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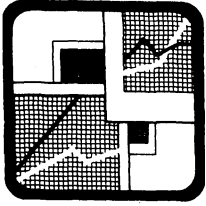
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Food Situation and Outlook

The outlook for retail food prices in 1978 is dominated by four primary factors: (1) prospects of relatively large supplies of, and low prices for, U.S. farm products, (2) continued increases in costs for marketing inputs, particularly labor, (3) some moderation in retail prices for the imported foods and fish category, and (4) uncertainties regarding worldwide weather, the outcome of food additives regulations and energy legislation, and the farm production impacts implied by passage of the Food and Agriculture Act of 1977. Overall, retail food prices in 1978 are expected to average moderately above a year earlier.

For the fifth consecutive year the farm value of U.S. produced food is expected to hold at about \$56 billion in 1978, barring widespread adverse weather. Retail prices will, however, continue to rise due mainly to higher marketing costs. For the second year in a row, labor costs in the marketing of domestically produced food will likely exceed the farm value of those foods.

Review of 1977

Food prices at retail were impacted most by weather, imported foods, marketing costs, and consumer demand. The severe winter which devastated Florida's vegetables and severely damaged their citrus crops contributed to the food price rise early this year. Imported food prices were also influenced dramatically by the weather. The coffee shortage, in

particular, developed after freezing weather in Brazil in 1975 severely damaged coffee trees. A number of other imported food items have had sharp increases too. Costs of marketing services continued to rise in 1977 and were either passed on to consumers through higher prices or were partially offset by lower prices of farm commodities. Again this year, the consumer demand for food and related services has been strengthened by increased disposable personal income in both nominal and real terms.

Retail food prices were relatively stable in 1976. But prices began to climb early in 1977. Through July an average rise of 1 percent per month had occurred. Winter vegetables and citrus were contributors but most of the increase resulted from the dramatic increases in prices of imported foods, particularly coffee, and fish. By mid-1977 prices for food at home were up 7½ percent from December with the all-food index, which includes prices of food away from home, up 7.2 percent.

In the second half, larger supplies of farm commodities with lower prices to farmers have about offset wider price spreads for U.S. farm foods resulting in little change in prices of domestically produced food. Coffee prices have begun to decline, offsetting continued price increases for other imported foods and fish. Consequently average prices for food at home are expected to be only about 1 percent higher by

December than at mid-year; prices for all food will be up slightly more because of away-from-home price increases.

For 1977, grocery prices will probably end the year about 7½ percent above a year earlier and, for the entire year, average about 6 percent above 1976. Price increases for away-from-home eating, which are influenced more by rising consumer demand and by increases in costs in the nonfarm sector, will average nearly 8 percent over 1976—a slightly larger increase than a year ago. The all-food index combining both at-home and away-from-home components will average about 6½ percent above 1976.

The retail cost of the market basket of U.S. farm foods will average only about 2½ percent higher this year following the 1 percent rise in 1976. The market basket contains 65 food items and represents the average quantities of domestic farm-originated foods bought in retail stores during a year by an urban household. It does not include food consumers buy in away-from-home eating establishments, fishery products, and imported foods such as coffee, tea, cocoa, and bananas. Although prices at the farm level have been higher for some commodities, average returns to farmers for all market basket foods will be slightly below last year. Price spreads, the difference between what the farmer receives and what the consumer pays, will, however, average about 4½ percent higher for the year, reflecting

lags in adjustments between farm and retail prices and rising costs for labor and other marketing related inputs. Thus, all of the estimated 1977 increase in the retail cost of a market basket of foods produced on U.S. farms arises from wider price spreads.

Retail prices will average sharply higher for fresh fruits and vegetables (14 percent) and oilseed products (10 percent) reflecting tight supplies and higher farm prices for these commodities earlier this year and widening price spreads in recent months. Small to moderate price increases for cereal and bakery products (1½ percent), processed fruits and vegetables (3 percent), and other highly processed foods are wholly attributable to higher marketing charges. Returns to farmers producing the major raw materials in these products have been generally lower this year.

Increases in spreads for many crop products followed sharp decreases in prices to farmers as retail prices were slow to adjust. For example, the price spread for fats and oils products increased 25 percent from the second to the third quarters following the sharp drop in oilseed prices last spring. Despite sharply lower prices for wheat, retail prices for cereal and bakery products are up 1½ percent reflecting wider price spreads. Price spreads for fresh fruits and vegetables, which rose to record highs following last winter's adverse weather, have also been slow to return to former levels.

Retail prices for livestock-related products have been more stable than crop foods this year. Moderate increases (3½ percent) in prices of dairy products reflect a combination of higher farm prices for milk and wider marketing spreads. Poultry prices will average about the same as last year at the retail level despite high

farm prices for turkey. Egg prices will average a little below a year earlier at both the farm and retail levels.

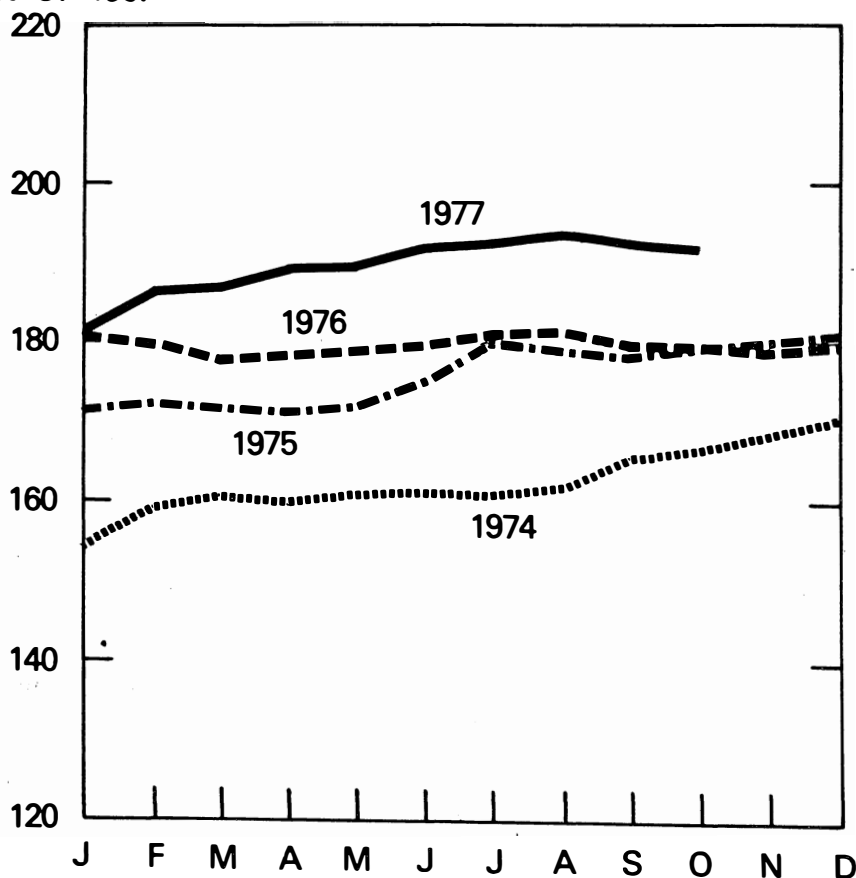
Retail prices for red meats have provided some offset to price increases for most other foods in 1977. With a 6 percent decline for pork prices and slightly lower prices for beef (down about ½ percent) and other meat, retail prices for all red meats will average about 2½ percent below a year earlier. Returns to farmers for meat animals will average about 2 percent lower with a 3 percent reduction for marketing spreads also contributing to lower retail prices.

Fish and imported foods,

including coffee, tea, cocoa, and about half of the sugar consumed in this country, represent about a tenth of all food consumed. In recent years, however, price increases for these products have contributed proportionately more to the overall increases in retail food costs. In 1974 and early 1975, the world shortage caused sugar prices to increase dramatically, but in 1977 sugar prices are expected to average 10 percent lower than 1976. More recently, coffee has been the major overall price mover, although tea, cocoa, and fish prices have also advanced sharply. Coffee prices alone will account for about half of the 6 percent rise in average grocery

RETAIL FOOD PRICES*

% OF 1967



*FOOD AT HOME. SOURCE: BUREAU OF LABOR STATISTICS.

USDA

NEG. ERS 2147-77 (11)

prices in 1977. The entire imported foods and fish group will contribute over three-fifths of the total.

