Are Being Considered

USDA is proposing to permit imports of apricots, persimmons, and pomegranates to the United States from specific municipalities in Sonora, Mexico, because the areas have been designated free of fruit flies. Previously, such fruit from Mexico has been barred because of fruit fly infestations.

The fruit may be shipped from municipalities along the Arizona border. Apples, grapefruit, oranges, peaches, and tangerines are already entering from this area.

Sonora growers estimate they will annually export nearly 300 tons of fresh apricots to the United States (less than 2 percent of U.S. production).

New Grade for Pistachios in the Shell

With the addition of a new grade—U.S. No. 3—to the U.S. standards for pistachio nuts in the shell, as of February 14, 1992, more pistachios will enter the market.

Similar to the requirements for U.S. No. 2 pistachios, the new grade establishes higher tolerances for certain external visual defects, such as shell stain.

Details of the new standards appeared as a final rule in the January 15, 1992, *Federal Register*.

Fresh Sweet Corn Standards Revised

USDA has revised standards for grades of sweet corn to reflect harvesting and marketing methods. The standards were last updated in 1954.

U.S. grades have applied only to sweet corn in husks, yet the corn is usually sold after being husked, trimmed, and wrapped in plastic packages.

The revisions specify two grades for husked sweet corn—U.S. Fancy Husked and U.S. No. 1 Husked—determined by the amount of husk left on the ear, clipping of the ends of the ear, and absence of other superfluous material such as threads of corn silk.

Grants Awarded for Outreach and Assistance to the Homeless

Over \$250,000 in grants has been awarded to six nonprofit organizations to provide food assistance to homeless Americans.

The grant recipients are to establish effective methods of reaching homeless people and help them make better use of the available USDA food assistance programs.

The 1990 farm bill includes a provision for restaurants to offer low-cost meals to homeless people in exchange for food stamps. This parallels a long-standing provision allowing elderly and disabled persons to use food stamps in some restaurants.

USDA also expects to donate more than \$260,000 million worth of food in 1992 to programs that assist homeless people, including food for soup kitchens, charitable institutions, and The Emergency Food Assistance Program.

These programs will coordinate with USDA participation in the Federal Government's Interagency Council on the Homeless.

Maine Is First State To Be Free of Pseudorabies

USDA has recognized Maine as the first state to be free of pseudorabies, a contagious live-stock disease that is most prevalent in swine. Other animals, including cattle, sheep, dogs and cats, can catch pseudorabies from swine. In those species, it almost always causes a quick death. (The disease does not affect humans.) Although pseudorabies often causes death in newborn pigs, older hogs can survive the infection and remain carriers of the virus for life. Stress or other conditions, however, can reactivate the virus.

The declaration by USDA's Animal and Plant Health Inspection Service (APHIS) was based on a recent recommendation of the National Pseudorabies Control Board—a six-member body created in 1985 through joint action by the Livestock Conservation Institute, the National Pork Producers Council, and the U.S. Animal Health Association.

More Export Opportunities

To help U.S. exporters compete at commercial prices in world markets, USDA announced opportunities for sales of U.S. agricultural commodities under the Export Enhancement Program (EEP) from December 1991 through January 1992 to the following countries:

- Brazil: 25,000 metric tons of barley malt,
- Bahrain: 25,000 tons of wheat,
- Egypt: 1 million tons of wheat,
- Algeria, Turkey, and Tunisia: 60,000 tons of vegetable oil,
- Jordan: 75,000 tons of rice,
- Eastern Europe (Albania, Bulgaria, Czechoslovakia, Hungary, Poland and Yugoslavia): 150,000 tons of Durum wheat, and
- former Soviet Union: 25,000 tons of barley, and 500,000 tons of wheat flour.

Sales will be made to buyers in these countries through normal commercial channels at competitive world prices. Export sales will be facilitated through payment in the form of bonus commodities from USDA's Commodity Credit Corporation. ■

Food and Nutrition Legislation

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Since September 1, 1991, many bills affecting food safety, quality, nutrition, and assistance have been introduced in the House and the Senate. Some are described below.

Food Safety and Health

H.R. 3544—Rep. Jamie L. Whitten (MS)

The Emergency Job Creation Appropriations Act of 1992 would appropriate funds to create jobs that improve rural health for the fiscal year ending September 30, 1992. Along with appropriations for rural development and resource conservation, the bill would provide assistance to alleviate health hazards.

