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NOVEMBER 1973

MARKETING & TRANSPORTATION Situation

ECONOMIC RESEARCH SERVICE • U.S. DEPARTMENT OF AGRICULTURE

Item	Unit or base period	1972 Year	1972 III	1972 IV	1973 II	1973 III
Farm-Retail Price Spreads: 1/						
Retail cost	Dol.	1,311	1,323	1,331	1,497	1,604
Farm value	Dol.	521	534	535	665	761
Farm-retail spread	Dol.	790	789	796	832	843
Farmer's share of retail cost	Pct.	40	40	40	44	47
Retail Prices: 2/						
All goods and services (CPI)	1967=100	125.3	125.8	126.9	131.5	134.4
All food	1967=100	123.5	124.5	125.4	138.1	146.2
Food at home	1967=100	121.6	122.6	123.4	138.0	147.1
Food away from home	1967=100	131.1	131.9	133.3	138.6	142.8
Wholesale Prices: 2/						
Food 3/	1967=100	121.8	123.5	124.6	143.4	154.4
Cotton products	1967=100	121.8	123.1	124.3	137.3	148.3
Woolen products	1967=100	99.4	101.2	107.5	129.5	133.6
Agricultural Prices:						
Prices received by farmers	1967=100	126	127	132	164	190
Prices paid by farmers, interest, taxes and wage rates	1967=100	127	127	130	143	149
Prices of Marketing Inputs:						
Containers and packaging materials	1967=100	117	118	118	123	124
Fuel, power, and light	1967=100	126	127	128	135	139
Services 4/	1967=100	138	139	141	144	147
Hourly Earnings:						
Food marketing employees 5/	Dol.	3.45	3.45	3.52	3.63	---
Employees, private nonagricultural sector 2/	Dol.	3.65	3.67	3.73	3.85	3.93
Farmers' Marketings and Income:						
Physical volume of farm marketings	1967=100	110	111	149	83	---
Cash receipts from farm marketings 6/	Bil. dol.	60.7	60.5		75.5	---
Farmers' realized net income 6/	Bil. dol.	19.7	19.3		24.5	---
Industrial Production: 7/						
Food	1967=100	118.6	119.1	119.4	121.3	122.9
Textile mill products	1967=100	114.7	118.2	124.4	127.5	---
Apparel products	1967=100	105.7	107.0	110.2	110.9	---
Tobacco products	1967=100	103.7	102.7	108.9	110.7	---
Retail Sales: 8/						
Food stores	Mil. dol.	95,020	24,000	24,413	25,879	---
Eating and drinking places	Mil. dol.	33,891	8,445	8,745	9,241	---
Apparel stores	Mil. dol.	21,993	5,450	5,737	5,861	---
Consumers' Per Capita Income and Expenditures: 9/						
Disposable personal income	Dol.	3,817	3,830	3,956	4,137	4,230
Expenditures for goods and services	Dol.	3,479	3,511	3,592	3,785	3,862
Expenditures for food	Dol.	599	603	612	647	672
Expenditures for food as percentage of disposable income	Pct.	15.7	15.7	15.5	15.6	15.9

1/ For a market basket of farm foods. 2/ Dept. of Labor. 3/ Processed foods, eggs, and fresh and dried fruits and vegetables. 4/ Includes such items as rent, property insurance and maintenance, and telephone. 5/ Average hourly earnings of production workers in food processing, and nonsupervisory workers in wholesale and retail food trades, calculated from Dept. of Labor data. 6/ Quarterly data seasonally adjusted at annual rates. 7/ Seasonally adjusted, Board of Governors of Federal Reserve System. 8/ Quarterly data seasonally adjusted, Dept. of Commerce. 9/ Seasonally adjusted annual rates, calculated from Dept. of Commerce data. Percentages have been calculated from total income and expenditure data.

MARKETING AND TRANSPORTATION SITUATION

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SUMMARY

Farm-retail price spreads for foods from U.S. farms are expected to widen in the fourth quarter of 1973 as marketing firms readjust their margins following the price freeze and pass through cost increases allowable under Phase IV. As a result, retail costs for market basket foods will not fully reflect the expected decreases in returns to farmers in the fourth quarter.

The retail cost of a market basket of foods produced on U.S. farms averaged $1,604 (annual rate) for the third quarter of 1973, up about 7 percent from the previous quarter, and 21 percent above a year earlier. Increases for meats, poultry, and eggs accounted for most of the rise although prices also rose for most other market basket foods.

Retail prices in August had made the largest advance since price controls were removed following World War II. Contributing to this record advance were tight food supplies, higher farm prices, rising consumer incomes and removal of price ceilings. Then in September, prices decreased for the first time this year.

Gross returns to farmers (farm value of quantities of farm commodities equivalent to retail units) for market basket foods averaged $761 in the third quarter this year, up 14 percent from the preceding quarter and 42 percent above a year earlier. Prices increased for most items over year-earlier levels, with prices for cattle, hogs, poultry, eggs, wheat, and oilseeds increasing the most. Most of the rise in the farm value of market basket foods occurred between July and August. In August the farm value was up 20 percent from July, then dropped 11 percent from August to September.

Farmers received an average of 47 cents of the dollar consumers spent for farm foods in the third quarter of this year compared with 44 cents in the previous quarter and 40 cents in the third quarter of last year. The farmer's share reached 51 cents in August then dipped to 46 in September.

The marketing spread—the difference between the retail cost and farm value—averaged $843 in the third quarter of this year, up 1 percent from the previous quarter and 7 percent above a year earlier. Spreads narrowed in August when farm prices rose

faster than retail prices, but they widened sharply in September when returns to farmers dropped. Increases were particularly sharp for beef, pork eggs, bakery and cereal products, and fats and oil products.

FARM-FOOD MARKET BASKET STATISTICS

Retail Cost: As supplies of many farm produced foods tightened further in the third quarter of 1973, their prices rose sharply at all market levels (fig. 1). Consumers paid an average of $1,604 (annual rate) in the third quarter of this year for a market basket of foods produced on U.S. farms, up $107 or 7.1 percent from the previous quarter (table 1).[1] Prices for meats, poultry, and eggs increased the most and accounted for about four-fifths of the increase. The retail cost of fresh vegetables declined slightly due mainly to reductions in lettuce, onions, cucumbers, and peppers. Retail food costs have increased in each of the past 7 quarters.

The retail cost of farm foods varied greatly during the third quarter. Food costs rose only 0.8 percent in July, reflecting the price freeze imposed on retail food prices early in June (table 2). Retail cost surged upward following the lifting of ceiling prices on July 18 for all foods except beef. The August figure was 8.1 percent higher than July. This increase was the largest monthly increase since October 1946 when World War II price controls were removed. In September, the retail cost turned down 1.5 percent for the first decrease this year.

Retail costs in the third quarter averaged 21 percent higher than a year earlier, reflecting sharply higher prices for practically all foods. Animal products accounted for three-fourths of the rise. Products with above average increases included beef, 23 percent; pork, 42 percent; chicken, 78 percent; eggs, 68 percent; cabbage, 38 percent; lettuce, 47 percent; and potatoes, 60 percent.

This year, unlike most of the past 20 years, retail prices for market basket foods have risen faster than most other goods and services purchased by consumers. With over half of the jump in prices occurring this year, the retail cost of the market basket in the third quarter was 48 percent higher than in 1967. The Consumer Price Index (CPI) for all other items purchased by consumers was 31 percent above 1967. Market basket foods and all other items in the CPI rose by about the same rate, 66 percent over the past 20 years.

Farm Value: Returns to farmers for foods in the market basket totaled $761 (annual rate) in the third quarter, up $96 or 14 percent from the previous quarter (table 1). Increases were particularly sharp for hogs, milk, poultry, eggs, wheat, and oilseeds. In contrast, returns for fresh fruits and vegetables decreased in the third quarter. Farmers received more than 90 percent of the rise in the retail cost of the market basket from the previous quarter.

Month to month changes in the farm value of market basket foods varied widely during the third quarter. The value rose only 2 percent from June to July as prices remained frozen at retail. Then it jumped 20 percent from July to August as retail ceiling prices were lifted on all foods except beef. This increase was followed by an 11 percent decrease from August to September as farm marketings increased.

Compared with a year earlier, third quarter returns to farmers for market basket foods were up 42 percent. About four-fifths of this rise resulted from higher returns for animal products. Farm values for meat animals were up 45 percent; poultry, 126 percent; eggs, 109 percent; and milk, 14 percent. Sharply higher prices for grains and oilseeds accounted for most of the rise in the farm value of crop products in the market basket.

The farm value of market basket foods in the third quarter averaged 92 percent above 1967 and 75 percent above the level of 20 years ago.

Farm-Retail Spread: Retail costs for market basket foods rose somewhat faster than the farm value in the third quarter. This resulted in a small increase in margins of marketing firms which process, transport, and distribute foods from U.S. farms. The spread between the retail cost and farm value of market basket foods averagd $843 in the third quarter, up $11 or 1 percent from the second quarter. Wider spreads for poultry and fresh fruits and vegetables were partially offset by decreased spreads for most other products in the market basket.

The price freeze imposed in June apparently restrained the rise in marketing spreads from June to

[1]The market basket contains the average quantities of domestic, farm-originated food products purchased annually per household in 1960 and 1961 by wage-earners and clerical worker families and single workers living alone. Its retail cost is calculated from retail prices published by the Bureau of Labor Statistics. The retail cost of the market basket foods is less than the cost of all foods bought per household, since it does not include cost of meals in eating places, imported foods, seafoods or other foods not of U.S. farm origin. The farm value is the gross return to farmers for the farm products equivalent to foods in the market basket minus allowances for byproducts. It is based on prices at the first point of sale and may include some marketing charges incurred by farmers such as grading and packing for some commodities. The farm retail spread-difference between the retail cost and farm value is an estimate of the total gross margin received by marketing firms for assembling, processing, transporting, and distributing the products in the market basket.

Table 1.--The market basket of farm foods by product group: Retail cost, farm value and farm-retail spread, third quarter 1973 with comparisons 1/

Item	III 1973	Change from: Previous quarter		Change from: Year ago	
	Dollars	Dollars	Percent	Dollars	Percent
	Retail cost				
Market basket	1,603.67	106.62	7.1	280.25	21.2
Meat	557.45	50.48	10.0	125.69	29.1
Dairy	246.60	6.74	2.8	18.71	8.2
Poultry	89.12	18.84	26.8	37.93	74.1
Eggs	63.07	13.18	26.4	25.40	67.4
Bakery and cereal	212.08	8.22	4.0	20.61	10.8
Fresh fruits	72.20	5.68	8.5	8.15	12.7
Fresh vegetables	117.42	-1.68	-1.4	29.27	33.2
Processed fruits and vegetables	134.82	1.57	1.2	7.09	5.6
Fats and oils	49.60	2.96	6.3	4.74	10.6
Miscellaneous	61.31	.63	1.0	2.66	4.5
	Farm value				
Market basket	760.67	95.83	14.4	226.53	42.4
Meat	363.15	50.65	16.2	111.87	44.5
Dairy	124.32	9.51	8.3	15.69	14.4
Poultry	58.16	17.44	42.8	32.38	125.6
Eggs	46.32	13.05	39.2	24.11	108.6
Bakery and cereal	49.45	8.08	19.5	17.90	56.7
Fresh fruits	21.47	-2.38	-10.1	1.51	7.6
Fresh vegetables	41.03	-5.21	-11.3	11.13	37.2
Processed fruits and vegetables	25.65	.82	3.3	1.56	6.5
Fats and oils	20.07	3.08	18.1	8.35	71.2
Miscellaneous	11.05	.79	7.7	2.03	22.5
	Farm-retail spread				
Market basket	843.00	10.79	1.3	53.72	6.8
Meat	194.30	-.17	-.1	13.82	7.7
Dairy	122.28	-2.77	-2.2	3.02	2.5
Poultry	30.96	1.40	4.7	5.55	21.8
Eggs	16.75	.13	.8	1.29	8.3
Bakery and cereal	162.63	.14	.1	2.71	1.7
Fresh fruits	50.73	8.06	18.9	6.64	15.1
Fresh vegetables	76.39	3.53	4.8	18.14	31.1
Processed fruits and vegetables	109.17	.75	.7	5.53	5.3
Fats and oils	29.53	-.12	-.4	-3.61	-10.9
Miscellaneous	50.26	-.16	-.3	.63	1.3

1/ The market basket contains the average quantities of farm-originated foods purchased annually per household in 1960-61. Retail cost is calculated from U.S. average retail prices collected by the Bureau of Labor Statistics. Farm value is payment to farmer for equivalent quantities of farm products minus imputed value of byproducts obtained in processing. Quarterly data are annual rates. Additional data are shown in tables at the back of this report.