Inflationary forces in the economy continue to impact on operating costs of food marketing firms. The total cost for marketing farm foods is estimated at \$124 billion this year, up \$8 billion from 1976. Prices for labor, packaging, transportation, energy, and most other inputs used in the marketing process are all up in 1977. Prices of intermediate goods and services purchased by food marketing firms will average about 7½ percent higher than a year earlier. Prices for packaging materials, have increased about 6 percent, while prices for energy are up about 20 percent. Rail rates are also somewhat higher than last year.

The largest expense item for food marketing firms in 1977 will be direct labor costs. Increases in hourly earnings of food processing, wholesaling, and retailing employees slowed slightly to an annual rate of around 8 percent. Although this is the lowest annual rate of increase in four years, it exceeds productivity gains and labor costs continue to exert substantial upward pressure on the farm to retail spreads. Total labor costs for marketing the foods which originate on U.S. farms will exceed the farm value of these foods for the first time this year. Labor costs could exceed \$58 billion. The farm value will likely remain at about \$56 billion—a level maintained since 1974.

Profits in food retailing have been relatively stable during the past year. Profits after taxes for large food retailing corporations in the first half of this year averaged 0.85 percent of total sales, compared with 0.80 percent last year. Profits after taxes for these corporations increased from 10.2

Changes in retail food prices

Item	Third quarter 1977 change from	
	Previous quarter	Previous year
<i>Percent</i>		
Meat	3.8	-1.7
Poultry	2.1	1.6
Fish	3.6	11.4
Dairy	1.1	3.3
Eggs	8.0	-4.8
Fats and Oil		17.6
Fruits and vegetables	4.3	8.2
Sugar and sweets	1.3	7.3
Cereals and bakery products	0.6	1.8
Beverages	4.8	56.2
Food at home	1.3	6.8
Food away from home	1.9	8.0
All food	1.4	7.1

percent of stockholder's equity in the first half of 1976 to 11.1 percent in the first half of this year.

Profit ratios for food manufacturers were down slightly during the first half of this year. The second quarter profit-sales ratio of 3½ percent was down from 3.7 percent a year ago. Equity profits for these firms were also lower—15.0 percent compared with 16.4 in the second quarter of 1976.

1977 Food Consumption Slightly Below 1976 Record

Per capita food use, which reached a record in 1976, may be down slightly this year—perhaps about ½ percent—but will still be the second-highest in history. The decline will be largely due to a 1-percent drop in consumption of crop foods. Per capita use of foods derived from livestock likely will remain about unchanged in total.

In the crop food category, consumption likely will be down for coffee, fresh and processed fruit, and vegetable oils due to short supplies and higher prices of these items early this year. Con-

sumption of most other crop items will be about the same as or slightly above last year.

Consumer use of livestock foods will reflect higher per capita supplies of pork and poultry, which will about offset lower consumption of beef, fish, and eggs. Per capita use of dairy products likely will be about the same as last year.

Outlook for 1978

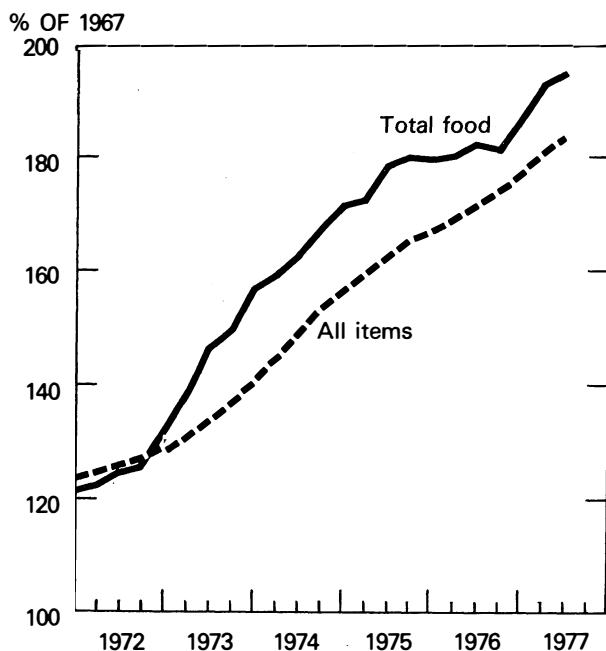
The food outlook for 1978 is dominated by anticipated large food supplies (both domestic and foreign), increases in marketing costs, uncertainty about the weather, energy costs, and the impact of recent or pending food legislation.

World grain output for the 1977-78 crop year is below last year and total world usage will be higher because of population pressures and economic growth. But, due in part to the record U.S. crop, total world production is expected to nearly match use. Farm production will therefore be sufficient to meet anticipated export requirements and still provide an adequate supply of major crop commodities for domestic use.

Rising wages of food processing and marketing employees and prices of other inputs purchased by food marketing firms will continue to exert upward pressure on food prices during 1978. Wages of employees in the food industry will probably increase 7 to 8 percent in 1978 as a result of prior wage settlements, cost-of-living adjustments to wages, renegotiated wage agreements and increases in the minimum wage.

In 1978, major collective bargaining agreements covering about a quarter million food marketing workers will expire, mostly

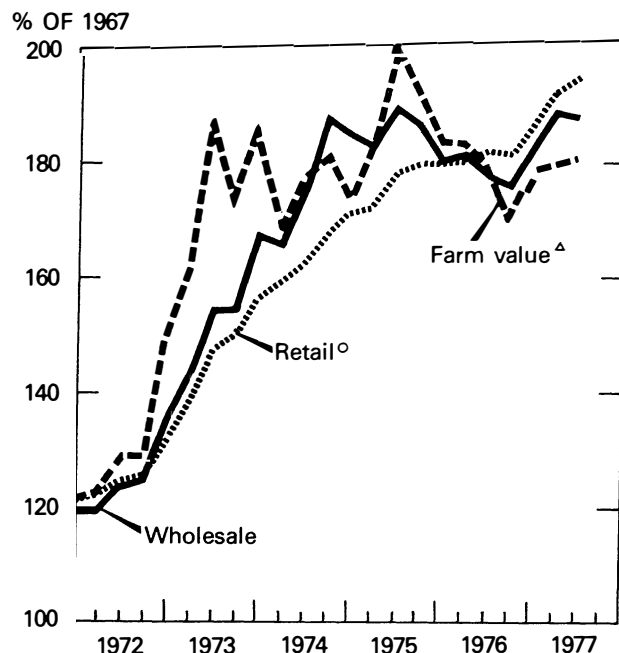
CONSUMER PRICE INDEX ALL ITEMS AND TOTAL FOOD



SOURCE: BUREAU OF LABOR STATISTICS.
USDA

NEG. ERS 2153-77 (11)

FOOD PRICES



△ PRICES RECEIVED FOR FOOD ORIGINATING ON U.S. FARMS.

○ SOURCE: BUREAU OF LABOR STATISTICS.

USDA

NEG. ERS 2155-77 (11)

for retail food store employees. Although only one worker in nine is included in major collective bargaining agreements, these agreements have potentially far-reaching effects on the food industry since wages of nonunion and management employees tend to follow changes in collective bargaining agreements. New wage settlements in the coming year will be strongly influenced by attempts to protect workers from further inflation and the possible loss of purchasing power. In addition to the provisions of labor contracts, increases in the minimum wage to \$2.65 per hour and higher social security withholding rates will also increase the labor costs of marketing firms.

Labor productivity should continue to increase slightly next year due to the greater volume of food marketed and help offset increases in wages and other cost elements. Productivity gains are likely to be greater in food processing than in

food retailing. Productivity growth in food stores has been slowed by a loss of business to eating places, longer hours of operation, and the growth of service-oriented operations in supermarkets, such as bakery shops and delicatessens.

Higher prices for other services, such as energy, packaging materials, and transportation will also contribute to rising marketing costs in 1978. The stable railroad freight rate situation for both food products and farm products that prevailed for much of 1977 ended this fall. Freight rates during 1978 are expected to average 6 to 7 percent above 1977 levels.

Pending legislation and international oil prices introduce considerable uncertainty into the energy situation. However, it appears almost certain that the general upward trend in these prices will continue in 1978. Increases in natural gas prices of

10 to 20 percent may result from proposed changes in regulations. Electric power rates can be expected to increase because of the cost of the required conversion of many steam-generating plants from fuel oil and natural gas to coal. The generally rising prices for all forms of energy will also exert some upward pressure on electric power rates.