The legislation would create jobs and programs to promote new and improved rural water and waste-disposal systems that meet safe drinking water and clean water standards. The bill would also make appropriations for the Federal Emergency Management Agency's emergency food and shelter program.

The author is an agricultural economist in the Agriculture and Trade Analysis Division, Economic Research Service, USDA.



H.R. 3545—Rep. John Bryant (TX)

The Improved Bottled Water Act of 1991 would amend the Federal Food, Drug, and Cosmetic Act to require more timely adoption of appropriate quality standards for bottled water. The standards must be as stringent as the health-based standards set under the Safe Drinking Water Act for public water supplies.

The Department of Health and Human Services would be required to announce uniform regulations that define, and provide for, labeling of various types of bottled water. The regulations must provide guidelines for source approval and periodic monitoring of approval sources. The act would also require dedicated bottling equipment.

H.R. 3640—Rep. James H. Scheuer (NY)

The Clean Water Act Research Amendments of 1991 would amend the Federal Water Pollution Control Act regarding research and development activities.

The Administrator of the Environmental Protection Agency, in cooperation with Federal, State, and local agencies and public or private institutions, organizations, or individuals, shall conduct and promote a comprehensive program of research, investigations, experiments, surveys, and studies relating to the causes, sources, effects, extent, prevention, detection, and correction of water pollution.

The bill would establish a Water Quality Monitoring Council to en-

sure the effective coordination of Federal and State surface- and groundwater quality monitoring programs.

The bill also would expand the mandate for comprehensive research and investigation programs in the areas of nonpoint source pollution, research and control measures, contaminated sediments, groundwater quality, ecosystems and water quality, and pollution prevention.

H.R. 3642—Rep. Henry A. Waxman (CA)

The Food, Drug, Cosmetic, and Device Enforcement Amendments of 1991 would amend the Federal Food, Drug, and Cosmetic Act to enhance the enforcement authority of the Food and Drug Administration.

Any district court of the United States may order any appropriate person (including the manufacturer, importer, distributor, or retailer) to recall a food, drug, device, or cosmetic if the court finds reasonable probability that the product would cause serious health risks or death. ("Recall" means the retrieval, repair, or replacement of a product.)

Any product found to violate this act would be subject to seizure or embargo.

The Commissioner of Food and Drugs may subpoena witnesses and documentary evidence in connection with any hearing, investigation, or other proceeding relating to a violation of this act.

The act would also provide for money penalties for any person who violates or obstructs any requirement of this act.

H.R. 3742—Charlie Rose (NC)

The Pesticide Safety Improvement Act of 1991 would amend the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) by revising pesticide registration provisions and establishing requirements for pesticide holders and applicators. For example, the act would:

- Authorize the Administrator of the Environmental Protection Agency (EPA) to cancel pesticide registrations after 5 years unless the registrant requests a continuance. However, the act would permit the continued sale and use of pesticides with suspended registrations, if the pesticides will not have unreasonable adverse environmental effects.
- Authorize the Administrator to issue a final order to ensure that: (1) a pesticide or other materials required to be submitted to the Administrator comply with FIFRA requirements; and (2) the pesticide will not generally cause unreasonable adverse environmental effects.
- Permit the final order to: (1) cancel the registration of a pesticide (or the registrations of a group of pesticides containing a common active or inert ingredient) and prohibit the future registration of such pesticide; (2) prescribe composition, packaging, labeling, and registration requirements for pesticides and provide for the cancellation or modifications of pesticides not meeting requirements; and (3) classify a pesticide for restricted use or change the classification of a pesticide.
- Authorize the Administrator to initiate a proceeding to cancel or modify a pesticide registration, if there are concerns that

the pesticide may cause unreasonable adverse effects on people or the environment.

- Establish certification and training requirements for pesticide holders and applicators. A person would be violating the FIFRA if he/she uses a pesticide as a commercial applicator without being certified, even if done under the supervision of a certified applicator. The Administrator would be required to establish minimum standards for trainers and training programs.
- Increase and expand the scope of civil and criminal penalties for FIFRA violations. Penalties would be prescribed for violations involving knowing endangerment.
- Direct the Administrator of the EPA, at any time the Administrator has sufficient information on the dietary risk of an ingredient, to: (1) reassess associated tolerances and exemptions from tolerances issued under the Federal Food, Drug, and Cosmetic Act (FDCA); (2) determine whether the tolerances or exemptions still meet the requirements of the FDCA, and whether additional tolerances or exemptions should be used; and (3) take specified administrative actions.
- Amend the FDCA by establishing requirements concerning tolerance or exemptions for pesticide residues in food. Under these provisions, food safety standards in the Poultry Inspection Act, Federal Meat Inspection Act, and Egg Inspection Act would conform to the

FDCA's definition of adulterated food. Commodities or processed foods containing residues that are unsafe under FDCA standards would be deemed to be adulterated.