Table 2.--The market basket of farm food: Indexes of retail cost, farm value, and farm-retail spread, and farmer's share of the retail cost 1/

Year and quarter	Retail cost	Farm value	Farm-retail spread	Farmer's share
	1967 = 100			Percent
Average:				
1947-49	82.9	106.9	67.7	50
1957-59	91.5	94.8	89.5	40
1962	93.3	94.1	92.8	39
1963	93.2	90.2	95.1	38
1964	93.4	90.0	95.5	37
1965	96.0	99.2	93.9	40
1966	101.1	106.3	97.8	41
1967	100.0	100.0	100.0	39
1968	103.6	105.3	102.5	39
1969	109.1	114.8	105.5	41
1970	113.7	114.1	113.4	39
1971	115.7	114.4	116.5	38
1972 2/	121.3	124.4	119.3	40
1970				
I	113.9	120.3	109.8	41
II	113.9	115.0	113.2	39
III	114.7	114.8	114.6	39
IV	112.3	106.1	116.3	37
1971				
I	113.2	112.3	113.8	38
II	115.7	113.8	117.0	38
III	117.3	115.5	118.4	38
IV	116.7	116.0	117.0	39
1972				
I	119.5	120.9	118.6	39
II	120.1	121.9	119.0	39
III	122.5	127.5	119.3	40
IV	123.1	127.6	120.3	40
1973				
I	130.8	147.2	120.5	44
II	138.5	158.6	125.8	44
III	148.4	181.5	127.4	47
IV				

Month	Retail cost	Farm value	Farm-retail spread	Farmer's share
	1967 = 100			Percent
1971				
January	112.3	108.8	114.5	38
February	113.3	114.1	112.8	39
March	114.0	114.1	114.0	39
April	115.1	113.3	116.2	38
May	115.5	113.8	116.6	38
June	116.7	114.4	118.2	38
July	117.7	116.7	118.4	38
August	117.7	116.6	118.4	38
September	116.4	113.3	118.3	38
October	115.8	114.2	116.8	38
November	116.1	116.4	115.9	39
December	117.9	117.4	118.2	39
1972 2/				
January	117.8	119.9	116.5	39
February	120.3	122.2	119.1	39
March	120.4	120.4	120.4	39
April	119.9	119.9	119.9	39
May	119.8	121.5	118.7	39
June	120.6	124.1	118.4	40
July	122.2	127.7	118.7	41
August	122.6	126.1	120.4	40
September	122.6	128.6	118.8	41
October	122.5	125.3	120.8	40
November	123.1	126.1	121.2	40
December	123.8	131.4	118.8	41
1973				
January	127.2	140.7	118.7	43
February	130.4	145.3	121.0	43
March	134.9	155.5	121.8	45
April	137.0	156.3	124.8	44
May	138.2	155.8	127.1	44
June	140.4	163.9	125.5	45
July	141.5	166.7	125.5	46
August	153.0	200.2	123.1	51
September	150.7	177.6	133.6	46
October				
November				
December				

1/ Retail cost of average quantities of farm-originated foods purchased annually per household in 1960-61 by urban wage-earner and clerical worker families and workers living alone, calculated from retail prices collected by the Bureau of Labor Statistics. Beginning November 1971, the retail cost is based on the index of domestically produced farm foods--a component of the Consumer Price Index published by the Bureau of Labor Statistics. Indexes may be converted to dollar totals by multiplying by the following amounts for 1967: retail cost, $1,080.64; farm value, $419.07; and farm-retail spread $661.57. Additional historical data are published in Farm-Retail Spreads for Food Products, Misc. Pub. 741, January 1972.

2/ Preliminary.

July. From July to August, farm-retail spreads were squeezed as prices for raw agricultural products rose more rapidly than retail food prices. But they rebounded in September as returns to farmers plunged. The movement of price spreads varied widely by products during the third quarter. During the freeze period, spreads for animal products and manufactured products were squeezed between rising prices for raw agricultural products, both foods and feeds, and ceilings imposed on retail food prices.

Third quarter marketing spreads averaged 6.8 percent wider than a year earlier. Spreads increased for practically all market basket foods except fats and oils. Spreads increased for practically all market basket foods. They increased the most for poultry, 22 percent, and fresh fruits and vegetables, 20 percent. Widening marketing spreads accounted for about one-fifth of the rise in the retail cost of the market basket from a year ago.

Third quarter spreads averaged 27 percent wider than in 1967 and 59 percent greater than 20 years ago.

Farmer's Share: Farmers received an average of 47 cents of a dollar spent by consumers in retail food stores for market basket foods in the third quarter this year. This was up 3 cents from the second quarter and 7 cents above a year earlier. The farmer's share reached 51 cents in August but dropped to 46 cents in September.

By quarters, the farmer's share has ranged from 36 to 47 cents in the past decade, and was less than 40 cents about two-thirds of the time. The last time the farmers's share was as much as 47 cents was in 1952.

Outlook

Charges for assembling, processing, and distributing foods from U.S. farms are expected to increase sharply in the fourth quarter of 1973. As a result, the retail cost of market basket foods will not fully reflect the decreases in returns to farmers expected this fall. Marketing spreads usually widen when farm prices fall rapidly and pressure for marketing firms to widen their margins appears to be greater than usual. Firms may attempt to recoup margins that were squeezed during the freeze period as well as pass through allowable cost increases incurred during and since the freeze period.

Commodity Highlights

Beef: Price ceilings on beef, imposed on March 29, were lifted September 10. From April through July retail prices for Choice beef held fairly stable at about $1.36 per pound. However, during this period, the farm value rose steadily, squeezing packer and retailer margins. In August, following the lifting of ceiling prices on all foods except beef, retail prices for Choice beef jumped sharply although not as much as farm prices which resulted in a further squeeze on margins. Cattle marketings dropped sharply and consumption of beef declined. In September farm values for beef plunged, but retail prices for Choice beef continued to rise. Thus, farm-retail spreads widened sharply, regaining more than had been lost earlier.

The average retail price of Choice beef in the third quarter was 6 cents higher than during the second quarter (table 3). Returns to farmers, for the 2.28 pounds of live cattle equivalent to 1 pound of retail cuts less value of byproducts, increased 6.1 cents to a total of 99 cents. Thus, the farm-retail spread changed little. Quarterly data are not available to develop components of the farm-retail spread because carcass beef prices were not reported at wholesale levels from the last week in July through the first week in September. Little beef was traded through normal marketing channels during this period.

Retail prices for Choice beef averaged 26.5 cents per pound higher in the third quarter of 1973 than a year earlier. The farm value was up by about the same amount. The farm-retail spread changed little. Prices for Choice steers in 7 leading Midwestern markets and California (used in computing the gross farm value for Choice beef) averaged $49.09 per hundredweight in the third quarter, compared with $35.95 a year earlier.

Pork: Ceiling prices imposed on pork March 29 held down prices and margins from April through June. In July, hog prices rose rapidly, and farm-retail spreads were squeezed drastically. The wholesale-retail spread was squeezed more than the farm-wholesale spread. In August, following the lifting of ceiling prices, the retail price for pork jumped to $1.32 per pound, up 24 cents from July. The farm value jumped 17 cents and farm-retail spreads widened 7 cents. Most of the increase was in the wholesale-retail spread. The picture changed rapidly in September as the farm value for pork plunged 22 cents. Retail prices dropped about 5 cents and farm-retail spreads ballooned to 49 cents. Both farm-wholesale and wholesale-to-retail margins increased sharply.

The composite retail price for pork cuts averaged $1.22 per pound in the third quarter, the highest quarterly average on record and 18.7 cents per pound more than in the previous quarter (table 3). The rise accompanied a 21.3 cent increase in the farm value. The farm-retail spread decreased 2.6 cents. The wholesale-retail component, mainly in the retailer's margin, decreased 3.5 cents and the farm-wholesale component, mainly the packer's margin, increased 0.9 cent.

Pork prices at all market levels in the third quarter were much higher than a year earlier. The farm value of pork rose 67 percent. Retail prices were up 42 percent. The farm-retail spread increased the least—3 percent. All of the increase was in the wholesale-retail spread.

Frying Chickens: Partially in response to smaller

Table 3.--Beef, pork, and lamb: Retail price, carcass value, farm value, farm-retail spread, and farmer's share of retail price, annual 1969-72, quarterly 1972-73

Date	Retail price per pound 1/	Carcass value 2/	Gross farm value 3/	Byproduct allowance 4/	Net farm value 5/	Farm-retail spread: Total	Farm-retail spread: Carcass-retail	Farm-retail spread: Farm-carcass	Farmer's share
	Cents								Percent
	Beef, Choice grade								
1969	96.2	68.7	66.9	4.7	62.2	34.0	27.5	6.5	65
1970	98.6	68.3	66.3	4.8	61.5	37.1	30.3	6.8	62
1971	104.3	75.6	72.4	4.5	67.9	36.4	28.7	7.7	65
1972	113.8	80.0	79.9	7.4	72.5	41.3	33.8	7.5	64
1972									
Jan.-Mar.	114.4	81.4	79.4	5.7	73.7	40.7	33.0	7.7	64
Apr.-June	112.3	81.2	80.6	7.0	73.6	38.7	31.1	7.6	66
July-Sept.	115.3	79.8	80.6	7.9	72.7	42.6	35.5	7.1	63
Oct.-Dec.	113.2	77.7	79.0	8.9	70.1	43.1	35.5	7.6	62
1973									
Jan.-Mar.	129.2	95.0	96.8	9.4	87.4	41.8	34.2	7.6	68
Apr.-June	135.8	100.0	102.9	10.0	92.9	42.9	35.8	7.1	68
July-Sept.	141.8	6/	110.6	11.6	99.0	42.8	6/	6/	70
Oct.-Dec.									
	Pork								
1969	74.3	58.5	45.5	3.2	42.3	32.0	15.8	16.2	57
1970	78.0	58.7	42.9	3.4	39.5	38.5	19.3	19.2	51
1971	70.3	52.1	35.0	2.7	32.3	38.0	18.2	19.8	46
1972	83.2	65.2	51.4	3.5	47.9	35.3	18.0	17.3	54
1972									
Jan.-Mar.	79.0	61.3	47.1	3.3	43.8	35.2	17.7	17.5	55
Apr.-June	79.9	61.0	47.7	3.4	44.3	35.6	18.9	16.7	55
July-Sept.	86.1	67.1	55.3	3.7	51.6	34.5	19.0	15.5	60
Oct.-Dec.	87.7	71.5	55.4	3.7	51.7	36.0	16.2	19.8	59
1973									
Jan.-Mar.	98.1	79.9	68.6	4.9	63.7	34.4	18.2	16.2	65
Apr.-June	103.1	79.3	71.0	6.1	64.9	38.2	23.8	14.4	63
July-Sept.	121.8	101.5	95.0	8.8	86.2	35.6	20.3	15.3	71
Oct.-Dec.									
	Lamb, Choice grade								
1969	100.7	74.8	66.9	7.6	59.3	41.4	25.9	15.5	59
1970	105.5	73.8	65.1	6.4	58.7	46.8	31.7	15.1	56
1971	109.9	75.1	63.1	5.9	57.2	52.7	34.8	17.9	52
1972	118.3	79.7	70.5	7.5	63.0	55.3	38.6	16.7	53
1972									
Jan.-Mar.	114.6	77.7	67.1	6.5	60.6	54.0	36.9	17.1	53
Apr.-June	116.9	81.6	71.6	7.4	64.2	52.7	35.3	17.4	55
July-Sept.	121.2	82.8	73.9	7.8	66.1	54.1	37.4	16.7	55
Oct.-Dec.	122.6	76.5	69.4	8.3	61.1	61.5	46.1	15.4	50
1973									
Jan.-Mar.	131.8	89.3	87.3	12.8	74.5	57.3	42.5	14.8	57
Apr.-June	138.7	89.5	85.4	13.4	72.0	66.7	49.2	17.5	52
July-Sept.	148.2	98.9	91.0	13.0	78.0	70.2	49.3	20.9	53
Oct.-Dec.									

1/ Estimated weighted average price of retail cuts. 2/ For quantity equivalent to 1 lb. of retail cuts: Beef: 1.41 lb. of carcass beef; pork, 1.07 lb. of wholesale cuts; lamb, 1.18 lb. of carcass lamb.

3/ Payment to farmer for quantity of live animal equivalent to 1 lb. of retail cuts: Beef, 2.28 lb.; pork, 1.97 lb.; lamb, quantity varies by months from 2.42 lb. in May to 2.48 lb. in October. 4/ Portion of gross farm value attributed to edible and inedible byproducts. 5/ Gross farm value minus byproduct allowance. 6/ Not available due to lack of price quotations in wholesale markets from late July to early September.