Domestic demand for food is expected to continue to expand in 1978 at about the same rate as this year. In addition to the anticipated small increase in the population, disposable personal income is expected to increase about 9 percent, nearly identical to the 1977 increase. The overall inflation rate is likely to be about the same as in 1977. Real consumer income, therefore, would increase by about 3 percent. However, demand expansion for automobiles, housing, and services will continue to absorb most of the overall increase in consumer

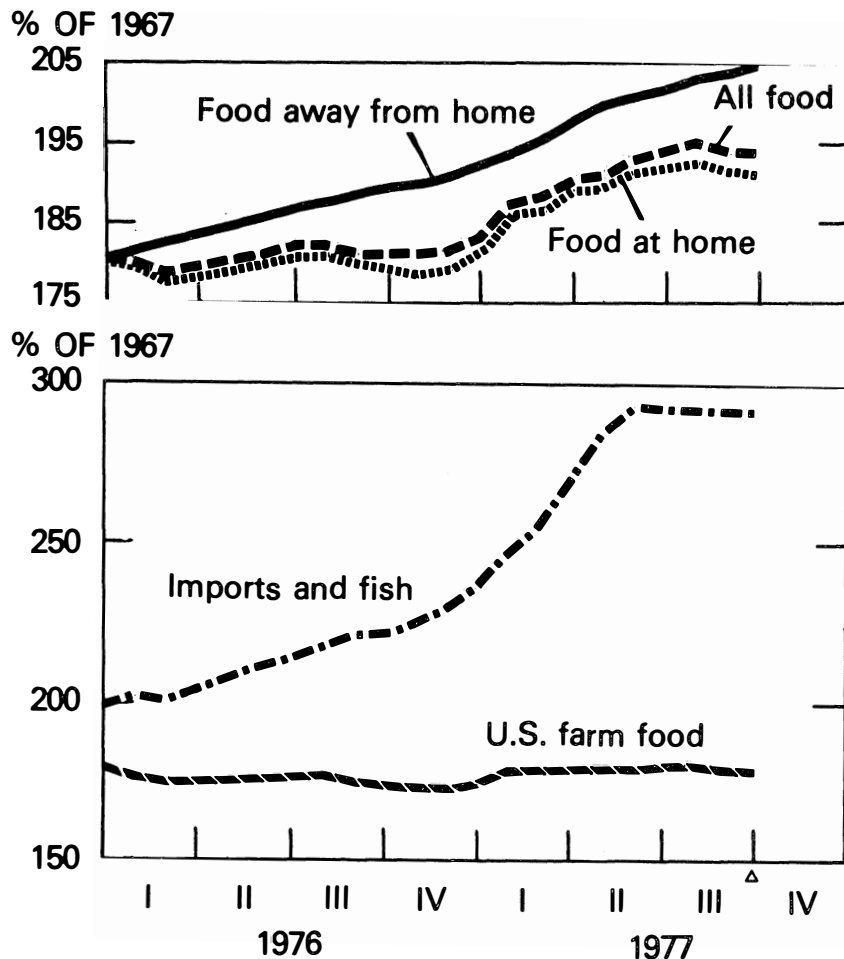
income, thus moderating its impact on food demand and prices.

In summary, it appears that most of the pressure on food prices during 1978 will be derived from increased costs in the marketing sector, and relatively less from imported foods and fish than in 1977. As in recent years, the farm value of domestically produced foods will be relatively stable, meaning that the farm sector will continue to retard retail food cost increases and general price inflation. Under these conditions, average increases in grocery store food prices will likely be in the neighborhood of 1 percent each quarter through mid-1978 reflecting normal seasonal patterns for farm prices and continued upward push from marketing cost. Considering the impact of higher marketing costs as well as the usual uncertainty surrounding weather conditions and farm commodity prices, grocery store food prices for all of 1978 are expected to average moderately above 1977.

Food Outlook Highlights: Meats

Continued large meat supplies in prospect through mid 1978... Hog producers and cattle feeders responding to big supplies and low prices of feed grains...First half 1978 meat output 1 or 2 percent over year earlier...Total beef output a little smaller...Fewer cows and other animals with little or no grain feeding to be slaughtered...But more grain fed beef coming to market...And hog slaughter could be up 8 or 10 percent...Retail meat prices to rise slightly on average due to increasing consumer demand and rising marketing cost...Moderate price increase likely for beef, partially offset by decline for pork.

MAJOR COMPONENTS OF CPI- FOR ALL FOODS



▲ FORECAST.
USDA

NEG. ERS 2895-77 (11)

Poultry: Broiler production continues to expand...Output could be 5-7 percent above a year earlier during first half of 1978...Chicken consumption sets new record in 1977...Expected to go higher next year...Bigger supplies of broilers and competing pork probably will hold retail chicken prices moderately below first half 1977...But stronger consumer demand, smaller beef supplies, and higher marketing costs preclude sharp price drop.

Smaller turkey supplies during late 1977 holding retail prices moderately above a year ago...But

favorable prices to producers and low feed prices probably will push output up next year...Moderate price decline likely.

Eggs: Output was down through much of 1977...Extreme cold last winter and extreme heat in the summer hindered production...But supplies running above a year earlier in recent months...Larger layer numbers and output per hen could result in 2 or 3 percent more eggs than a year earlier through mid 1978...Egg prices, weak since last winter, likely will average well below 1977 levels in first half 1978.

Dairy: Milk production continues to outpace last year...Output gains to extend well into 1978 due to favorable milk-feed price relationships...Wholesale prices for butter and cheese holding at support level since adjusting to the higher Government support prices put into effect last April...USDA purchases of dairy products under price support program highest since 1967...Retail prices of milk and dairy products increasing moderately...Reflecting delayed pass through of support prices and rising marketing costs...Further moderate price increases likely through mid 1978.

Fish: Retail prices expected to continue to rise in 1978 but at slower rate than in 1977...Bigger supplies of tuna and shrimp likely, but strong demand and higher distribution costs offsetting...Retail fish prices expected to average 7 percent higher in 1978...Compares with a 10 percent hike in 1977...Most of the 1977 price

rise due to higher costs within the distribution system...Supplies of many fishery products improved and wholesale prices were relatively stable...Tuna was a major exception...The tuna- porpoise controversy led to sharp drop in domestic landings, sharply higher prices.

Fruits and Vegetables: Fresh fruit prices dropping seasonally in late 1977 but averaging a tenth above a year ago...Average retail prices for fresh fruit may decline a little more this winter, then rise seasonally in the spring...First half 1978 prices could average slightly higher than a year earlier...Fall and winter orange supplies to be sharply below last year...More effects of freeze in Florida last January and a smaller bearing acreage...Later Valencia orange crop will be bigger, unless more bad weather strikes this winter...Record large grapefruit crop in prospect; prices likely to be a little lower...1977 apple crop 8 percent

above freeze damaged 1976 crop...Processors will take more apples but fresh shipments also expected to be larger...But winter pear supplies may be down a fifth from record high a year ago; prices will be higher.

Barring unusually cold weather, fresh vegetable supplies to be ample through early 1978...Acreages up from this time last year for most vegetables; celery and spinach are exceptions...Vegetable prices to rise seasonally this winter but average a tenth or more below last winter's freeze-affected price level—1977 fall potato crop only 1 percent below record large 1976 crop...Retail prices to strengthen seasonally through winter following harvest-time low prices this fall...First half 1978 retail potato prices may average about like a year earlier...Dry bean supplies down 7 percent from year ago...Prices likely to be moderately higher.