S. 1956—George J. Mitchell (ME)

The Toxic Exposure Evaluation and Monitoring Act of 1991 would establish within the EPA a program to monitor and assess human exposure to toxic substances. Results of the monitoring would be reported periodically to the scientific community and the Congress. A board of highly qualified and experienced scientists and representatives of appropriate Federal agencies would oversee the monitoring program. The act would ensure sufficient long-term funding for the program.

Food and Nutrition Assistance

H.R. 3546—Rep. E. Thomas Coleman (MO)

The Support for Emerging Democracies Act of 1991 would enhance the ability of the United States to support emerging democracies in their transition to agricultural economies based upon free enterprise.

The act would continue the Food for Progress Act of 1985, which authorized the President to furnish commodities to developing countries, either through financed sales or by grants. Countries would be eligible if they show they are committed to policies that promote economic freedom, private domestic production of food, and efficient domestic markets. The 1991 act

would require that both the Commodity Credit Corporation (CCC) and the recipients be accountable for the funds and commodities.

The act also would modify the export credit guarantee program authorized by the Agricultural Trade Act of 1978. The CCC is not authorized to guarantee credit to countries that are determined to be unable to service the debt. The act would allow the Secretary of Agriculture to waive the debt service requirement of the Soviet Union in fiscal year 1992.

H.R. 3556—Rep. E (Kika) de la Garza (TX)

The Food for Emerging Democracies Act of 1991 would amend the Food for Progress Act of 1985 to include the individual republics of the Soviet Union as eligible recipient countries; expand the list of eligible commodities to include bulk and high-value commodities, fish, edible and nonedible tallow, wood, and processed wood products; and continue the program through 1993.

The bill would also amend the Agricultural Trade Act of 1978 to include developing countries and countries that are emerging democracies as those eligible for direct credit sales. The list of eligible commodities would be expanded to include bulk and high-value commodities, fish, edible and nonedible tallow, wood, and processed wood products.

The bill would also amend the Food, Agriculture, Conservation, and Trade Act of 1990 to establish a program to develop agricultural markets in emerging democracies and to promote cooperation and exchange of information between educational institutions in the United States and in the Soviet Union.

H.R. 3687—Rep. David Dreier (CA)

The Wheat for Weapons Act of 1991 would limit the provision of food assistance to the Soviet Union under P.L. 480.

Assistance would be provided only to the extent that such assistance is compensated through a turnover of military equipment roughly equivalent in value. The President would be authorized to accept military equipment from the Soviet Union in return for food assistance.

H.R. 3711—Dale E. Kildee (MI)

The WIC Supplemental Benefits Act of 1991 would authorize grants to State programs that provide fresh, nutritious, unprepared foods (such as fruit and vegetables) from farmers' markets to people at nutritional risk.

H.R. 3819—Robert J. Mrazek (NY)

The Head Start Entitlement Act of 1992 would amend the Head Start Act to extend program benefits to all eligible children at least 3 years of age.

H.R. 3944—Beryl F. Anthony, Jr. (AR)

The Crop Sharing Hunger Relief Act would amend the Internal Revenue Code of 1986 by encouraging parity in order to increase prices received by farmers while helping to feed starving people around the world.

The act would expand section 170(e) of the code (relates to certain contributions of ordinary income and capital gain property) by allowing deductions for qualified com-

modity contributions. The amount of the deduction allowed would be equal to the lesser of either the parity price of the commodity or 200 percent of the taxpayer's basis in the property. Qualified commodity contributions would be exempt from alternative minimum taxes.

S. 1742—Sen. Patrick J. Leahy (VT)

The Farmers' Market Nutrition Act of 1991 amends the Child Nutrition Act of 1966 to provide assistance recipients with coupons that may be exchanged for fresh food at farmers' markets.

This bill would authorize grants to State programs designed to: (1) provide fresh, nutritious unprepared food (such as fruit and vegetables) obtained from farmers' markets to persons who are nutritionally at risk; and (2) expand the awareness and use of farmers' markets, thereby increasing sales at the markets.