Table 4. --Changes in retail price, farm value, and farm-retail spread for selected market basket foods, third quarter 1973 with comparisons

Item	III 1973	Change from: Previous quarter	Change from: Year ago	III 1973	Change from: Previous quarter	Change from: Year ago
	Cents	Percent	Percent	Cents	Percent	Percent
	Butter, pound			Cheese, American, ½ pound		
Retail price	91.2	7.0	5.3	60.0	2.6	10.1
Farm value	62.7	22.2	4.7	30.1	10.7	24.4
Farm-retail spread	28.5	-15.9	6.7	29.9	-4.5	-1.3
	Milk, sold in stores, ½ gallon			Chicken, frying, pound		
Retail price	64.7	3.4	8.7	74.9	28.5	78.3
Farm value	34.1	5.2	13.3	49.1	45.7	131.6
Farm-retail spread	30.6	1.3	4.1	25.8	4.9	24.0
	Eggs, large grade A, dozen			Corn flakes, 12 ounces		
Retail price	87.5	26.8	67.9	32.7	2.5	5.5
Farm value	64.3	39.8	109.4	3.9	21.9	85.7
Farm-retail spread	23.2	.9	8.4	28.8	.3	-.3
	Apples, pound			Oranges, dozen		
Retail price	34.7	12.3	20.5	107.6	5.4	8.8
Farm value	10.5	-19.2	25.0	26.1	19.2	8.3
Farm-retail spread	24.2	35.2	18.6	81.5	1.6	9.0
	Lettuce, head			Tomatoes, pound		
Retail price	46.1	-7.8	46.8	47.8	2.1	12.5
Farm value	13.2	-41.1	26.9	20.6	4.0	18.4
Farm-retail spread	32.9	19.2	56.7	27.2	.7	8.4
	Orange juice, frozen, 6 oz. can			Margarine, pound		
Retail price	24.9	-.8	-.4	37.7	10.2	14.2
Farm value	8.4	1.2	-20.8	15.4	20.3	85.5
Farm-retail spread	16.5	-1.8	14.6	22.3	4.2	-9.7
	Potatoes, 10 pounds			Peas, frozen, 10 ounces		
Retail price	164.8	16.7	59.5	23.8	1.3	6.2
Farm value	60.1	16.9	90.8	3.9	2.6	5.4
Farm-retail spread	104.7	16.6	45.8	19.9	1.0	6.4

1/ Data for additional foods are shown in tables at back of this report.

TABLE 5 --WHITE PAN BREAD: ESTIMATED RETAIL AND WHOLESALE PRICE OF A 1-POUND LOAF; RETAILER'S, WHOLESALER'S, MILLER'S AND OTHER SPREADS; FARM VALUE OF INGREDIENTS; FLOUR AND WHEAT PRICES AND RELATED DATA, JULY-SEPTEMBER 1973 AND PREVIOUS 4 QUARTERS.

ITEM	UNIT	1972		1973					
		III	IV	I	II	JULY	AUG.	SEPT.	III
RETAIL PRICE 1/	CENTS PER LOAF	24.7	24.7	25.1	26.2	26.5	27.2	29.5	27.7
RETAIL SPREAD 2/	"	4.5	4.5	4.7	5.3	5.6	5.2	5.1	5.3
WHOLESALE PRICE 3/	"	20.2	20.3	20.4	20.8	20.9	22.0	24.4	22.4
BAKER-WHOLESALER SPREAD 4/	"	13.9	13.3	13.4	13.5	13.9	12.2	14.8	13.6
COST TO BAKER									
ALL INGREDIENTS 5/	"	6.3	6.9	7.0	7.4	7.0	9.8	9.7	8.8
FLOUR 6/	"	4.2	4.6	4.8	4.9	4.5	6.8	7.1	6.1
MILL SALES VALUE OF FLOUR 6/	"	3.8	4.4	4.5	4.7	4.3	6.5	6.9	5.9
MILLER'S FLOUR SPREAD 7/	"	0.7	0.8	0.9	0.7	0.9	1.2	1.0	1.0
COST OF WHEAT TO MILLER 8/	"	3.1	3.6	3.6	4.0	3.4	5.3	5.9	4.9
OTHER SPREADS 9/	"	1.8	1.8	1.5	1.9	2.0	2.0	1.7	1.9
FARM VALUE									
ALL INGREDIENTS 10/	"	3.8	4.3	4.6	4.8	4.1	6.6	7.0	5.9
WHEAT 11/	"	2.8	3.4	3.4	3.6	2.8	5.0	5.6	4.5
FLOUR PRICES 12/									
F.O.B. MILL	DOL. PER CWT.	6.07	6.91	7.13	7.37	6.72	10.26	10.85	9.28
DELIVERED TO BAKERS	"	6.57	7.37	7.52	7.81	7.18	10.76	11.21	9.72
FLOUR SALES 12/									
SOLD IN BAGS	PERCENT	13.	18.	19.	21.	17.	13.	8.	13.
PRICE DIFFERENTIAL FOR BAGS	CENTS PER CWT.	17.	17.	17.	18.	17.	18.	19.	18.
WHEAT PRICES									
FARM DELIVERY POINT 13/	DOL. PER BU.	1.51	2.03	2.08	2.18	2.38	4.21	4.38	3.66
DELIVERED TO MILLERS 14/	"	2.50	2.94	3.00	3.23	2.82	4.51	4.61	3.98

1/ BASED ON PRICES REPORTED BY BUREAU OF LABOR STATISTICS.
2/ SPREAD BETWEEN RETAIL AND WHOLESALE PRICES. THIS SPREAD IS COMPUTED FROM UNROUNDED DATA AND MAY NOT REFLECT THE DIFFERENCE BETWEEN PRICES AS ROUNDED.
3/ ESTIMATED FROM BLS PRICES AND TRADE DATA.
4/ SPREAD BETWEEN WHOLESALE PRICE AND COST TO BAKER OF ALL INGREDIENTS. THIS SPREAD IS COMPUTED FROM UNROUNDED DATA AND MAY NOT REFLECT THE DIFFERENCE BETWEEN PRICE AND COST DATA AS ROUNDED.
5/ COST OF FLOUR PLUS SHORTENING, NONFAT DRY MILK, SUGAR AND OTHER MINOR NONFARM PRODUCED INGREDIENTS.
6/ COST OR SALES VALUE OF FLOUR (0.6329 LB.) USED PER POUND OF BREAD.
7/ SPREAD BETWEEN MILL SALES VALUE OF FLOUR AND COST OF WHEAT TO MILLER. THIS SPREAD IS COMPUTED FROM UNROUNDED DATA AND MAY NOT REFLECT THE DIFFERENCE BETWEEN MILL SALES VALUE AND COST AS ROUNDED.
8/ COST OF WHEAT (.01445 BU.) INCLUDING MARKETING CERTIFICATE.
9/ CHARGES FOR TRANSPORTING, HANDLING, STORING ALL INGREDIENTS, FOR PROCESSING INGREDIENTS OTHER THAN FLOUR AND COST OF NONFARM PRODUCED INGREDIENTS SUCH AS YEAST, SALT, AND MALT EXTRACT. THIS SPREAD IS A RESIDUAL FIGURE COMPUTED FROM DATA AS ROUNDED.
10/ RETURNS TO FARMERS FOR WHEAT, INCLUDING AN ALLOWANCE FOR THE MARKETING CERTIFICATE, LARD, SHORTENING, NONFAT DRY MILK, AND SUGAR USED IN A 1-POUND LOAF.
11/ RETURNS TO FARMERS FOR WHEAT, INCLUDING THE CERTIFICATE, LESS IMPUTED VALUE OF MILLFEED BYPRODUCTS.
12/ BASED ON MONTHLY SALES AND PRICES OF BREAD-TYPE FLOUR REPORTED BY A SAMPLE OF FLOUR MILLING FIRMS.
13/ WEIGHTED AVERAGE FOR HARD WINTER AND SPRING WHEAT IN THE 10 MAJOR WHEAT PRODUCING STATES.
14/ INCLUDES ALLOWANCE FOR MARKETING CERTIFICATE.

NOTE: WHEAT AND FLOUR PRICES DO NOT INCLUDE ALLOWANCE FOR MARKETING CERTIFICATE SINCE JULY 1, 1973, EFFECTIVE DATE OF REPEAL.

COMMODITY ECONOMICS DIVISION, ERS

supplies of red meats, prices for frying chickens jumped to record levels in August after ceilings were lifted. Retail prices for frying chickens averaged 92.2 cents per pound in August, up 32.5 cents from July. The farm value of the quantity of broilers equivalent to the retail pound averaged 65.1 cents, up 30.3 cents. The farm-retail spread increased 2.2 cents. In September, as red meat supplies increased prices for frying chickens dropped almost as swiftly as they had risen. Retail prices dropped 19.4 cents and farm value dropped 17.7 cents, while the farm-retail spread decreased about 1.7 cent.

Retail prices for ready-to-cook frying chickens in the third quarter were up 33 cents from a year earlier. The farm value increased 28 cents, and the farm-retail spread, which includes charges for processing and distributing, widened 5 cents.

Eggs: Retail prices for Grade A large eggs averaged 87.5 cents per dozen in the third quarter of this year—35.4 cents per dozen higher than the relatively low levels of a year earlier. The farm value for eggs averaged 64.3 cents in the third quarter, up 33.6 cents. The farm-retail spread increased 1.8 cents.

As with many foods, retail prices for eggs reached the highest level for the quarter in August—96.8 cents per dozen. Margins were squeezed slightly as farm values rose more than retail prices. In September, prices at both levels fell moderately, but farm-retail spreads widened.

Fats and Oils: Tight supplies and strong foreign and domestic demand for oilseeds in the third quarter boosted the farm value for fats and oils by 71 percent from the third quarter of 1972. Retail costs, restrained by price ceilings in effect in July, averaged about 10 percent higher than a year earlier. However, the farm-retail spread, an estimate of charges for processing and distributing fats and oils, decreased 12 percent. Spreads decreased sharply in August before the upward surge in farm value could be reflected in retail prices. Changes in the farm value for highly manufactured products, such as fats and oils products, are often not reflected in retail prices immediately.

Bread: The reail price of a 1-pound loaf of bread jumped to 29.5 cents in September, 2.3 cents over the August price, and 3 cents higher than the July level (table 5). Increases in the retail price of bread resulted in large part from rising wheat and flour prices.

The farm value of wheat and other ingredients in a loaf of bread reached an all-time high of 7 cents per 1-pound loaf in September rising from 4.1 cents in July. Following the removal of the freeze on food prices in July, bread-type wheat prices rose from $2.82 per bushel to $4.61 in September at the mill level and the price of flour delivered to bakers jumped from $7.18 per hundredweight to $11.21. These large increases reflected continued strong domestic and world demand for wheat. In August, amid rising prices, new legislation eliminated the market certificate retroactive to July 1. This amounted to a reduction in the cost of wheat to millers of 75 cents per bushel, but the impact of this action was camouflaged by extreme price movements due to the market supply and demand conditions.

The farm-retail spread for bread, which was squeezed from July to August as the farm value rose faster than the retail price, increased to a record level of 22.5 cents in September. Changes in price spreads for different functions varied. The retailer's spread declined during the quarter from 5.6 cents in July to 5.1 cents in September. The baker-wholesaler's spread widened 0.9 cent to 14.8 cents in September, a record high. The flour miller's spread increased 0.1 cent to 1.0 cent in September.

COSTS AND PROFITS IN MARKETING FARM PRODUCTS

The cost of marketing food originating on U.S. farms may total $83 billion this year, according to preliminary estimates. This would be an increase of 8 percent from 1972, considerably above the average annual rise of 5.2 percent during the past decade. Increased costs of marketing services and the additional services per unit of product account for most of the increase in the bill. Product volume is little changed from last year.

The farm value of U.S. farm food products may total $51 billion this year, up about 30 percent from 1972. This would be the largest annual increase in the past 25 years. An increase in the farm value of meat products, paralleling the sharp increases in livestock prices, accounts for a large part of the rise.

Civilian consumers are spending an estimated $134 billion for farm-originated foods this year, $18 billion more than in 1972. Increases in the marketing bill will probably account for a third of the increase in consumer expenditures for farm foods this year and higher returns to farmers for the balance.

Labor Costs

Labor costs are the largest component of the costs incurred by firms processing and distributing farm food products, accounting for close to half of the marketing bill in recent years. Direct labor costs will probably amount to $39½ billion this year, 5½ percent more than in 1972. This total relates only to workers in establishments engaged in marketing U.S. farm foods. It does not include costs of labor engaged in for-hire transportation or in manufacturing and distributing supplies used by marketing firms.

The largest labor cost in food marketing in 1972 was incurred by food processors, $11.7 billion, followed by food retailers, $10.6 billion, and eating places, $10.1 billion. Labor costs of all agencies are expected to average 4 to 8 percent higher this year than in 1972. Part of the increase reflects employee's rising hourly earnings, although the increase in earnings has slowed slightly in the most recent 12 months. Increases in the number of employees in the distributive sector will push up the total labor cost bill this year. Indications are that processors will average fewer employees this year than in 1972.