Canned vegetable supply for

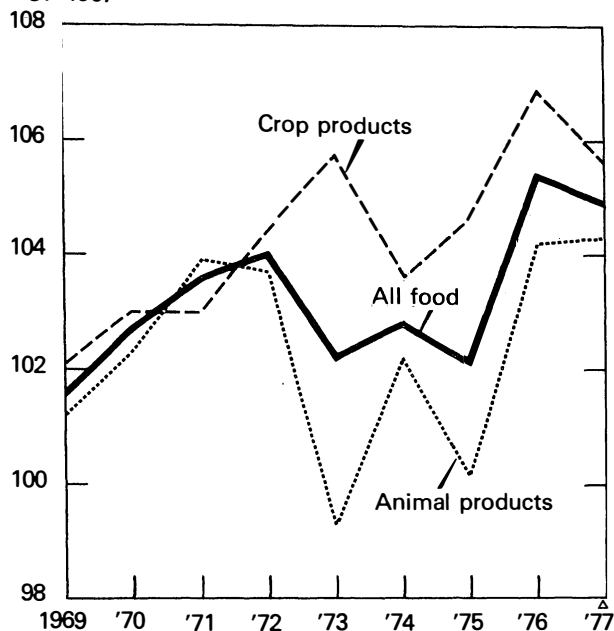
Consumer Price Index, U.S. average (not seasonally adjusted)

Items	January-June			1976		1977				
	1975	1976	1977	Oct.	May	June	July	Aug.	Sept.	Oct.
Consumer price index, all items	158.3	168.1	178.8	173.3	180.6	181.8	182.6	183.3	184.0	184.5
Consumer price index, less food	154.3	164.7	175.6	170.8	177.3	178.4	179.1	179.8	180.9	181.6
All food	171.9	179.9	189.3	181.1	191.7	193.6	195.2	194.5	194.4	
Food away from home	171.5	183.3	196.4	189.3	199.3	200.6	201.7	203.0	203.7	204.6
Food at home	172.0	179.1	187.6	179.6	189.8	191.9	192.8	193.2	192.2	191.7
Meats ¹	164.7	181.3	171.3	172.7	171.3	174.4	175.8	171.4	177.7	176.3
Beef and veal	161.0	167.0	162.2	158.7	162.8	164.8	164.2	164.0	164.1	163.7
Pork	173.9	205.0	183.3	191.7	182.0	187.0	192.0	196.8	197.6	194.2
Poultry	152.2	159.3	154.8	149.2	157.6	157.6	161.2	161.1	160.3	158.5
Fish	197.8	221.4	244.0	234.4	248.8	250.8	254.1	256.7	258.8	260.3
Eggs	156.4	165.8	174.2	179.4	152.8	141.0	163.6	166.2	166.6	154.5
Dairy products ²	154.6	168.0	172.1	172.7	173.1	174.3	174.1	175.1	175.4	176.2
Fats and oils ³	208.5	174.6	184.3	174.3	189.5	194.7	198.7	201.0	200.1	197.3
Fruits and vegetables	168.6	175.4	194.0	175.5	195.1	196.8	194.1	192.1	183.2	184.0
Fresh	162.9	169.8	200.1	171.9	200.8	202.1	197.1	193.4	177.6	178.6
Processed	177.2	185.0	184.8	181.0	186.7	188.9	188.7	190.2	191.5	192.1
Cereals and bakery products	187.1	181.0	181.5	180.1	182.5	182.8	183.3	182.7	184.9	185.6
Sugar and sweets	260.5	221.8	224.0	213.3	230.1	232.8	232.0	232.5	233.2	234.6
Beverages, non-alcoholic	176.4	197.6	302.1	230.7	334.6	348.7	348.3	347.4	346.2	343.2
Apparel commodities less footwear	139.1	142.6	148.4	148.5	149.7	150.2	149.6	157.3	152.6	153.7
Footwear	143.6	147.7	155.5	152.8	157.0	156.8	155.9	167.4	158.1	159.1
Tobacco products	153.0	159.5	166.0	161.0	166.2	166.4	167.2	151.1	170.0	171.7
Beverages, alcoholic	141.2	145.5	149.6	148.3	150.3	150.7	151.4		151.9	152.3

¹ Beef, veal, lamb, mutton, pork, and processed meat. ² Includes butter. ³ Excludes butter.

PER CAPITA FOOD CONSUMPTION*

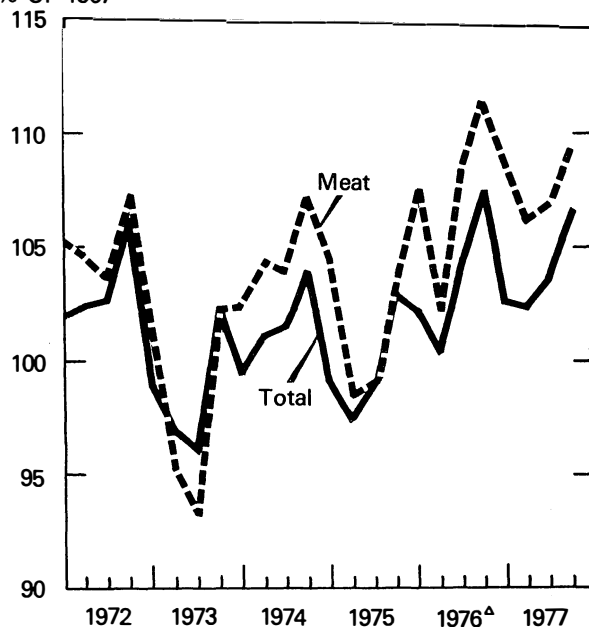
% OF 1967



* ITEMS COMBINED IN TERMS OF 1957-59 RETAIL PRICES. Δ PRELIMINARY.
USDA NEG. ERS 2150-77 (11)

PER CAPITA CONSUMPTION OF LIVESTOCK PRODUCTS*

% OF 1967



* ITEMS COMBINED IN TERMS OF 1957-59 RETAIL PRICES.
Δ PRELIMINARY.
USDA NEG. ERS 2156-77 (11)

Per capita food consumption indexes¹

(1967=100)

Item	1969	1970	1971	1972	1973	1974	1975	1976	1977 ²
Meat, poultry & fish	102.4	105.0	107.3	107.2	100.8	106.0	103.0	109.6	110.1
Meat	102.1	104.1	107.1	105.3	97.8	104.4	101.2	107.5	107.7
Poultry	103.3	107.1	107.9	112.8	108.8	110.6	108.2	116.1	118.3
Fish	105.0	110.7	107.9	117.5	121.3	114.7	113.9	120.1	119.2
Eggs	96.6	97.0	98.0	96.1	91.6	89.9	87.0	86.0	84.3
Dairy products ³	100.3	99.0	99.2	99.6	99.4	98.3	99.2	99.9	99.6
Fats and oils	105.0	106.6	105.2	109.3	109.8	106.9	107.8	112.6	108.5
Animal	95.2	90.5	90.7	84.1	78.7	76.7	73.1	68.0	68.3
Vegetable	110.3	115.3	113.2	123.1	126.8	123.4	126.7	136.9	130.4
Fruits ⁴	100.7	102.6	103.2	101.2	102.7	102.4	109.3	110.8	107.2
Fresh	98.3	101.3	99.4	95.7	94.4	98.6	104.5	108.7	104.4
Processed	102.7	103.8	106.5	105.9	110.0	105.8	113.6	112.6	109.8
Vegetables ⁵	100.9	101.4	101.7	102.6	105.3	104.1	103.7	105.3	106.4
Fresh	99.1	99.6	100.0	99.8	101.2	101.2	101.7	102.5	102.9
Processed	104.3	104.7	105.0	107.8	112.8	109.5	107.5	110.6	113.0
Potatoes & sweetpotatoes	106.5	113.3	114.2	114.0	113.4	114.6	117.8	110.4	112.1
Fresh	98.0	94.7	90.8	91.6	83.7	79.9	90.1	84.4	92.9
Processed	110.2	121.5	124.4	123.9	126.4	129.8	130.0	121.9	120.5
Dried beans and peas, and nuts	98.7	98.4	100.0	103.8	104.6	100.4	106.6	104.5	104.3
Cereal products	100.8	97.9	98.6	97.6	97.8	96.0	96.5	99.0	99.2
Sugar	103.9	106.3	106.5	108.6	109.7	106.6	102.9	109.7	110.5
Coffee, tea & cocoa	96.7	93.9	92.4	98.2	96.8	89.4	85.1	88.8	77.7
Total food	101.6	102.7	103.6	104.1	102.2	102.8	102.1	105.4	104.9
Animal products	101.2	102.3	103.9	103.7	99.3	102.0	100.1	104.2	104.3
Crop products ⁶	102.1	103.0	103.0	104.4	105.7	103.6	104.6	106.9	105.6

¹ Civilian consumption only. Quantities of individual foods are combined in terms of 1957-59 retail prices. ² Preliminary. ³ Includes butter. ⁴ Excludes melons and baby food. ⁵ Excludes soup, baby food, dry beans and peas, potatoes, and sweetpotatoes. ⁶ Includes melons, soup, and baby food in addition to groups shown separately.