S. 1804—Sen. Kent Conrad (ND)

The Humanitarian Assistance to the People of the USSR Act would authorize the Commodity Credit Corporation (CCC) to guarantee credit for purchases of U.S. exports to the constituent republics of the former Soviet Union, including Lithuania, Latvia, and Estonia.

Purchases would be made under the export credit programs established under subsections (a) and (b) of section 202 of the Agricultural Trade Act of 1978. Under these programs, the CCC provides financing to exporters of agricultural commodities who provide deferred payment terms.

This authorization would be subject to the appropriate authorities of the Government of the Union of

Sovereign States and the Government of the Russian Republic making a commitment to negotiate further joint reductions in nuclear forces. In addition, the Government of the Union of Sovereign States would be required to commit and adhere to a schedule for the withdrawal of armed forces from eastern Europe and Cuba.

S. 1858—Sen. Daniel P. Moynihan (NY)

The Welfare Dependency Act of 1991 would provide the public with generally acceptable measures of welfare dependency in order to track dependency over time. These measures would help determine whether dependency is being reduced and whether welfare benefits are adequate.

The act would direct the Secretary of Health and Human Services to report to Congress on welfare dependency each year. The report would identify predictors and trends in welfare dependency.

The data would cover families and individuals receiving need-tested benefit programs, including Aid to Families with Dependent Children, Food Stamps, Medical Assistance, and General Assistance Programs administered by State and local governments.

S. 1883—Sen. Ernest F. Hollings (SC)

This bill would provide for a joint report by the Secretary of Health and Human Services and the Secretary of Agriculture to assist in decisions to reduce administrative duplication, promote coordination of eligibility services, and remove eligibility barriers that restrict access of families, pregnant women, and children to benefits under the Food Stamp Act of 1977 and under Titles IV and XIX of the Social Security Act.

The report would cover the program rules that provide the eligibil-

ity criteria for the Food Stamp Program (Food Stamp Act), Aid to Families with Dependent Children Program (Part A of Title IV), and Medicaid (Title XIX of the Social Security Act). All program rules related to administrative procedures, resources, definitions of countable income, and definitions of income disregards and exemptions would be included.

The report would specify how the program rules differ across the three programs, and would indicate which of these rules could be made uniform without any change in the statutes that govern the programs. The report would also indicate if any change in statutes were necessary in order to achieve complete uniformity.

Foreign Assistance

H.R. 4070—Dante B. Fascell (FL)

The International Cooperation Act of 1991 would amend the Foreign Assistance Act of 1961 and the Arms Export Control Act of 1968 and authorize appropriations for foreign assistance programs for fiscal years 1992 and 1993. The act considers economic, military, and other forms of international cooperation that reduce poverty to be vital to U.S. foreign policy.

Such foreign assistance is designed to establish the political, economic, and social environment necessary for sustained economic growth through promotion of: (1) democratic values and institutions; (2) U.S. national security interests and peace; (3) economic growth through competitive markets with equitable distribution of benefits; (4) human resource development and meeting of urgent humanitarian needs; and (5) common ap-

proaches to transnational threats, including environmental degradation, narcotics trafficking, and terrorism.

The United States would promote international respect for the right to food and medical care, including the protection of such rights of civilians and noncombatants during times of armed conflict. The United States would work through the United Nations to strengthen such rights in international law by ensuring that all people have access to adequate food supplies. The Secretary of State would propose to the United Nations General Assembly that a Declaration and a Convention concerning the right to food be

adopted and submitted to all countries for ratification.

The following were introduced before the breakup of the Soviet Union. The name "Soviet Union" is still used, as we do not know how the breakup will affect these bills.