Hourly Earnings: Average hourly earnings of employees in firms processing and distributing food products have been increasing at an increasing rate for several years. However, the rate of increase this year has been about the same as in 1972. Earnings in July 1973 were up 5.8 percent over a year earlier (table 6). Hourly earnings have been increasing throughout the economy. In the third quarter of this year, hourly earnings of employees in the total private nonagricultural sector of the economy averaged $3.93 up 7 percent from a year earlier.

Increases in hourly earnings for workers in food marketing firms this year have been largest for food manufacturers. Hourly earnings of employees of food manufacturers in July of this year averaged $3.82, up 6.4 percent from a year earlier. During the same period, hourly earnings of retail food store employees rose 5.5 percent to $3.25 per hour, and earnings of food wholesalers employees rose 5.7 percent to $3.88 per hour. Hourly earnings of eating and drinking place employees increased 6 percent to $2.11 per hour. Although increases in earnings varied among industries in the past year, earnings of employees of all food industries have risen about the same rate, or more than a third, since 1967 when wage increases began to accelerate.

Hourly earnings of employees in establishments manufacturing and retailing nonfood farm products also are continuing to increase this year. In tobacco manufacturing, hourly earnings averaged $3.73 in August 1973, up 10.4 percent from a year ago. During the same period, hourly earnings of persons employed by retail apparel and accessory stores rose 4.1 percent to $2.56 per hour. Textile mill product employees' hourly earnings rose 7 percent to $2.92 per hour. Persons employed by apparel and related product manufacturers had an increase in hourly earnings of 6.5 percent to $2.78 per hour from a year ago. Earnings for each of these industries continued to rise this year at a faster rate than last year (table 7).

Productivity: Output per man-hour increased strongly throughout the economy in 1972 and the first half of 1973. Department of Labor data show an increase in output per man-hour of 4.2 percent in the private nonfarm sector of the economy last year. The gain in productivity in 1972 moderated the rise in labor costs per unit of output and the general level of prices of goods and services.

Recent estimates of output per man-hour in food marketing are available only for food manufacturing firms (table 8). Output per man-hour in food manufacturing was unchanged in 1972. Over the past decade, it increased an average of 2.9 percent per year. Little or no increase in the volume of farm products marketed limited factory output and output per man-hour.

With hourly earnings of employees rising, labor costs per unit of output in all food marketing increased 7.4 percent last year, a sharper rise than in recent years.

Over the years, food marketing firms (manufacturers, wholesalers, retailers, eating places) have only partially offset rising hourly earnings and other labor costs by boosting labor productivity. In the past decade, total labor costs (wages, salaries, and fringe benefits) increased 87 percent while unit labor costs (labor costs divided by volume of product marketed) increased 50 percent. Since 1967, labor costs of marketing firms have increased 44 percent while unit labor costs have increased 31 percent, reflecting a 10 percent gain in productivity.

Findings of National Commission on Productivity showed that the food industry's record of productivity improvement over the past 15 years has been about equal to the national average of 3 percent, but a wide variety of opportunties exist for further improvement in productivity. These and other findings are contained in "Productivity in the Food Industry," a preliminary report issued by the Commission. Copies of the report can be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Price: 40 cents.

The report divides opportunities for productivity improvement in the food industry into five major areas: (1) Reduction or elimination of impediments to productivity due to Federal, State and local government regulations; (2) Improvement of rail transport of food equal to the best service of the past 20 years; (3) Identification and implementation of changes in agricultural production where there may be opportunity to raise productivity. The production and consumer evaluation of bullock beef would be one example; (4) Clarification of antitrust regulations to help clear up uncertainty that inhibits certain productivity improvements; (5) Improved industrywide projects in research and development and market development, perhaps with government assistance. For each of these areas, examples are presented to illustrate the nature of the opportunities. Among the conclusions reached in the report is that no single step or action will have a significant impact on productivity, but taken together, they offer

Table 6.--Hourly earnings of employees of firms marketing food, annual 1958-72, monthly 1972-73

Year and month	Food manufacturers	Food wholesalers	Retail food stores	Food marketing 1/	Eating & drinking places
	Dollars				
1958	1.94	1.89	1.59	1.82	---
1959	2.02	1.97	1.60	1.88	---
1960	2.11	2.03	1.68	1.96	---
1961	2.17	2.09	1.76	2.03	---
1962	2.24	2.16	1.83	2.10	---
1963	2.30	2.23	1.90	2.16	---
1964	2.37	2.28	1.98	2.23	1.25
1965	2.43	2.36	2.05	2.30	1.30
1966	2.52	2.50	2.13	2.40	1.40
1967	2.64	2.66	2.23	2.52	1.49
1968	2.79	2.83	2.38	2.67	1.62
1969	2.95	3.00	2.54	2.84	1.73
1970	3.16	3.31	2.70	3.03	1.85
1971	3.38	3.47	2.90	3.24	1.95
1972	3.60	3.66	3.09	3.45	2.02
1972					
January	3.53	3.59	3.02	3.38	1.99
February	3.54	3.63	3.03	3.39	2.00
March	3.56	3.61	3.03	3.42	2.01
April	3.59	3.65	3.06	3.44	2.00
May	3.61	3.64	3.07	3.45	2.01
June	3.59	3.62	3.08	3.43	2.00
July	3.59	3.67	3.08	3.45	2.00
August	3.57	3.65	3.09	3.43	2.01
September	3.61	3.69	3.13	3.48	2.05
October	3.63	3.68	3.14	3.49	2.06
November	3.66	3.70	3.19	3.52	2.06
December	3.72	3.75	3.17	3.55	2.06
1973					
January	3.75	3.80	3.19	3.59	2.08
February	3.75	3.82	3.20	3.59	2.09
March	3.77	3.82	3.21	3.61	2.10
April	3.78	3.84	3.21	3.61	2.10
May	3.82	3.88	3.24	3.65	2.11
June	3.81	3.85	3.24	3.64	2.11
July	3.82	3.88	3.25	3.65	2.11
August	3.83	3.86	3.25	3.65	2.12

1/ Weighted composite earnings of production employees in food manufacturing and nonsupervisory employees in wholesale and retail food trade calculated by the Economic Research Service from data of the U.S. Department of Labor.

Table 7.--Hourly earnings of employees of firms marketing nonfood agricultural products, annual 1958-72 monthly 1972-73 1/

Year and month	Manufacturers			Retail apparel and accessories stores
	Tobacco	Textile-mill products	Apparel and related products	
	Dollars			
1958	1.59	1.49	1.54	1.39
1959	1.64	1.56	1.56	1.44
1960	1.70	1.61	1.59	1.46
1961	1.78	1.63	1.64	1.50
1962	1.85	1.68	1.69	1.55
1963	1.91	1.71	1.73	1.59
1964	1.95	1.79	1.79	1.63
1965	2.09	1.87	1.83	1.71
1966	2.19	1.96	1.89	1.79
1967	2.27	2.06	2.03	1.89
1968	2.48	2.21	2.21	2.03
1969	2.62	2.34	2.31	2.14
1970	2.92	2.45	2.39	2.26
1971	3.15	2.57	2.49	2.37
1972	3.43	2.73	2.61	2.46
1972				
January	3.32	2.69	2.56	2.43
February	3.37	2.71	2.58	2.41
March	3.40	2.71	2.57	2.40
April	3.45	2.72	2.58	2.43
May	3.47	2.71	2.57	2.46
June	3.53	2.72	2.59	2.47
July	3.57	2.71	2.58	2.48
August	3.38	2.73	2.61	2.46
September	3.35	2.75	2.65	2.48
October	3.38	2.76	2.67	2.51
November	3.49	2.78	2.68	2.49
December	3.49	2.83	2.69	2.49
1973				
January	3.56	2.87	2.72	2.54
February	3.65	2.88	2.72	2.49
March	3.70	2.88	2.73	2.51
April	3.81	2.90	2.74	2.55
May	3.84	2.90	2.74	2.57
June	3.91	2.90	2.75	2.59
July	4.01	2.89	2.74	2.58
August	3.73	2.92	2.78	2.56
September				
October				
November				
December				

1/ U.S. Department of Labor; production workers or nonsupervisory workers only.

Table 8.--Output per man-hour in establishments manufacturing farm-originated foods, by industry, 1960-72 1/
(1967 = 100)

Year	Output	Man-hours	Output per man-hour	Output	Man-hours	Output per man-hour	Output	Man-hours	Output per man-hour
	All foods 2/			Meat products 3/			Poultry and eggs 4/		
1960 ..	83	105	79	81	108	75	62	79	78
1961 ..	86	104	83	82	104	78	73	86	84
1962 ..	88	102	87	83	102	81	72	81	89
1963 ..	91	99	92	87	101	86	76	86	88
1964 ..	95	101	94	94	108	87	80	88	91
1965 ..	96	99	97	91	101	91	85	91	93
1966 ..	98	99	99	96	99	97	92	95	97
1967 ..	100	100	100	100	100	100	100	100	100
1968 ..	103	99	104	103	98	105	96	102	94
1969 ..	103	100	103	103	97	106	102	109	94
1970 ..	104	98	106	106	97	109	114	122	93
1971 ..	105	96	110	110	97	113	117	121	96
1972 ..	105	96	110	108	97	111	120	123	98
	Dairy products 5/			Processed fruits and vegetables 6/			Grain-mill products 7/		
1960 ..	93	121	77	73	92	79	84	108	77
1961 ..	95	119	80	78	93	85	87	107	82
1962 ..	96	114	85	85	93	91	91	106	86
1963 ..	99	109	91	82	91	90	96	99	97
1964 ..	100	108	93	87	93	94	98	101	98
1965 ..	101	105	97	91	96	95	98	99	98
1966 ..	100	101	99	96	99	97	100	99	102
1967 ..	100	100	100	100	100	100	100	100	100
1968 ..	100	95	105	109	102	106	103	99	104
1969 ..	99	92	107	104	105	99	104	98	106
1970 ..	98	88	110	108	101	108	104	95	109
1971 ..	99	85	116	108	98	111	105	95	111
1972 ..	101	82	123	108	100	108	104	94	111

1/ Output per man-hour indexes were computed from unrounded indexes of man-hours worked by all employees and factory output. Man-hour estimates for 1960-71 are based on data published by the Bureau of Census. Estimates for 1972 were interpolated from employment statistics published by BLS. Output estimates are based on value-added indexes published by the Bureau of Census projected for non-census years by physical output data published by the USDA. Data for 1964-72 are preliminary. 2/ Establishments primarily engaged in manufacturing shortening and cooking oils, margarine, macaroni, and spaghetti, as well as industry groups shown on this table. 3/ Meat packing plants and establishments specializing in prepared meat products. 4/ Poultry-dressing plants and establishments specializing in processed egg products. 5/ Plants engaged in processing fluid milk and cream, butter, natural cheese, concentrated milk, ice cream and ices, and special dairy products. 6/ Establishments primarily engaged in canning and freezing fruits and vegetables and manufacturing pickles and sauces. 7/ Establishments primarily engaged in manufacturing flour and meal, cereal products, rice milling, blended and prepared flour, and corn wet milling products. (Continued)

Table 8.--Output per man-hour in establishments manufacturing farm-originated foods, by industry, 1960-72 1/--Continued
(1967 = 100)

Year	Output	Man-hours	Output per man-hour	Output	Man-hours	Output per man-hour	Output	Man-hours	Output per man-hour
	Bakery products 8/			Sugar 9/			Confectionary 10/		
1960 ..	91	118	77	74	95	78	80	98	81
1961 ..	91	115	79	76	99	78	82	100	83
1962 ..	94	114	82	85	94	91	83	100	83
1963 ..	95	107	89	100	103	97	87	95	92
1964 ..	98	108	91	104	111	93	90	97	93
1965 ..	99	106	94	97	104	93	92	97	95
1966 ..	99	105	94	99	101	99	97	98	99
1967 ..	100	100	100	100	100	100	100	100	100
1968 ..	102	99	103	110	103	107	104	100	104
1969 ..	104	101	102	104	104	100	103	101	102
1970 ..	100	96	104	105	103	102	105	103	102
1971 ..	99	95	104	110	102	108	106	96	110
1972 ..	99	96	103	114	107	107	107	98	109

8/ Establishments primarily engaged in manufacturing biscuits and crackers, wholesale bakeries, grocery chain bakeries, home service bakeries, and retail multioutlet bakeries (excluding nonbaking outlets except those retail units at the same location as the bakery). 9/ Establishments primarily engaged in manufacturing raw cane sugar from domestically grown cane and plants mainly engaged in the production of beet sugar. 10/ Establishments primarily engaged in manufacturing candy and other confections.

substantial potential benefits and a principal hope for restraining food prices over the long run.

Transportation Charges

The combined index of railroad freight rates for agricultural commodities averaged 128 in 1972 (1967=100), up 1 point from 1971. The combined index for food products increased slightly more - 3 points - to 132. These indexes reflected rail freight rate increases granted by the Interstate Commerce Commission (ICC) in April 1971, and in February and October 1972. The latter two were fairly modest. Increases were substantially less than those occurring in 1970 and 1971. Rate indexes for individual commodities, such as livestock, increased by at least 9 points in both of those years (table 9).