1977/78 season now looks to be 2-4 percent above year earlier... Supplies of frozen vegetables about 1 percent below last year... Canned prices expected to hold at about the same level as last year... Frozen vegetable prices rose last summer and are expected to remain higher this winter and spring...Canned noncitrus fruit supplies about match last year's level...Prices to average moderately higher, reflecting increases for both raw product and marketing costs...Tight supplies of frozen concentrated orange juice will keep retail prices well above a year earlier...Raisin supplies up from last year's rain-damaged level, also more dried prunes...Raisin prices dropping off in response to bigger supply.

Cereal and Bakery: Large supplies, lower prices for major ingredients almost offset higher processing and marketing costs during past year...Held down retail price increases...Ample supplies continue into 1978...But seasonal factors and higher support prices for grains and sugar mean moderately higher ingredient costs through mid 1978...Marketing costs also continue to rise...Retail prices for first half 1978 to average 4-5 percent above year earlier.

Sugar and Sweets: Retail sugar prices in 1977 averaged about a tenth below 1976...New price support program to aid distressed domestic sugar industry... Could raise retail prices next year; also add to cost of sugar using products...Chocolate prices rose sharply over last year due chiefly to world supply conditions for cocoa...More stable prices likely in near term until more is known about prospective world supplies.

Fats and Oils: Soybean oil supplies for 1977/78 season to be up slightly from previous season... Bigger supplies of domestic cot-

tseed oil and lard as well as imported palm oil also in prospect...Crude vegetable oil prices to average well below year earlier... Larger supplies and lower wholesale prices for edible fats and oils likely to result in expanded domestic disappearance and per capita food use...Higher marketing and distribution costs likely to offset lower wholesale prices and hold retail prices for margarine, shortening, salad or cooking oils, and salad dressings near or slightly above current levels.

FOOD SPENDING AND INCOME

Personal consumption expenditures for food in the third quarter were \$218.0 billion (seasonally adjusted, annual rates), up nearly 9 percent from a year ago, but only marginally above the second quarter. Spending for restaurant meals and snacks rose at a slightly faster pace than for food at home continuing the direction since the first of the year.

When adjusted for price increases, total spending was nearly 4 percent above year earlier totals. Spending for food at home rose at a faster pace than for res-

taurant meals and snacks.

Personal consumption expenditures continued to increase only moderately. This sluggish pace can be attributed primarily to a decline in automobile purchases. Spending for all categories of services remained strong, especially for household utilities. Spending on nondurables rose primarily due to increased spending on clothing and shoes. Disposable Personal Income again rose more rapidly than spending, leading to another increase in the savings rate.

Changes in food expenditures, third quarter, 1977¹
(Seasonally adjusted)

Item	From second quarter 1977	From third quarter 1976
	Percent	
Total food		
Current dollars . . . . .	.5	8.7
1972 dollars	—	3.8
Food at home		
Current dollars . . . . .	.5	8.0
1972 dollars	—	3.9
Food away from home		
Current dollars . . . . .	.7	10.7
1972 dollars	-.7	3.4

¹ Preliminary.

Quarterly changes in personal expenditures and disposable personal income
(Seasonally adjusted)

Item	1976		1977	
	IV	I	II	III ¹
Percent				
Personal consumption expenditures . . .	3.3	2.9	1.8	1.9
Durable goods	4.4	6.4	.9	-.3
Nondurable goods	3.2	1.7	1.7	.9
Food	2.4	2.3	3.2	.5
Other	3.8	1.2	.4	1.2
Services	3.2	2.9	2.3	3.6
Personal disposable income	2.6	2.4	3.2	2.3

¹ Preliminary.

USDA FOOD PROGRAMS

Family Food Program

Preliminary estimates indicate that participation in the Food Stamp Program continued to decline in the third quarter, reflecting the effects of increased employment and earnings in the domestic economy. However, the decline in Food Stamp Program participation was not as great as in the second quarter. Due to the July 1 cost of living increase in the allotment of stamps and the increase in the level of income a family could earn and be eligible for the program, participation declines were partly held in check. Average participation was 14½ million, down 7 percent from a year earlier. The fall in participation among nonpublic assistance families was greater than that of families receiving public assistance.

Because of participation declines, the total value of stamps issued during the third quarter

declined from \$1.9 billion a year ago to \$1.8 billion. The average value of bonus stamps increased, reflecting the July 1 cost of living adjustment.

The 1977 Food and Agriculture Act contains revisions in the Food Stamp Program that will impact upon the number of people participating and the cost of the program when they become effective in July 1978.

The current program still in effect has the following requirements:

1. All participants except the very poorest must pay for their stamps. Payment is based upon income levels and, the higher the income, the more participants pay for their stamps.

2. Income, for purposes of eligibility certification, is computed by subtracting certain "hardship" deductions such as union dues, medical expenses in excess of \$10, or unusual disaster or casualty losses.

3. In addition to the above deductions, housing expenses in excess of 30 percent of family

income and payments for child care are excluded from income.

4. The maximum value of assets is currently \$1,500 per household. Excluded assets are home, automobile, household goods, cash value of life insurance policies, personal effects, income producing property, and jointly held tribal lands.

The revisions effective July 1978 contain the following additions and changes in the regulations:

1. Participants will no longer be required to purchase a portion of their stamps.

2. A cut off level for net income will be set at the current poverty level. Thus, for a family of four, the maximum net income allowed for eligibility will be reduced from \$6,804 currently to \$5,850.

3. The "hardship" deduction will be eliminated and replaced by a \$60 standard deduction.

4. A 20-percent deduction from earned income to cover such items as taxes and social security deductions will be implemented.

5. The combined allowance for housing and child care will be limited to \$75.

6. The level of assets a family may own and remain eligible will be raised to \$1,750. However, an automobile with a market value above \$4,500 will no longer be exempt unless it is used in the process of earning a living.

7. The revisions strengthen the work rules and require that students must register for part-time work.

The impact of these rules will be mixed. Placing the maximum permissible income at the poverty level, replacing the itemized deduction with a standard deduction, limiting the allowance for child care, and including in assets the value of an expensive automobile will eliminate some

Federal cost of USDA food programs (50 States and District of Columbia only), 1971-76

Item	1971	1972	1973	1974	1975	1976	1977		
							I	II	III ¹
<i>Million dollars</i>									
Food stamps									
Total issued	3,103	3,615	4,049	5,868	7,680	7,818	1,961	1,861	1,813
Bonus stamps ²	1,699	1,980	2,209	3,498	4,602	4,657	1,172	1,089	1,068
Food distribution ³									
Needy families	261	225	152	87	11	8	3	3	3
Schools ⁴	311	275	253	355	364	448	201	99	86
Other ⁵	37	39	48	36	33	33	14	13	11
Child nutrition ⁶									
School lunch	628	785	939	1,137	1,340	1,505	524	399	201
School breakfast	22	28	43	67	94	118	43	35	19
Special food ⁷	34	43	52	87	116	240	29	43	132
Special milk	92	91	63	90	134	147	48	38	18
WIC ⁸	---	---	---	33	106	182	62	69	76
Total ⁹	3,084	3,466	3,784	5,390	6,800	7,337	2,096	1,789	1,615

¹ Preliminary. ² Includes Food Certificate Program. ³ Cost of food delivered to State distribution centers. ⁴ Includes Special Food Services. ⁵ Includes supplemental food, institutions, elderly persons. ⁶ Money donated for local purchase of food. Excludes nonfood assistance. ⁷ Includes child-care and Summer Food Programs. ⁸ Special Supplemental Food Program for Women, Infants, and Children begun January 1974. ⁹ Excludes those food stamps paid for by the recipient. Do not add due to rounding.

from the program. However, many working poor who did not have the necessary itemized deductions might become eligible due to the standard deduction, the exclusion of 20 percent of earned income, and the increase in the allowed value of assets.

In addition to those who become newly qualified, participation may increase because of the elimination of the purchase requirement. Those who could not previously afford the necessary cash outlay might now participate. However, the major impact will probably be felt by those closer to the poverty line. At these income levels, families must currently pay for a large portion of the cash value of the stamp allotment. As a result, they may feel that the relatively small benefit gained from the bonus stamps would not be worth the inconvenience of the certification process, the large lump sum payments made on a regular basis, or the social stigma. Removing the purchase requirement may induce these families to join the program. In all, these revisions are expected to increase participation by 10 to 15 percent.