S. 2046—Joseph I. Lieberman (CT)

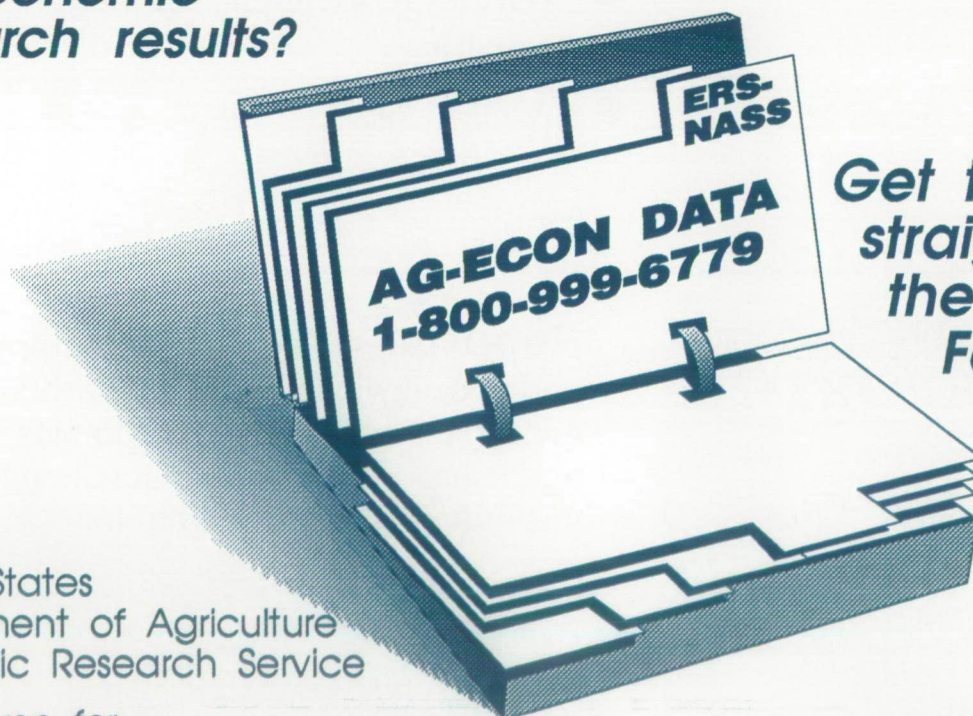
The Economic Development and Security Act of 1991 would authorize humanitarian, technical, and enterprise fund assistance for the Baltic states and the Soviet republics. The President would be authorized to immediately begin the process of sending food assistance and medicine to the Soviet Union through the Agency for In-

ternational Development and international and national organizations such as the Red Cross, Project Hope, and Americares.

S. 2081—James M. Jeffords (VT)

The Food for Enterprise Act would amend the Agricultural Trade and Development and Assistance Act of 1954 by adding Title VII—Sale of Agricultural Commodities to Soviet Union to Promote Local Food Distribution and Production. Title VII would authorize the President to establish a program for credit sales of surplus agricultural commodities owned or controlled by USDA's Commodity Credit Corporation to the Soviet Union for emergency food needs. ■

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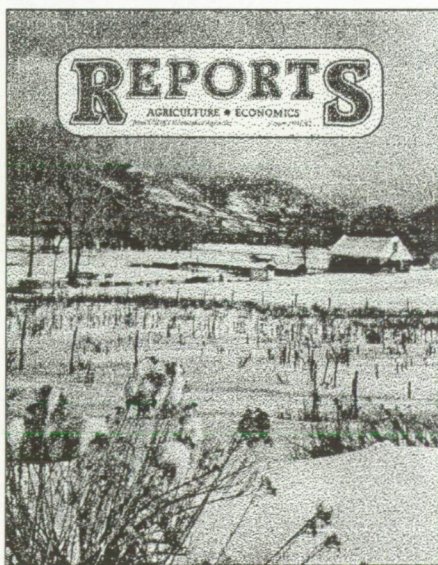
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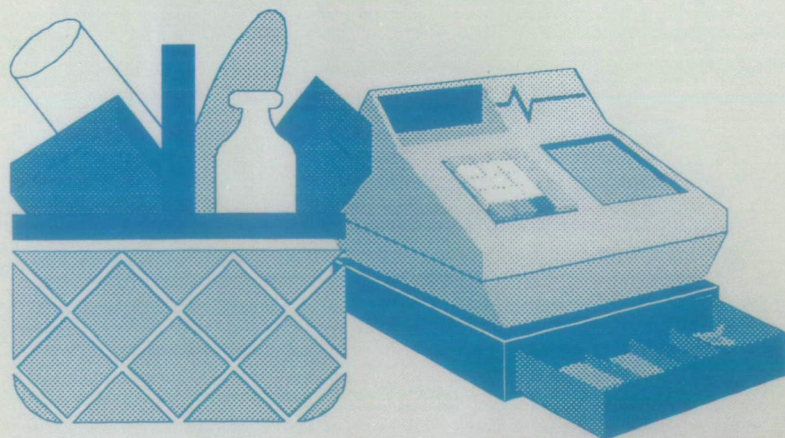
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