The relatively small increase in the combined index of railroad freight rates in 1972 partly reflected a decline of 5 points in the index for wheat. Indexes of railroad freight rates for other commodities increased in 1972. The decline in rates charged by railroads for hauling wheat was the result of reductions in rates in major producing areas where truck competition is increasing.

Rail freight rates this year were increased 3 percent for most agricultural commodities on August 19 and 1.9 percent on October 1. As a result, rate indexes probably are rising by a greater amount in 1973 than 1972, barring a decline in rates for some commodities such as occurred for wheat last year. Actual rates for 1973 will depend, in part, on adjustments in published rates that are not a result of general rate increases granted by the ICC.

Reports suggest that truck rates for agricultural commodities have increased in recent years, and that truck and barge rates for bulk commodities such as wheat, corn, and soybeans have risen rapidly since mid-1972. Rate indexes for regulated truck traffic are not available and rates actually paid to truckers for hauling exempt commodities and water carriers for hauling bulk commodities are not published.

Concern has been expressed that high food costs are, in part, a result of rapidly escalating transportation costs. Condition of farm-to-market roads, such as bridges and stability during wet seasons, lack of improvement in rural railroads, and congestion of distribution arteries in urban areas are mentioned as problem areas. The rail freight rate indexes indicate the trend in rail charges, but they are not relevant for assessing other areas, and trends in other transport-associated costs borne by shippers and receivers of rail traffic. If intercity rail transportation is becoming slower and less reliable, as is sometimes claimed, the transport-associated costs of shippers and receivers may be increasing at a faster pace than are the rates charged.

Other Costs

In addition to labor and transportation costs, food marketing firms incur a wide variety of other expenses. These include costs of containers and packaging materials, office supplies, rent, property insurance and maintenance, and utilities. The importance of these items is much greater for some marketing firms than for others. For example, container costs for some canned fruits and vegetables and breakfast cereals are nearly equal to the cost of labor employed by the firm processing these products.

Prices of intermediate goods (excluding raw materials) bought by food marketing firms averaged 8.5 percent higher in the third quarter than a year earlier (table 10). Prices of containers and packaging materials were 5 percent higher. Fuel, power, and light rates increased 9 percent, continuing a sharp rise that began in the third quarter of 1970. Prices of services (such as rent, insurance, and telephone) usually rise much more than goods and materials but in the third quarter they averaged only 4 percent higher than a year earlier. The rate of change for services for 1973 was considerably less than in 1972, partially due to more limited increases in wages.

In the past decade, prices of intermediate goods and services have risen one-third. Most of this increase has occurred since 1970. Prices of services have increased 62 percent while prices of goods have increased 33 percent.

Interest on short-term loans to business firms in 35 metropolitan centers increased to 7.35 percent in the third quarter of 1973 from 6.33 percent in November 1972. Yields of long-term bonds also have increased. Yields on Moody's Aaa Bonds averaged 7.52 percent in August 1973 compared with 7.19 percent in 1972. Rates this year are near the level attained during the credit crunch of 1970/71.

Corporate Profits

Food Manufacturers and Retailers: Profits after taxes of corporations processing and manufacturing food and kindred products averaged 2.4 percent in the second quarter this year, slightly less than a year earlier. In comparison, profit ratios of all manufacturing industries increased to 5.1 percent from 4.5 percent a year ago (table 11). Among food manufacturers, profit margins of bakeries declined sharply. Meatpackers' profit margins averaged 0.9 percent of sales in the first half of 1973, unchanged from a year earlier and close to the lowest level in the past 6 years. Profits of meatpackers averaged 1 percent of sales for all of 1972, down from 1.3 percent for 1971.

Dollar profits of food retailers dipped in the first half of the year, reflecting lower profit margins and reduced earnings by several large retailers. Profits

after taxes of 15 leading food chains averaged 0.55 percent of sales in the first half of this year, sharply lower than a year earlier, but up slightly from the second half of 1972. For all of 1972, profits of leading retailers averaged 0.6 percent of sales, compared with 0.9 percent in 1971.

Textile and Apparel Manufacturers: Profit rates of textile and apparel manufacturers averaged higher in the first half of 1973 than a year ago. Profit margins of textiles rose in 1972, averaging 2.6 percent of sales compared with 2.4 percent in 1971. Apparel profit rates were unchanged in 1972 from 1971.

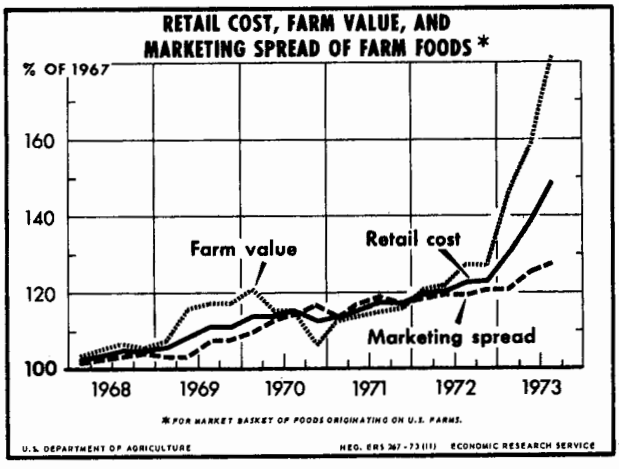

Figure 1

Table 9.--Railroad freight rate indexes for specified agricultural commodities, 1957-72 1/

(1967 = 100)

	Livestock	Meat	Fruits and vegetables	Wheat	All grains
1957	104	143	112	119	116
1958	108	132	109	122	120
1959	106	121	102	120	116
1960	105	121	100	119	115
1961	104	121	101	119	114
1962	102	120	100	116	113
1963	100	117	99	114	111
1964	99	113	99	111	108
1965	99	104	99	99	101
1966	99	100	99	99	100
1967	100	100	100	100	100
1968	104	103	103	101	100
1969	108	107	108	102	100
1970	119	117	118	113	109
1971	135	132	134	125	121
1972	140	136	138	120	121

	Soybeans	Cotton	Wool	Tobacco	Combined index: Food products 2/	Combined index: All products 3/
1957	110	102	158	119	119	116
1958	116	103	161	111	115	115
1959	115	102	127	100	109	110
1960	115	101	122	99	107	109
1961	109	101	122	100	108	109
1962	107	101	107	100	106	108
1963	101	101	104	100	103	106
1964	100	100	100	100	103	105
1965	99	100	100	100	100	100
1966	99	100	100	99	99	99
1967	100	100	100	100	100	100
1968	101	100	101	102	102	101
1969	103	103	106	108	105	103
1970	114	113	119	118	116	114
1971	126	126	134	132	129	127
1972	127	131	136	137	132	128

1/ All indexes are of the weighted aggregative type and are based upon averages of rates in effect during the year. Annual averages are computed by weighting rates by the number of days they are in effect.

2/ In constructing the all farm food index, food product groups are weighted by average quantities marketed domestically in 1957-59.

3/ In constructing the all farm product index, farm product groups are weighted by average revenues for 1957-59.

Data for 1945-56 are published in the Marketing and Transportation Situation, MTS-47, November 1962.

Table 10.--Prices of inputs bought by food marketing firms, annual 1958-72, quarterly 1972-73

(1967=100)

Year and quarter	Intermediate goods and services					New plant and equipment 3/	Yields on high-grade long-term bonds, per annum 4/
	Total	Goods			Services 2/		
		Total 1/	Containers and packaging materials	Fuel, power, and light			
1958	87	95	94	95	78	88	69
1959	89	95	94	96	80	90	79
1960	90	97	96	99	81	90	80
1961	90	96	95	100	82	91	79
1962	91	96	96	100	84	91	79
1963	91	96	95	99	86	92	77
1964	92	95	96	98	88	93	80
1965	94	96	97	99	91	94	81
1966	97	99	99	99	95	97	93
1967	100	100	100	100	100	100	100
1968	103	100	100	99	106	103	112
1969	107	103	104	99	113	108	128
1970	113	108	108	108	120	114	146
1971	120	113	113	120	129	121	134
1972	126	118	117	126	138	124	131
1972							
Jan.-Mar.	124	116	115	124	135	124	131
Apr.-June	126	117	117	125	137	124	132
July-Sept.	128	118	118	127	139	125	130
Oct.-Dec.	128	119	118	127	141	125	128
1973:							
Jan.-Mar.	130	121	120	131	142	126	131
Apr.-June	134	126	123	135	145	129	133
July-Sept.	136	128	124	139	147	130	136
Oct.-Dec.							

1/ Also includes prices of office supplies, restaurant supplies, and many other goods.

2/ Rent, property insurance and maintenance, telephone, etc.

3/ Implicit price deflator for investment in nonresidential structures and producers' durable equipment, U.S. Department of Commerce.

4/ Aaa corporate bonds; Moody's Investor Service. These yields are indicative of the cost of current long-term borrowings.

Table 11.--Profit ratios (after Federal income taxes) of all manufacturing, manufacturers of food, textiles, apparel and 15 retail food chains, annual 1960-72, quarterly 1972-73 1/

Year and quarter	Food: Total 2/	Food: Dairy	Food: Bakery	Food: Meat-packers 3/	Textile-mill products	Apparel and other finished products	All manufacturing industries	15 retail food chains 3/
	Profits as percentage of stockholder equity							
1960	9.2	---	---	---	5.8	7.7	9.3	13.0
1961	9.4	---	---	---	5.0	7.3	8.9	12.0
1962	9.2	---	9.2	---	6.2	9.3	9.8	11.7
1963	9.3	8.6	9.4	---	6.1	7.7	10.3	11.4
1964	10.4	9.5	9.1	---	8.6	11.9	11.7	11.5
1965	11.0	10.7	9.2	---	10.9	12.8	13.1	11.3
1966	11.5	11.4	10.9	7.1	10.3	13.8	13.6	11.4
1967	11.1	10.3	12.2	11.5	7.6	12.2	11.8	10.3
1968	10.9	9.8	11.9	10.2	8.8	13.0	12.2	10.3
1969	11.0	10.1	8.6	8.8	7.9	11.9	11.5	10.4
1970	10.9	10.2	8.8	8.7	5.1	9.3	9.3	10.6
1971	11.1	11.1	10.7	10.8	6.7	11.2	9.7	---
1972	11.3	10.1	10.6	10.6	7.5	12.0	10.6	6.1
1972								
January-March	10.1	10.0	11.3	---	6.4	10.9	9.5	---
April-June	11.7	11.1	11.3	---	7.3	9.3	1.3	---
July-September	10.9	10.0	10.4	---	7.3	12.4	10.1	---
October-December	11.7	9.6	19.6	---	9.0	15.1	11.5	---
1973								
January-March	11.2	9.6	8.1	---	8.4	8.0	11.6	---
April-June	12.5	11.1	5.0	---	11.1	14.6	14.0	---
	Profits as a percentage of sales							
1960	2.2	---	---	---	2.5	1.4	4.4	1.3
1961	2.2	---	---	---	2.1	1.3	4.3	1.2
1962	2.2	---	2.3	---	2.4	1.6	4.5	1.2
1963	2.2	1.9	2.2	---	2.3	1.4	4.7	1.2
1964	2.5	2.3	2.2	---	3.1	2.1	5.2	1.3
1965	2.6	2.5	2.1	---	3.8	2.3	5.6	1.2
1966	2.5	2.5	2.3	.9	3.6	2.4	5.6	1.2
1967	2.4	2.4	2.6	1.4	2.9	2.3	5.0	1.1
1968	2.4	2.3	2.6	1.2	3.1	2.4	5.1	1.1
1969	2.4	2.2	1.9	1.2	2.9	2.3	4.8	1.1
1970	2.3	2.1	1.9	.9	1.9	1.9	4.0	1.1
1971	2.4	2.3	2.3	1.3	2.4	2.4	4.1	.9
1972	2.4	2.0	2.2	1.0	2.6	2.4	4.3	.6
1972								
January-March	2.2	1.9	2.4	1.0	2.3	2.3	4.0	1.1
April-June	2.5	2.1	2.4	0.8	2.5	2.0	4.5	.4
July-September	2.3	2.0	2.2	0.9	2.6	2.3	4.2	.1
October-December	2.4	1.9	2.0	1.2	2.8	2.7	4.4	.8
1973								
January-March	2.2	1.9	1.6	1.0	2.8	1.6	4.5	0.4
April-June	2.4	2.0	1.0	.9	3.4	2.8	5.1	0.7

1/ Compiled from Quarterly Financial Report for Manufacturing Corporations published by the Federal Trade Commission and Securities and Exchange Commission. 2/ Food and kindred products excluding alcoholic beverages. 3/ Compiled from Moody's Industrial Manual.