The impact upon food expenditures will be equally mixed. For example, currently a family of four with a monthly income of \$370 pays \$104 to purchase an allotment of stamps with a cash value of \$170. The entire \$170 must be spent upon food. Under the new rules \$66, the value of the bonus stamps, must be spent upon food. The \$104 previously used to purchase the allotment may be spent upon anything. While it is probable that some of that money will go to food purchases, part of it will be diverted to other uses. Whether or not aggregate expenditures upon food are increased depends upon

the magnitude of any participation increase and how much of the current purchase requirement will voluntarily be spent upon food.

Child Nutrition Programs

Nearly 25 million children participated in the School Lunch Program during the first month of the school year. The decrease in the number of children paying the full price for lunch was offset by an increase in the number receiving lunches free or at a reduced price. The Federal cost of this program rose 14½ percent due to the increased number receiving free and reduced price lunches and the higher reimbursement rates for serving free and reduced price meals.

The number of children participating in the School Breakfast Program rose 200,000 above last year's level during the first month of the school year. Most of the increased participation was among those receiving free and reduced price lunches. Program costs rose by 28½ percent, again due to increased numbers receiving free and reduced price lunches and the increased reimbursement rates for those lunches.

New Lunch Patterns for National School Lunch

USDA proposed significant changes in meal patterns for the National School Lunch Program. The proposed patterns update the long-standing Type A meal pattern. They are designed to provide children with approximately one-third the Recommended Dietary Allowances (RDA) for nutrients (except calories).

The proposed lunch patterns define minimum portions of food for children of five age groups. The proposed patterns reduce the amounts of food served to younger children among whom studies

have found plate waste to be greatest. At the same time, older students with increased appetites and nutritional needs, will be offered more food. However, in order to meet the differing food preferences of individuals and to minimize plate waste, students age 12 and older will be able to choose smaller portion sizes of the required lunch components.

The lunch requirements are based on the 1974 revisions of the RDA published by the National Academy of Sciences. This brings the lunch patterns up to date with new knowledge about nutritional needs, changing food preferences, and consumption habits of children.

The proposed new lunch patterns:

- Expand the bread alternates to include the use of enriched or whole-grain rice, macaroni, and noodle products. This avoids situations in which both bread and chop suey over rice must be served at the same meal. It also allows flexible menu planning to meet ethnic and cultural food habits.

- Require lunch to be served to 1- through 5-year-old children at two sittings which together meet lunch pattern requirements. Department officials expect this to better meet the food consumption habits of young children.

- Require schools to offer students unflavored fluid lowfat, skim, or buttermilk in addition to whole or flavored milk. This provision keeps the amount of fat in the lunch at a moderate level.

- Require schools to involve students in their school food service program through activities such as menu planning, enhancement of the eating environment, program promotion, and related student-community support activities.

Interim regulations are planned to be in effect, on a pilot test basis, from January 1978 through April 1978. Schools will be permitted to field test the new lunch patterns under the interim regulations, and the Department will continue to accept and consider public comments on the meal patterns during this period.

Other Programs

In addition to the Food Stamp Program, 80,000 persons participating in the family food program received commodities valued at \$3 million. The Women's, Infants and Children's program continues to grow with over 950,000 participants, an increase of over 50 percent from a year ago. The numbers participating in the Supplemental Food Program continue to decline; however, the cash value of foods donated has increased relative to a year earlier.

COFFEE PRICES AND CONSUMPTION CONTINUE DOWN

**By
Fred Gray**

Many of the stresses and strains in the U.S. coffee industry came to a head this past summer. Retail prices of roasted coffee averaged \$3.82 per pound in the third quarter, up 13 cents per pound from the second quarter. While retail prices of roasted coffee are still high, they are coming down—the U.S. average price for a 1-pound can of roasted coffee was \$3.69 in October, down 25 cents from the July peak of \$3.94.

Green coffee prices, which peaked at about \$3.30 per pound last April, declined sharply through the summer. In mid-November, the ICA (International

Coffee Agreement) composite price was around \$2.30 per pound, but this overstates the price of about \$1.90 per pound that U.S. roasters were paying. Brazil's minimum export price of \$3.20 a pound, well above current market prices, is still reflected in the ICA composite price even though Brazil has not yet put its 1977 crop on the world market.

How long Brazil can postpone exports of its 1977 crop remains to be seen. Central American and Mexican harvests began in October and these should be available in the U.S. markets by December.

With the sharply larger 1977/1978 crop and the substantial dropoff in world consumption, particularly in the United States, the major impact of Brazil's strategy in recent months has been to slow the decline in green coffee prices. If Brazil should begin to sell its coffee on the world market, its sales will tend to further reduce prices.

Even if green coffee prices should temporarily increase later this year or early next year in response to a possible seasonal increase in winter coffee consumption and continued holding-back of Brazilian supplies, U.S. retail prices can be expected to decline for some time. But, barring an unexpected development, the decrease will probably not be very fast.

Coffee Consumption Down Sharply in 1977

Third quarter imports of green coffee totaled only slightly over 40 percent of last year and roastings slightly over 60 percent. Moreover, throughout 1977 U.S. roasters have been carrying larger inventories than they desired, although they have been reduced about a fourth from peak April 1

levels. And U.S. roasters saw their marketing spreads narrow sharply around midyear. One large U.S. roaster reported its net earnings from coffee were down sharply in 1977.

First half 1977 per capita coffee consumption, as measured by disappearance, totaled 5.8 pounds (green bean basis), down 1.2 pounds from first half 1976. Third quarter consumption totaled only 1.4 pounds per person, down 1.5 pounds from the third quarter of 1976. Though the pattern of consumption in this year's fourth quarter is not yet clear, with retail prices likely to average in the \$3.50 - \$3.65 per pound range, per capita consumption in the last quarter may not total much over 2 pounds. If this prospective fourth quarter level of consumption is realized, it means calendar 1977 coffee consumption will range between 9 and 10 pounds, down about a fourth from the 1976 level of 12.8 pounds.

Finally, the present situation for U.S. coffee consumer is not overly encouraging. While retail prices are now declining, the rate is slow, and retail prices remain high, even though green coffee prices are down sharply from the mid-April high. While it is not yet clear how long it will take retail coffee prices to get back to lower levels, U.S. consumption is not likely to significantly recover until retail prices are sharply lower than at present.

NUTRIENT CONTENT OF THE NATIONAL FOOD SUPPLY

By

**Ruth Marston
and Berta Friend,
Consumer and**

Food Economics Institute, ARS

From a nutritional standpoint, the Nation's food supply in 1977 showed little change from 1976. Caloric consumption plus consumption of most of the 14 nutrients for which estimates are made were about the same as a year earlier when per capita consumption of food hit a record.

Increased use of pork contributed to a 1-percent gain for thiamin, while decreased use of nonfat dry milk accounted for a 1-percent decline in calcium and riboflavin levels. A 2-percent drop in ascorbic acid occurred because of reduced supplies of all forms of Florida citrus products due to a severe freeze in early 1977 (table 1).

Although estimates for 1977 are close to those for 1976 for most nutrients, larger differences are apparent when comparison is made with data for 1975.

Greater consumption of sugar, meat, margarine, shortening, and salad and cooking oils between 1975 and 1977 raised the levels of the three energy-yielding nutrients—protein, fat, and carbohydrate—resulting in a 4-percent increase in food energy. Use of more sugar contributed to a 4-percent increase in carbohydrate, and use of more meat to a 4-percent increase in protein. The larger supply of meat, together with that of fats and oils, accounted for a 5-percent increase in nutrient fat.

Increased use of some foods from animal sources—meat, poultry, and cheese—contributed to 2-4 percent higher levels for the B-vitamins, thiamin, riboflavin, niacin and vitamin B₆, and for the minerals, calcium, phosphorus, iron, and magnesium. New and higher enrichment standards for white flour, effective in

mid-1975, also contributed to higher levels of thiamin, riboflavin, and niacin.

Iron and Magnesium

Information on longtime trends in levels and sources of two minerals—iron and magnesium—is presented here because of public interest in their dietary levels.

The levels of iron in 1977 and 1976 are the highest on record. The current level is more than sufficient to provide each individual with recommended amounts of iron if food were distributed according to nutritional need. Yet, the iron content of average diets is not adequate for many young children under 6 years and females ages 9-54, particularly those of childbearing age, according to nutritional status surveys and dietary consumption studies.

Magnesium content, on the other hand, is substantially lower than 65 years ago. Among the nutrients studied, it is the only nutrient other than carbohydrate to show an appreciable decline. Nevertheless, the amount avail-

Table 1—Nutrients available for consumption, per capita per day, selected periods¹

Nutrient	Unit	Average 1957-59	1967	1975	1976	1977 ²	1977 as a percentage of:		
							1957-59	1967	1976
Food energy	Cal.	3,140	3,210	3,250	3,380	3,380	108	105	100
Protein	Gm.	95	99	99	103	103	108	104	100
Fat	Gm.	143	150	152	159	159	111	106	100
Carbohydrate	Gm.	375	374	377	390	391	104	105	100
Calcium	Gm.	.98	.95	.92	.95	.94	96	100	99
Phosphorus	Gm.	1.53	1.54	1.53	1.57	1.57	103	102	100
Iron	Mg.	16.3	17.3	18.2	18.7	18.6	115	107	100
Magnesium	Mg.	347	343	341	349	347	100	101	100
Vitamin A value	I.U.	8,100	7,900	8,100	8,200	8,200	101	103	100
Thiamin	Mg.	1.84	1.91	2.03	2.08	2.09	114	110	101
Riboflavin	Mg.	2.30	2.36	2.44	2.52	2.50	109	106	99
Niacin	Mg.	21.1	22.9	24.8	25.5	25.6	121	112	100
Vitamin B ₆	Mg.	1.99	2.13	2.21	2.28	2.29	115	107	100
Vitamin B ₁₂	Mcg.	8.9	9.6	9.6	9.7	9.7	109	101	100
Ascorbic acid	Mg.	104	104	118	118	116	111	111	98

¹Quantities of nutrients computed by Agricultural Research Service, Consumer and Food Economics Institute, on the basis of estimates of per capita food consumption (retail weight), including estimates of produce of home gardens, prepared by the Economic Research Service. No deduction made in nutrient estimates for loss or waste of food in the home, use for pet food, or for destruction or loss of nutrients during the preparation of food. Civilian consumption. Data include iron, thiamin, riboflavin, and niacin added to flour and cereal products; other nutrients added primarily as follows: Vitamin A value to margarine, milk of all types, milk extenders; vitamin B₆ to cereals, meal replacements, infant formulas; vitamin B₁₂ to cereals; ascorbic acid to fruit juices and drinks, flavored beverages and dessert powders, milk extenders, and cereals. Quantities of added nutrients for 1960-66 were estimated in part by Consumer and Food Economics Institute. Nutrient data reflect revision of potato series 1956 to present. ²Preliminary.

able appears to be meeting population needs since a dietary deficiency of magnesium seems to be rare (1).

Levels and Sources of Iron

The national diet now provides 18.6 mg of iron per capita per day, 22 percent higher than the amount available in 1909-13 and 38 percent above the low level of 13.5 mg in 1935, when incomes were low and the consumption of many foods was down. Since the mid-1930's, two main factors have accounted for the increase in this nutrient—the enrichment and fortification of grain products with iron and a substantial increase in consumption of meat.

More than one-third of the diets were classified as poor in the late 1930's (2). Vitamin deficiency diseases and anemia (usually the result of too little iron in the diet) had been increasing, and medical records indicated a widespread prevalence of these diseases (3). The medical profession, the Government, and industry together, concluded that nutrients lost in the milling process should be restored to white flour and, thereby needed nutrients would be restored to bread, a commonly consumed food.

In 1941 the Food and Drug Administration set the first standards of identity for products enriched with iron and the three B-vitamins, establishing minimum and maximum levels for products sold in interstate commerce. In 1943 the levels were raised and remained in effect until July 1975, when the levels were raised again except for iron. Today, 34 States and the Commonwealth of Puerto Rico have enacted legislation requiring enrichment of both bread and flour sold within the State or Commonwealth.

The enrichment program raised

the per capita level of iron in the food supply from 13.8 mg per day in 1935-39 to 16.8 mg per day in 1947-49, resulting in a sharp 10 percentage-point rise—from 20 to 30 percent—in the share of iron provided by grain products. By 1947-49, enrichment with iron had more than made up for the decline in the iron supply due to decreased use of grains. The grain products group became the largest contributor of this mineral until the early 1960's, when the meat, poultry, and fish group supplied about the same share.

Thereafter, the gap between the shares provided by the two groups gradually widened as use of meat, particularly beef, increased, and use of grain products continued to decline. In 1977, the grain products group provided 28 percent of the iron, about the same as in 1909-13, even though use of cereal products today is only about one-half as great as in the early 1900's (table 2).

The iron level is now about one-fifth higher than if there had been no enrichment of flour and cereal products. Enrichment adds 3.3 mg of iron per capita per day, an amount equivalent to that supplied by 3 ounces of relatively lean cooked beef.

The meat, poultry, and fish

group now provides the largest share of total iron—31 percent.

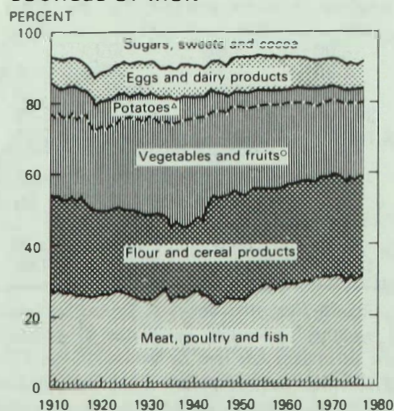
Today, beef accounts for 16 percent of the iron, in contrast with 9 percent in 1935-39 and 1947-49 (table 3). For most of the years, pork supplied around 7-8 percent of the total, but due to declining popularity, pork now contributes about 6 percent.

Edible offals, which include liver, are excellent sources of iron, and are used largely in the manufacture of luncheon meats. However, consumption of offals is small (10-11 pounds per capita per year). Nevertheless, these foods provide over 2 percent of the total iron in the current food supply. Poultry, a less good source of iron than either edible offals or red meats, provided a smaller share of iron than offals at the beginning of the century. But, with consumption of poultry having more than tripled since 1909-13, its share of iron has increased from 2 percent to more than 4 percent.

Vegetables (including potatoes), fruits, and dried beans, peas, nuts, and soya products, contribute about 25 percent of the iron. However, the proportion from these foods has declined from 31 percent in 1909-13 to 28 percent in 1957-59, and 25 percent today. The share from potatoes has dropped from over 8 percent in 1909-13 to 4 percent in 1977. A somewhat smaller decline occurred in the share from the dried beans, peas, nuts, and soya products group, a drop due primarily to the decreased use of dried beans and dried peas. The share from fruits also decreased, mainly because of reduced use of fresh and dried fruits.

The other food groups—eggs, dairy products, sugars and sweeteners—currently account for 14 percent of the total iron.

SOURCES OF IRON



PER CAPITA CIVILIAN FOOD SUPPLY 1977 PRELIMINARY DATA. * INCLUDES SWEET POTATOES. ○ INCLUDES DRY BEANS, PEAS, NUTS, SOYA PRODUCTS. USDA. NEG. ARS 5977 77 (11)

Table 2—Contribution of major food groups to nutrient supplies available for civilian consumption, 1957-59 average and 1977¹