GRAIN AND SOYBEAN TRANSPORTATION PROBLEMS IN FISCAL 1974

by

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ABSTRACT: Barring major unexpected problems, this year's record exports of wheat, feed grains, and soybeans can be moved over the 12 months ending June 30, 1974 with fewer transportation difficulties than in the previous year. Large export volume in July-September, added transportation capacity, and experience gained handling large volumes of grain in FY 73 should ease transportation problems for exports in FY 74.

For domestic marketings, the boxcar shortage will persist and some shippers will not be able to obtain the quantity of transportation services they want when they want them. With orderly marketings, however, available storage capacity appears adequate to hold this year's harvest for later consumption.

KEYWORDS: Transportation, railroads, wheat, soybeans, feed grains, exports.

Fiscal 1973's record exports of 81.5 million metric tons of wheat, feed grains, and soybeans (table 12) severely tested the capacity of the U.S. transportation system. Exports of wheat, feed grains, and soybeans in fiscal 1974 are expected to total 82.5 million metric tons, slightly more than last year's.

This article analyzes the likely problems in meeting the transportation needs of fiscal 1974's record exports, and the probable effects on domestic shippers.

Table 12.--U.S. grain and soybean exports, fiscal years 1972-74

Commodity	1971/72	1972/73 1/	1973/74 2/
	Million metric tons		
Wheat	15.8	32.2	31.3
Feed grains	20.9	35.5	37.3
Soybeans	11.7	13.8	13.9
Total	48.4	81.5	82.5

1/ Preliminary.
2/ Estimate based on October indications.

Review of the 1973 Situation

Moving the record volume of grain and soybeans in fiscal 1973 resulted in many bottlenecks in the transportation and distribution system. By midwinter, reported rail car shortages exceeded 20,000 cars per day. Many Gulf port elevators, through which most U.S. grain and soybean exports move, became jammed with grain, resulting in cars waiting to be unloaded. These delays in unloading aggrevated the car shortages at origination points. Also, increased transportation demands were reflected in increased barge rates, truck rates, and abnormally large grain price differentials between country points and export delivery points.

Part of the problem last year was caused by the time required to negotiate a shipping agreement to move the huge USSR grain purchases. This shortened the delivery time so that little of the USSR purchase was exported before December—after the closing of the Great Lake ports. Such traditional buyers as Japan also increased their purchases in the latter part of the year. Thus, besides a record export volume, 55 percent of the fiscal 1973 U.S. grain and soybean exports moved in the second half (January-June) (table 13). Normally, most of a fiscal year's grain exports are moved in the first half (July-December).

Fiscal 1974 Export Situation

The seasonal pattern of exports in fiscal 1974 promises to be more nearly normal. Thus far, the high rates of grain and soybean exports in the third and fourth quarters of fiscal 1973 have continued into fiscal 1974. Exports of about 24 million metric tons in the first quarter of fiscal 1974 were 46 percent above the first quarter of fiscal 1973 (table 14). In mid-October the industry was still maintaining its head start on exports relative to last year with about one-third of the fiscal 1974's estimated exports delivered in contrast to about one-fourth last year.

Projecting continued export movement at current rates implies all expected demand could be filled by the end of May, easing the transportation situation late in fiscal 1974. The transportation system appears to have been operating at capacity for some time, however, and the stress effect of continued performance at record levels is unknown.

Several factors suggest that total U.S. grain movements could continue near current levels for the remainder of the fiscal year. Although the number of boxcars suitable for hauling grain declined in the past year, the increase in covered hopper cars (which have a greater load capacity and higher average number of loadings per year) yielded a 3-percent increase in the estimated grain carrying capacity of railroads (table 15). An increase in the backlog of covered hoppers on order by Class I railroads, individual shippers, and car companies from 3,300 on August 1, 1972 to 15,200 on August 1, 1973 strongly implies that the grain carrying capacity of the railroads will increase in the months ahead.

Another indicator of performance is grain carloadings of railroads. Carloadings in the first quarter of fiscal 1974 averaged 34,000 per week, 19 percent above a year ago and 11 percent above the previous quarter (table 16). Weekly grain carloadings must average 29,100 for the remainder of the fiscal year to match 1973's output. However, past experience has shown that some car shortage problems are likely to exist at around this level of loading.

Barges are also important seasonal movers of grain and soybeans. Industry sources indicate barge

Table 13.--Seasonal distribution of U.S. grain and soybean exports in fiscal 1973.

Quarter	Wheat	Feed grains	Soybeans	Total
		Percent		
July-September	18	25	13	20
October-December	24	22	33	25
January-March	26	26	32	27
April-June	32	27	22	28
Year	100	100	100	100

Compiled from: "Grain Market News," Agricultural Marketing Service, USDA

Table 14.--U.S. grain and soybean exports, quarterly, July 1, 1972 to October 1, 1973.

Quarter	Wheat	Feed grains	Soybeans	Total
	Million metric tons			
July-September, 1972 ...	5.8	8.7	1.8	16.3
October-December, 1972 .	7.8	7.8	4.5	20.2
January-March, 1973	8.4	9.3	4.4	22.1
April-June, 1973	10.2	9.7	3.1	22.9
July-September, 1973 ...	10.8	12.1	.9	23.8

Compiled from "Grain Market News," Agricultural Marketing Service, USDA

Table 15.--Estimated grain carrying capacity of railroads and privately owned railcars.

Car type	Total		
	October 1, 1972	October 1, 1973	Change
	Number		
Covered hoppers 1/.....	181,500	199,200	17,700
Boxcars 2/	184,100	167,700	-16,400

	Estimated capacity	Average loadings per year	1973 annual capacity	Change 1972 to 1973
	Bushels per car	Number	Million bushels	
Covered hoppers	3,000	18.0	10,757	956
Boxcars	2,000	15.7	5,150	-515
Total	---	---	15,907	441

1/ Privately owned cars as of September 1. Includes 40,400 in 1972 and 50,500 in 1973.
2/ Forty foot and under, narrow door.

Table 16.--Weekly carloadings of grains and soybeans, 1972 and 1973.

Month and week	1972	1973	Month and week	1972	1973
	1,000 cars			1,000 cars	
January:			July:		
First	21	27	First	23	32
Second	23	33	Second	27	37
Third	23	33	Third	28	36
Fourth	22	36	Fourth	28	36
February:			August:		
First	23	36	First	29	36
Second	22	34	Second	31	36
Third	22	32	Third	31	34
Fourth	21	31	Fourth	30	34
March:			September:		
First	24	32	First	31	32
Second	24	29	Second	27	30
Third	27	31	Third	29	33
Fourth	24	31	Fourth	29	33
Fifth	21	31	Fifth	26	32
April:			October:		
First	24	29	First	29	32
Second	23	29	Second	33	32
Third	21	28	Third	33	32
Fourth	21	30	Fourth	31	35
May:			November:		
First	20	30	First	31	--
Second	19	31	Second	31	--
Third	17	31	Third	29	--
Fourth	19	30	Fourth	26	--
June:			December:		
First	16	29	First	33	--
Second	22	32	Second	34	--
Third	24	32	Third	32	--
Fourth	30	33	Fourth	33	--
Fifth	29	36	Fifth	27	--

capacity has increased in the past year but through mid October, barge shipments from internal river locations were about the same as a year ago (table 17).

The strain on ocean shipping will reflect export delivery levels to ports. Although the total supply of dry cargo shipping has increased to more than 197 million deadweight tons and idle shipping is at a 2-year low, cargo lift capacity (instant ship capacity at a point in time) available for grain exports is much the same as last year.

Evidence of increased world-wide demand and a tight ship supply can be seen in the high ocean freight rates shown in table 18. Rates from U.S. Gulf ports to Antwerp-Rotterdam-Amsterdam, for example, averaged $3.54 per ton in the third quarter of 1972. In the third quarter of 1973, these rates were $10.07 per ton.

Assuming fiscal 1974 exports of grain and soybeans will be only slightly larger than in fiscal 1973, and that the export pace continues, the demand for shipping space may decline late in fiscal 1974. This, in turn, may be reflected in somewhat lower ocean freight rates.

Domestic Implications

Besides increased export demand, two other factors will play role in the transportation situation in fiscal 1974. Nationally, stocks of old crop grain and soybeans both on-farm and off-farm were well below average at the beginning of the fiscal year.

Stocks of old crop wheat, feed grains, and soybeans on July 1, 1973 were 80.2 million metric tons, down from 103.7 million a year earlier. Production of wheat, feed grains, and soybeans in the 1973 crop year is estimated at a record 281.2 million metric tons, up from the 258.2 million metric tons produced in 1972 (table 19).

Because of increased production, farmers may want to market larger amounts of grains and soybeans early in the season. However, a transportation system with little excess capacity will have difficulty increasing movements from country points to terminals to meet seasonal needs. Farmers may find it necessary to store a large share of new production on the farm until country points can be cleared. Because of a lower carryover, additional farm storage is available. At the same time lower off-farm stocks mean that a larger proportion of the 1973 crop must be moved from the production point to the consumer during fiscal 1974. Orderly marketing and careful traffic planning and management will be required to avoid domestic transportation shortages in fiscal 1974. A management survey conducted by AMS, USDA, during September-October 1973 showed that of the 14 States surveyed, North Dakota, Nebraska, and Kansas had by far the greatest need for grain cars.

The continued decline in boxcar numbers and increasing reliance on covered hoppers has important implications for many shippers. Many shippers must rely on boxcars to move most of the grain shipped by rail from country elevators as these elevators are unable to fully utilize covered hopper cars. The problem is further compounded by the large grain harvest in these States this year. Truck transportation also is limited and rates are generally higher than rail.

Other Factors Affecting Grain Transportation

Increasingly grain is moving in unit trains from elevators located in producing areas to export points, bypassing inland terminal elevators. Direct movement to markets may result in increased railcar productivity.

The industry has moved record quantities of grain in the past year. The experience gained should allow better coordination of grain movements and more advance knowledge of potential bottlenecks in the transportation system. A communication system has been developed at port elevators allowing individual ports to be temporarily embargoed by the railroads when the in-movement of grains exceeds the capacity of the port elevators. This action helps to prevent huge backlogs of cars at ports, thereby reducing car shortages at domestic points.

Table 17.--Barge shipments of grain and soybeans, interior river points

Commodity	July 1 - October 20 1972	June 30 - October 19 1973
	Million metric tons	
Wheat	2.1	1.4
Feed grains	4.6	6.2
Soybeans	1.9	1.0
Total	8.6	8.6

Source: "Grain Marketing News," Agricultural Marketing Service, USDA

Table 18.--Average voyage charter rates per ton for corn, wheat, and soybeans, selected quarters 1972-73 1/

Origin and destinations	1st quarter		2nd quarter		3rd quarter	
	1972	1973	1972	1973	1972	1973
	Dollars per ton					
Great Lake Ports to:						
United Kingdom	6.96	14.28	7.48	13.75	8.31	11.30
Antwerp-Rotterdam-Amsterdam	2/	10.55	6.33	17.04	6.97	15.94
U.S. Atlantic Ports North from Cape Hatteras to:						
United Kingdom	4.12	8.06	4.04	11.13	5.97	13.26
Antwerp-Rotterdam-Amsterdam	2.74	6.87	2.63	9.95	3.28	8.52
U.S. Gulf Ports to:						
United Kingdom	4.54	9.11	4.41	14.39	5.13	14.29
Antwerp-Rotterdam-Amsterdam	2.87	7.26	2.79	10.78	3.54	10.07
Japan	4.16	10.78	4.10	14.10	4.77	16.52
Pacific Coast Ports North from San Francisco to:						
Japan	6.17	12.50	6.47	15.31	5.85	15.39

1/ Average of rates for individual cargoes weighted by volume. Rates for 2,000 pound ton and calendar quarters.

2/ None reported.

Table 19.--Production of wheat, feed grains, and soybeans by selected States and United States, average 1969-71, and 1972 and 1973 1/

States	1969-71 average	1972	1973	1973/1972
	Million metric tons			Percent
Iowa	31.6	37.8	39.9	106
Illinois	31.1	34.7	35.4	102
Nebraska	16.9	20.5	22.9	112
Minnesota	16.9	18.0	21.6	120
Kansas	15.8	18.4	21.6	117
Indiana	15.8	17.3	18.8	109
Texas	11.0	10.5	15.7	150
Missouri	9.2	10.6	11.1	105
North Dakota	9.9	10.1	10.7	106
Ohio	11.1	10.3	10.6	103
South Dakota	6.6	7.7	7.9	103
Wisconsin	6.0	6.4	5.5	86
12 States	181.9	202.3	221.7	110
United States	235.3	258.2	281.2	109

1/ Twelve top producing States based on 1973 production estimates.

ALTERNATIVES FOR REDUCING WATER POLLUTION IN CATTLEHIDE PROCESSING AND TANNING

by

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ABSTRACT: The cattlehide processing and tanning industry must adjust to new Federal water pollution standards. Alternative marketing practices by processors and tanners can eliminate salt and reduce other pollutants discharged in sewage. The alternatives studied involve a combination of omitting salt curing, relocating tannery beamhouse operations, and changing the form of product marketed from salt cured hides to an intermediate leather product. Changes suggested will not affect the quality or quantity of cattlehide leather products

KEYWORDS: Cattlehides, leather tanning, water pollution.