Food groups	Food energy	Protein	Fat	Carbohydrate	Calcium	Phosphorus	Iron	Magnesium	Vitamin A value	Thiamin	Riboflavin	Niacin	Vitamin B ₆	Vitamin B ₁₂	Ascorbic acid
<i>Percent</i>															
1957-59 Average															
Meat (including pork fat cuts), poultry and fish	18.1	35.7	32.9	0.1	3.3	23.0	27.7	10.9	20.2	28.0	21.4	43.0	40.3	65.2	1.2
Eggs	2.6	6.8	4.0	.1	2.8	6.7	7.1	1.6	7.3	3.0	6.5	.2	2.7	11.3	0
Dairy products, excluding butter	13.5	24.4	16.6	7.7	76.4	38.3	2.3	23.3	12.7	10.5	44.9	2.0	11.5	23.5	5.2
Fats and oils, including butter	16.0	.2	39.5	(²)	.4	.2	0	.3	8.7	0	0	0	.2	0	0
Citrus fruits . . . . .	.7	.4	.1	1.5	.8	.6	.8	1.7	1.1	2.1	.4	.7	1.2	0	22.5
Other fruits	2.6	.8	.3	5.6	1.3	1.3	4.4	4.4	7.0	2.2	1.8	2.3	6.9	0	11.0
Potatoes and sweetpotatoes	3.0	2.5	.1	5.5	1.1	3.8	4.2	7.5	8.3	5.8	1.9	7.6	12.6	0	19.3
Dark green and deep yellow vegetables . . . . .	.3	.5	(²)	.5	1.6	.7	1.9	2.2	20.6	1.0	1.2	.7	2.0	0	9.3
Other vegetables, including tomatoes	2.4	3.3	.4	4.2	4.5	4.7	9.0	10.2	13.8	6.7	4.4	6.2	10.0	0	31.4
Dry beans and peas, nuts, soy flour and grits	2.9	5.2	3.3	2.3	2.6	5.7	7.3	10.7	(²)	6.0	1.8	6.2	4.7	0	(²)
Flour and cereal products	21.4	19.9	1.6	37.6	3.3	12.9	28.0	13.4	.4	34.6	14.8	24.7	7.7	0	0
Sugar and other sweeteners	15.8	(²)	0	34.2	.8	.2	4.3	.2	0	.1	.1	(²)	(²)	0	(²)
Miscellaneous ³ . . . . .	.8	.4	1.4	.7	1.1	2.0	3.0	8.5	(²)	.1	.8	6.3	.1	0	0
1977 Preliminary															
Meat (including pork fat cuts), poultry and fish	20.0	42.6	34.1	0.1	4.0	28.5	30.9	14.1	22.4	25.9	24.3	45.2	47.4	70.5	1.1
Eggs	1.8	4.8	2.7	.1	2.2	5.0	4.7	1.2	5.5	2.0	4.5	.1	1.8	7.9	0
Dairy products, excluding butter	11.1	22.0	12.5	6.7	74.6	35.0	2.5	21.7	13.0	8.6	39.0	1.4	10.6	20.1	3.9
Fats and oils, including butter	18.1	.2	43.3	(²)	0.4	0.2	0	.4	8.3	0	1.0	0	(²)	0	0
Citrus fruits . . . . .	.9	.5	.1	2.0	1.0	.7	.8	2.3	1.6	2.7	.5	.8	1.2	0	27.4
Other fruits	2.1	.6	.3	4.6	1.2	1.1	3.3	3.9	5.5	1.7	1.5	1.6	5.6	0	11.6
Potatoes and sweetpotatoes	2.9	2.3	.1	5.4	1.0	3.6	4.3	7.2	5.2	4.9	1.4	6.3	8.9	0	15.0
Dark green and deep yellow vegetables . . . . .	.2	.4	(²)	.5	1.5	.6	1.5	2.0	20.2	.8	1.0	.6	1.7	0	8.8
Other vegetables, including tomatoes	2.5	3.2	.4	4.8	4.9	4.9	8.9	10.5	15.8	6.3	4.3	5.7	9.3	0	28.6
Dry beans and peas, nuts, soy flour and grits	3.1	5.4	3.8	2.1	2.9	6.1	6.3	11.9	(²)	5.3	1.8	6.8	4.3	0	(²)
Flour and cereal products	19.2	17.6	1.3	34.7	3.4	12.2	27.9	17.9	.4	41.6	21.0	27.9	8.9	1.5	0.0
Sugars and other sweeteners	17.3	(²)	0	38.5	2.2	.5	6.8	.2	0	(²)	(²)	(²)	(²)	0	(²)
Miscellaneous ³ . . . . .	.7	.4	1.2	.5	.8	1.6	2.2	6.7	2.2	.1	.6	3.5	.1	0	3.6

¹ Percentages for food groups are based on nutrient data included in totals in table 1. ² Less than 0.05 percent. ³ Coffee and chocolate liquor equivalent of cocoa beans and fortification of products not assigned to a specific food group.

Table 3—Contributions of specified meats and of poultry and fish to total iron, selected periods¹

Item	1909-13	1935-39	1947-49	1957-59	1965	1975	1976	1977 ²
<i>Percent</i>								
Beef	10.5	9.4	9.1	11.8	13.9	15.4	16.1	15.7
Pork ³	8.4	7.8	7.8	7.4	6.7	5.8	6.0	6.4
Edible offal	2.9	2.6	2.7	2.6	2.5	2.4	2.4	2.4
Other meat	1.7	2.1	1.8	1.4	1.0	.7	.7	.6
Total meat	23.5	21.9	21.5	23.3	24.2	24.4	25.2	25.1
Poultry	1.6	1.6	1.9	3.2	3.8	4.2	4.4	4.5
Fish	1.7	1.6	1.2	1.2	1.2	1.2	1.2	1.2
Total meat, poultry, fish	26.7	25.1	24.6	27.7	29.2	29.8	30.8	30.9

¹ Components may not add to total due to rounding. ² Preliminary. ³ Includes bacon and pork fat cuts.

Levels and Sources of Magnesium

The level of magnesium has dropped 15 percent since the early 1900's, from about 410 mg per capita per day to 350 mg. The present level, however, is a little higher than for most of the past 10-15 years.

Magnesium occurs widely in foods—particularly those of vegetable origin. Vegetable sources have consistently made the largest contribution to total magnesium consumption, although their share declined from 75 percent in 1909-13 to 63 percent in 1977.

Two food groups, flour and cereal products and potatoes and sweetpotatoes, accounted for about 50 percent of the total magnesium early in the century, twice the share provided today. Together, fruits and vegetables, excluding potatoes and sweetpotatoes, now provide 19 percent of the magnesium, compared with 14 percent in 1909-13, with an increasingly large proportion coming from processed foods (table 4). Today, primarily as a result of growing sales of processed white potatoes (french fries, chips, canned, and dehydrated), processed forms of potatoes and sweetpotatoes pro-

vide a share of magnesium almost equal to that from fresh forms. However, the share from all forms of potatoes and sweetpotatoes is considerably lower now than at any time in the past.

The share of magnesium supplied by the dry beans, peas, nuts, and soy products group was 8 percent at the beginning of the century, compared with 12 percent today, with peanuts and, more recently, soy products being major contributors from the group.

Although animal sources account for an increasingly larger share of magnesium, they have not increased enough to totally offset the decline in vegetable sources due to the sharp drop in use of grain products. The share from the meat, poultry, and fish group has risen from 8 to 14 percent since 1909-13, with meat and poultry accounting for most of this increase.

Dairy products currently provide the largest proportion of magnesium—22 percent. In 1909-13, they supplied 15 percent and in 1957-59, when consumption of dairy products was high, 23 percent. The share of magnesium coming from fluid milks fluctuated within a narrow range, but the share coming from processed

dairy items increased from 1 percent in 1909-13 to 8 percent in 1977. Cheese has gained in popularity, and currently accounts for 13 percent of the magnesium from all dairy products; concentrated and dry milk products supply 7 percent.

References

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2. National Academy of Sciences—National Research Council, Food and Nutrition Board. October 1944. The facts about enrichment of flour and bread. p. 3.
3. Sebrell, W.H. Jr. Twenty years of enrichment. Paper presented at 20th Anniversary of Bread Enrichment Meeting, New York City. February 27, 1961. p. 4.

Table 4—Magnesium available from fresh and processed vegetables, fruits, and potatoes and sweetpotatoes, selected periods

	Total vegetable sources	Vegetables			Fruits			Potatoes, sweetpotatoes		
		Fresh	Processed	Total	Fresh	Processed	Total	Fresh	Processed	Total
	<i>Percent</i>									
1909-13	75.3	8.2	0.9	9.0	4.0	0.6	4.6	11.7	(²)	11.7
1935-39	72.8	11.4	1.8	13.2	4.7	1.3	6.0	9.1	(²)	9.1
1947-49	67.5	10.6	2.8	13.4	4.5	1.7	6.2	7.6	0.1	7.7
1957-59	64.0	8.7	3.6	12.4	3.8	2.3	6.2	6.6	1.3	7.9
1965	63.0	8.2	4.1	12.2	3.4	2.2	5.7	4.9	2.3	7.2
1975	63.6	8.1	4.5	12.6	3.5	2.9	6.4	4.0	3.5	7.5
1976	62.7	7.9	4.5	12.5	3.6	2.8	6.4	3.6	3.3	7.0
1977 ³	62.9	7.8	4.6	12.5	3.5	2.7	6.2	3.8	3.4	7.2

¹ Components may not add to total due to rounding. ² Less than 0.05 percent. ³ Preliminary.