Processing and tanning cattlehides is a major livestock byproduct industry in the United States. In 1972, nearly 37 million salt-cured cattlehides (about 1.35 million tons, fresh weight) were sold—about 17 million as exports and about 20 million to the domestic tanning industry. Cattlehides sales for tanning and exports generated almost $1 billion in gross revenues to cattle slaughtering operations.[1]

Water Pollution from Curing and Tanning Cattlehides

Pollution of the environment from hide curing and tanning is a serious national and local concern. New Federal standards for industrial waste discharges will require hide processors and tanners to make substantial investments in water treatment facilities if alternative solutions to the problems are not found.[2]

Hide processors must dispose of salt water (brine) and other wastes resulting from washing, fleshing, demanuring, trimming, and salting fresh hides. A typical 50-pound salt-cured hide contains 8 to 9 pounds of salt. An additional 4 to 5 pounds of salt are dissolved in the 1½ gallons of water lost by a fresh hide during the curing process. This brine is the main cause of water pollution. Offal, such as flesh and trimmings, is rendered for feed or is disposed of with solid wastes.

Tanneries also use large volumes of water to discharge beamhouse wastes from processes that desalt, dehair, lime, bate, pickle, and chrome tan salt-cured hides. Tanneries recover and market a part of these wastes, mainly hair and trimmings from hides, but most waste is disposed of in sewage. Suitable techniques to recover salt from hide-curing and tanner effluents have not been found.

Alternative Processing and Tanning Operations to Reduce Pollution

Research by the Economic Research Service and the Agricultural Research Service on cattlehide processing and leather tanning operations shows

[1]U.S. Dept. of Commerce and Tanners Council statistics.
[2]*Standards of Leather Tanning and Finishing: Industrial Waste Control Guidelines.* Environmental Protection Agency, Washington, D.C., Oct. 1973.

that a combination of (1) omitting salt-curing, (2) relocating tannery beamhouse operations to locations near sources of fresh hides, and (3) changing the form of the product marketed from salt-cured hides to an intermediate leather product such as blue, chrome-tanned leather or crust leather may offer solutions to water pollution problems of the industry. The solutions, however, would require major changes in the sequence of operations, materials used, and form of hide product sold by hide processors.

In order to eliminate salt-curing, it is necessary to preserve fresh hides in some other way at slaughtering plants. One alternative is for hide processors to partially tan fresh hides to blue, chrome-tanned leather, an intermediate product often stored for varying periods of time in present tannery practices. This would require the transferring of tannery beamhouse functions to hide processors. Tanners would no longer need to operate beamhouses but would buy chrome-tanned leather from hide processors for processing into fully tanned and finished leather products (table 20, Alternative I).

As a second alternative, hide processors could take over the entire tanning operation and locate it at or near the source of fresh hides. Hide processors would make and sell fully tanned (crust) leather for finishing.

Commercial Tests

A study was made with a commercial firm to simulate alternatives I and II. Material and economic impacts were observed and measured.[3] A commercial lot of 300 fresh, washed, fleshed, and trimmed hides (10 tons) was processed, half by present industry practices and half to simulate alternatives I and II (table 20).[4]

Chrome-tanned leather was made from matched lots of cattlehides sides, one lot with salt-curing, the other lot without salt-curing. Test results show that processing of fresh hide to leather without salt-curing is commercially feasible with presently available processing technology and equipment.

At the blue sort step, the chrome-tanned leather in each lot was measured for quality and yield. Grading results for 252 matched pairs of sides revealed no significant difference in quality of chrome-tanned leather made from salt-cured hides versus the fresh hide material (table 21).[5]

Industry Adjustments

Some hide processors presently make blue, chrome-tanned leather as a service for tanners, adding a service charge for custom beamhouse processing of hides. However, salt-cured rather than fresh hides are used in most instances as a starting material, because tannery buying practices are based on prices and grades for salted hides.

The new technology of omitting salt-curing of hides introduces several problems for the hide and leather tanning industry. Some major interrelated problems are!

(1) Marketability of chrome-tanned leather is not yet well defined. Standards for grading blue, chrome-tanned leather to suit tanners will have to be developed for open market transactions between tanneries and firms making blue, chrome-tanned leather from fresh hides.

(2) Hide processors will need to replace hide-curing facilities with beamhouse operations, which will involve investing in new equipment and processing technology. Skilled labor will need to be trained and relocated.

(3) Tanners, by phasing out hideroom and beamhouse operations, would lose internal quality control of hide material used for leather making.

(4) If foreign buyers continue to require salt-cured hides from U.S. sources, salt-curing facilities will have to be maintained by hide processors to supply hides for the export market.

The livestock slaughtering industry depends on domestic and foreign tanneries as a market for hides. If water pollution abatement costs force a significant part of the present tanning industry to cease operations, and if the water pollution standards for hide curing with salt cannot be met, the slaughtering industry will be forced to find other outlets for hides. Adjustment to alternative II then would be most likely to occur. Crust leather would be made and sold to finishers, or to leather goods manufacturers who would have it finished according to their specifications.

[3]This report presents comparative quality measures. Analysis is underway to characterize the costs of processing hides to leather under alternatives I and II. These findings will be made available at a later date.

[4]Spencer Beef Packing Company and Wisconsin Leather, Divisions of Spencer Food Company, Inc., Spencer, Iowa, furnished materials, facilities, and services for the commercial test by ERS/ARS, USDA in September and October, 1973. Herbert H. Moede, ERS, USDA, Washington, D.C., also participated in planning and conducting the test and analyzing results.

[5]The test continued through processing to crust and finished leather by the tannery. USDA will conduct laboratory analyses for quality and performance differences on leather samples from salted and unsalted hides as blue, chrome-tanned, crust, and finished leather. Results will not become available for release until storage stability test periods of 3 to 5 months are completed.

Table 20- Sequence of present and alternative cattlehide-to-leather processing and marketing systems.

Processing and marketing functions	Present industry practice	Alternative I	Alternative II
Buy fresh hides (hide processor)	X	X	X
Hidehouse			
Wash, demanure, flesh, trim	X	X	X
Brine cure	X		
Wring	X		
Class, weigh, tie, palletize	X	Near source of fresh cattle-hides	
Store	X		
Sell salted hides	X		
Buy salted hides (tannery)	X		
Hideroom			
Receive, store, sort, retrim	X		
Side	X 1/		
Beamhouse			
Soak, wash, dehair, bate	X	X	X
Sort, retrim, split	X 1/	X 1/	X 1/
Relime, bate, pickle, chrome tan	X	X	X
Wring and set-out	X	X	X
Blue sort	X	X	X
Side	X 1/		X 1/
Pallet, wrap, store		X	
Sell blue chrome tanned leather		X	
Buy blue chrome tanned leather (tannery)		X	
Receive, store		X	
Laboratory analysis		X	
Wring and set-out		X	
Side and retrim		X	
Blue sort		X	
Split and shave	X 1/	X 1/	X 1/
Tan and dyehouse			
Retan, dye, fat liquor	X	X	X
Set-out and paste dry	X	X	X
Take-off, stack, condition	X	X	X
Stake	X	X	X
Buff	X	X	X 1/
Crust sort	X	X	X
Measure, pack, mark, store			X
Sell crust leather			X
Buy crust leather (finisher or leather goods manufacturer)			
Receive, measure, sort, store			X
Buff			X 1/
Finishing			
Color and plate	X	X	X
Sort and measure	X	X	X
Pack, mark, store	X	X	X
Sell leather	X	X	X

1/ Optional step at this point.

Table 21.--Quality and yield of blue, chrome-tanned leather made from matched pairs of salted and fresh cattlehide sides 1/

Blue chrome tanned leather made from--				
Salt cured sides		Fresh sides		
Grade	Number	Grade	Number	Score 2/
A	11	A	--	--
		B	1	-1
		C	10	-20
		D	--	--
B	65	A	3	3
		B	15	--
		C	43	-43
		D	4	-8
C	148	A	3	6
		B	45	45
		C	92	--
		D	8	-8
D	28	A	-	-
		B	3	6
		C	13	13
		D	12	--
Total	252		252	-7

1/ After processing, all sides were sorted for grade and weight by the tanneries regular blue sort procedure. Hide number, left or right side, and sorter's grade were recorded for each side by USDA personnel as it passed from the sorting table to stacks. After sorting was completed, grading results for each cattlehide were compared. For example, 148 sides from the salt-cured lot received grade C at blue sort. Sides from the same animals that were processed without salt graded as follows: 3 grade A, 45 grade B, 92 grade C, and 8 grade D. Quality comparisons were made for 252 pairs of cattlehide sides. Forty-eight pairs of sides could not be evaluated because of incomplete identification.

2/ Each side scored 0 if grade letter was the same. The fresh side scoring was -1 for each letter grade lower and 1 for each letter grade higher than the salt-cure side of the pair.

Pollution Abatement Effects

The potential costs of pollution abatement facilities will strongly encourage changes in the present hide processing and marketing system for cattlehides and leather. Both alternatives I and II eliminate salt-curing, a major source of water pollution for hide processors and tanners.

An estimated 260,000 tons of salt were used to preserve cattlehides in 1972. More than two-thirds of this was discharged into fresh waters.[6] Eliminating salt curing would, at the same time, reduce pollution and cause a cost saving for salt of about 10 cents per hide, or $3.7 million. In addition, there may be possible savings in labor costs by the elimination of curing.

Fat, fleshings, hair, and hide trimmings that come from a beamhouse operation near a slaughter plant can be handled with a small addition to existing packinghouse waste treatment and byproduct rendering systems. Some of the waste material from tanneries can be converted to marketable byproducts at a packinghouse rendering facility.

[6]About 90,000 tons of salt went out of the United States in exports of salt-cured cattlehides.

Table 22.--Farm food products: Retail price, farm value, byproduct allowance, farm-retail spread, and farmer's share or retail price, third quarter 1973.

Product	Farm equivalent	Retail unit	Retail price	Gross farm value	Byproduct allowance	Net farm value 1/	Farm-retail spread	Farmer's share
			Cents					Percent
Beef, Choice grade	2.28 lb. Choice cattle	Pound	141.8	110.6	11.6	99.0	42.8	70
Lamb, Choice grade	2.47 lb. lamb	Pound	148.2	91.0	13.0	78.0	70.2	53
Pork	1.97 lb. hog	Pound	121.8	95.0	8.8	86.2	35.6	71
Butter	Milk for butter	Pound	91.2	143.0	30.3	62.7	28.5	69
Cheese, American proc.	Milk for American cheese	½ pound	60.0	30.9	.8	30.1	29.9	50
Ice cream	Cream, milk, and sugar	½ gallon	90.4	--	--	33.5	56.9	37
Milk, evaporated	Milk for evaporating	14½-ounce can	22.6	11.5	--	11.5	11.1	51
Milk, fresh:								
Home delivered	4.39 lb. Class I milk	½ gallon	74.4	--	--	34.1	40.3	46
Sold in stores	4.39 lb. Class I milk	½ gallon	64.7	--	-	34.1	30.6	53
Chicken, frying	1.41 lb. broiler	Pound	74.9	--	--	49.1	25.8	66
Turkey	1.28 lb. turkey	Pound	79.3	--	--	49.3	30.0	62
Eggs, Grade A Large	1.03 dozen	Dozen	87.5	--	--	64.3	23.2	73
Bread, white:								
All ingredients	U.S. farm ingredients	Pound	27.7	--	--	5.9	21.8	21
Wheat	.867 lb. wheat	Pound	--	5.3	1.0	4.5	--	16
Bread, whole wheat	.708 lb. wheat	Pound	43.0	--	--	5.2	37.8	12
Cookies, sandwich	.528 lb. wheat	Pound	57.6	--	--	9.3	48.3	16
Corn flakes	2.87 lb. yellow corn	12 ounces	32.7	--	--	3.9	28.8	12
Flour, wheat	6.85 lb. wheat	5 pounds	73.5	43.9	8.2	35.7	37.8	49
Rice, long grain	1.59 lb. rough rice	Pound	28.2	16.2	1.5	14.7	13.5	52
Apples	1.04 lb. apples	Pound	34.7	--	--	10.5	24.2	30
Grapefruit	1.03 grapefruit	Each	23.7	--	--	5.9	17.8	25
Lemons	1.04 lb. lemons	Pound	37.6	--	--	12.8	24.8	34
Oranges	1.03 dozen oranges	Dozen	107.6	--	--	26.1	81.5	24
Cabbage	1.08 lb. cabbage	Pound	18.5	--	--	7.8	10.7	42
Carrots	1.03 lb. carrots	Pound	22.7	--	--	8.4	14.3	37
Celery	1.08 lb. celery	Pound	27.0	--	--	9.1	17.9	34
Cucumbers	1.09 lb. cucumbers	Pound	26.1	--	--	8.4	17.7	32
Lettuce	1.88 lb. lettuce	Head	46.1	--	--	13.2	32.9	29
Onions	1.06 lb. onions	Pound	22.3	--	--	6.8	15.5	30
Peppers, green	1.09 lb. peppers	Pound	48.0	--	--	13.6	34.4	28
Potatoes	10.42 lb. potatoes	10 pounds	164.8	--	--	60.1	104.7	36
Tomatoes	1.18 lb. tomatoes	Pound	47.8	--	--	20.6	27.2	43

Continued--

Table 22.--Farm food products: Retail price, farm value, byproduct allowance, farm-retail spread, and farmer's share of retail price, third quarter 1973.

Product	Farm equivalent	Retail unit	Retail price	Gross farm value	Byproduct allowance	Net farm value 1/	Farm-retail spread	Farmer's share
			Cents					Percent
Peaches, canned	1.52 lb. Calif. cling	No. 2½ can	41.1	--	--	7.1	34.0	17
Pears, canned	1.81 lb. pears for canning	No. 2½ can	56.7	--	--	12.1	44.6	21
Beets, canned	1.19 lb. beets for canning	No. 303 can	24.1	--	--	1.3	22.8	5
Corn, canned	2.25 lb. sweet corn	No. 303 can	25.2	--	--	3.0	22.2	12
Peas, canned	.725 lb. peas for canning	No. 303 can	27.0	--	--	4.2	22.8	16
Tomatoes, canned	1.515 lb. tomatoes for canning	No. 303 can	24.8	--	--	2.8	22.0	11
Lemonade, frozen	.834 lb. lemons for processing	6-ounce can	14.6	--	--	3.8	10.8	26
Orange juice, frozen	3.14 lb. oranges	6-ounce can	24.9	--	--	8.4	16.5	34
Potatoes, french fried, frozen	1.41 lb. potatoes	9 ounces	17.2	--	--	4.0	13.2	23
Peas, frozen	.68 lb. peas for canning	10 ounces	23.8	--	--	3.9	19.9	16
Beans, dried	1.04 lb. dry beans	Pound	29.1	--	--	17.2	11.9	59
Margarine	Soybeans, cottonseed, and milk	Pound	37.7	55.5	40.1	15.4	22.3	41
Peanut butter	1.21 lb. peanuts	12-ounce jar	52.2	--	--	18.6	33.6	36
Salad and cooking oil	Soybeans, cottonseed, and corn	24-oz. bottle	69.5	100.1	76.0	24.1	45.4	35
Vegetable shortening	Soybeans and cottonseed	3 pounds	107.1	196.4	143.4	53.0	54.1	49
Sugar	Sugar beets and cane	5 pounds	75.6	33.6	2.0	31.6	44.0	42
Spaghetti, canned	Wheat, tomatoes, cheese, and sugar	15¼-ounce can	20.2	--	--	2.7	17.5	13

1/ Payment to farmers for equivalent quantities of farm products (gross farm value) minus imputed value of byproducts obtained in processing.

2/ Net farm value including Government payments to producers was 35.5 cents with a farmer's share of 47 percent. Farm-retail spread less Government processor tax was 41.3 cents.

Table 23.--Farm food products: Retail price, farm value, farm-retail spread, and farmer's share of retail price, July-September 1973, April-June 1973, and July-September 1972.

Product 1/	Retail unit	Retail price			Farm value			Farm-retail spread			Farmer's share		
		III 1973 2/	II 1973	III 1972	III 1973 2/	II 1973	III 1972	III 1973 2/	II 1973	III 1972	III 1973 2/	II 1973	III 1972
		Cents									Percent		
Beef, Choice	Pound	141.8	135.8	115.3	99.0	92.9	72.7	42.8	42.9	42.6	70	68	63
Lamb, Choice	Pound	148.2	138.7	121.2	78.0	72.0	66.1	70.2	66.7	54.1	53	52	55
Pork	Pound	121.8	103.1	86.1	86.2	64.9	51.6	35.6	38.2	34.5	71	63	60
Butter	Pound	91.2	85.2	86.6	62.7	51.3	59.9	28.5	33.9	26.7	69	60	69
Cheese, American process	½ pound	60.0	58.5	54.5	30.1	27.2	24.2	29.9	31.3	30.3	50	46	44
Ice cream	½ gallon	90.4	88.6	85.7	33.5	29.5	29.4	56.9	59.1	56.3	37	33	34
Milk, evaporated	14½-ounce can	22.6	21.9	19.7	11.5	10.4	9.4	11.1	11.5	10.3	51	47	48
Milk, fresh:													
Home delivered	½ gallon	74.4	72.6	69.1	34.1	32.4	30.1	40.3	40.2	39.0	46	45	44
Sold in stores	½ gallon	64.7	62.6	59.5	34.1	32.4	30.1	30.6	30.2	29.4	53	52	51
Chicken, frying	Pound	74.9	58.3	42.0	49.1	33.7	21.2	25.8	24.6	20.8	66	58	50
Turkey	Pound	79.3	68.1	55.2	49.3	40.6	27.7	30.0	27.5	27.5	62	60	50
Eggs, large Grade A	Dozen	87.5	69.0	52.1	64.3	46.0	30.7	23.2	23.0	21.4	73	67	59
Bread, white:													
All ingredients 3/	Pound	27.7	26.2	24.7	5.9	4.8	3.8	21.8	21.2	20.9	21	18	15
Wheat 3/	Pound	-	-	-	4.5	3.6	2.8	-	-	-	16	14	11
Bread, whole wheat 3/	Pound	43.0	41.2	39.4	5.2	4.4	3.3	37.8	36.8	36.1	12	11	8
Cookies, sandwich 3/	Pound	57.6	56.5	55.1	9.3	8.1	6.3	48.3	48.4	48.8	16	14	11
Corn flakes	12 ounces	32.7	31.9	31.0	3.9	3.2	2.1	28.8	28.7	28.9	12	10	7
Flour, white 3/	5 pounds	73.5	68.8	58.9	35.7	29.0	22.7	37.8	39.8	36.2	49	42	39
Rice, long grain	Pound	28.2	26.7	23.9	14.7	11.9	8.2	13.5	14.8	15.7	52	45	34
Apples	Pound	34.7	30.9	28.8	10.5	13.0	8.4	24.2	17.9	20.4	30	42	29
Grapefruit	Each	23.7	18.2	23.2	5.9	4.4	6.8	17.8	13.8	16.4	25	24	29
Lemons	Pound	37.6	36.3	34.4	12.8	8.9	10.2	24.8	27.4	24.2	34	25	30
Oranges	Dozen	107.6	102.1	98.9	26.1	21.9	24.1	81.5	80.2	74.8	24	21	24
Cabbage	Pound	18.5	19.3	13.4	7.8	7.2	4.6	10.7	12.1	8.8	42	37	34
Carrots	Pound	22.7	21.0	19.8	8.4	6.8	6.0	14.3	14.2	13.8	37	32	30
Celery	Pound	27.0	23.2	21.7	9.1	6.0	7.6	17.9	17.2	14.1	34	26	35
Cucumbers	Pound	26.1	35.6	26.4	8.4	11.6	9.8	17.7	24.0	16.6	32	33	37
Lettuce	Head	46.1	50.0	31.4	13.2	22.4	10.4	32.9	27.6	21.0	29	45	33
Onions	Pound	22.3	34.6	21.1	6.8	17.7	8.6	15.5	16.9	12.5	30	51	41
Peppers, green	Pound	48.0	64.3	46.7	13.6	21.9	14.5	34.4	42.4	32.2	28	34	31
Potatoes	10 pounds	164.8	141.2	103.3	60.1	51.4	31.5	104.7	89.8	71.8	36	36	30
Tomatoes	Pound	47.8	46.8	42.5	20.6	19.8	17.4	27.2	27.0	25.1	43	42	41

Continued--

Table 23.--Farm food products: Retail price, farm value, farm-retail spread, and farmer's share of retail price, July-September 1973, April-June 1973 and July-September 1972.

Products	Retail unit	Retail price			Farm value			Farm-retail spread			Farmer's share		
		III 2/ 1973	II 1973	III 1972	III 2/ 1973	II 1973	III 1972	III 2/ 1973	II 1972	III 1972	III 2/ 1973	II 1973	III 1972
		Cents									Percent		
Peaches, canned	No. 2½ can	41.1	39.9	37.4	7.1	7.1	7.2	34.0	32.8	30.2	17	18	19
Pears, canned	No. 2½ can	56.7	56.2	53.5	12.1	12.1	10.8	44.6	44.1	42.7	21	22	20
Beets, canned	No. 303 can	24.1	23.1	20.8	1.3	1.3	1.3	22.8	21.8	19.5	5	6	6
Corn, canned	No. 303 can	25.2	24.7	24.4	3.0	2.9	2.8	22.2	21.8	21.6	12	12	11
Peas, canned	No. 303 can	27.0	26.8	26.4	4.2	4.0	4.0	22.8	22.8	22.4	16	15	15
Tomatoes, canned	No. 303 can	24.8	24.4	22.9	2.8	2.8	2.8	22.0	21.6	20.1	11	11	12
Lemonade, frozen	6-ounce can	14.6	14.7	14.2	3.8	3.8	3.8	10.8	10.9	10.4	26	26	27
Orange juice, frozen	6-ounce can	24.9	25.1	25.0	8.4	8.3	10.6	16.5	16.8	14.4	34	33	42
Potatoes, french fried, frozen	9 ounces	17.2	17.0	16.7	5.0	3.9	2.2	13.2	13.1	14.5	23	23	13
Peas, frozen	10 ounces	23.8	23.5	22.4	3.9	3.8	3.7	19.9	19.7	18.7	16	16	17
Beans, dried	Pound	29.1	26.4	25.1	17.2	12.8	10.2	11.9	13.6	14.9	59	48	41
Margarine	Pound	37.7	34.2	33.0	15.4	12.8	8.3	22.3	21.4	24.7	41	37	25
Peanut butter	12-ounce jar	52.2	51.7	50.4	18.6	18.4	16.8	33.6	33.3	33.6	36	36	33
Salad and cooking oil	24-oz. bottle	69.5	66.4	63.4	24.1	19.6	13.3	45.4	46.8	50.1	35	30	21
Vegetable shortening	3 pounds	107.1	101.6	96.8	53.0	44.2	29.3	54.1	57.4	67.5	49	44	30
Sugar	5 pounds	75.6	73.1	69.3	31.6	31.6	30.0	44.0	41.5	39.3	42	43	43
Spaghetti, canned	15½-oz. can	20.2	20.0	19.6	2.7	2.4	2.2	17.5	17.6	17.4	13	12	11

1/ Primary products in the farm-food market basket.
2/ Preliminary.
3/ Farm values for wheat products before July 1973 are based on market price of wheat received by farmers plus cost of marketing certificate to millers. This cost was returned to farmers complying with the Wheat Program. The program was discontinued as of July 1, 1973.

Table 24.--The market basket of farm foods by product group: Retail cost, farm value, farm-retail spread, and farmer's share of retail cost,

Item	1972		1973		
	III	IV	I	II	III
	Dollars				
	Retail cost				
Market basket	1,323.42	1,330.63	1,413.83	1,497.05	1,603.67
Meat	431.76	431.82	476.61	506.97	557.45
Dairy	227.89	230.01	234.48	239.86	246.60
Poultry	51.19	50.73	59.95	70.28	89.12
Eggs	37.67	41.86	50.32	49.89	63.07
Bakery and cereal:					
All ingredients	191.47	192.34	196.05	203.86	212.08
Grain	--	--	--	--	--
Fresh fruits	64.05	60.34	60.67	66.52	72.20
Fresh vegetables	88.15	90.40	101.10	119.10	117.42
Proc. fruits and veg.	127.72	129.13	130.42	133.25	134.82
Fats and oils	44.86	44.83	44.61	46.64	49.60
Miscellaneous	58.66	59.17	59.62	60.68	61.31
	Farm value				
Market basket	534.14	534.80	616.76	664.84	760.67
Meat	251.28	247.18	294.27	312.50	363.15
Dairy	108.63	110.08	113.00	114.81	124.32
Poultry	25.78	24.78	33.95	40.72	58.16
Eggs	22.21	25.85	33.51	33.27	46.32
Bakery and cereal:					
All ingredients	31.55	36.35	38.02	41.37	49.45
Grain	24.29	29.13	29.76	31.72	38.70
Fresh fruits	19.96	18.84	20.96	23.85	21.47
Fresh vegetables	29.90	27.82	36.45	46.24	41.03
Proc. fruits and veg.	24.09	24.28	24.46	24.83	25.65
Fats and oils	11.72	10.11	12.36	16.99	20.07
Miscellaneous	9.02	9.51	9.78	10.26	11.05
	Farm-retail spread				
Market basket	789.28	795.83	797.07	832.21	843.00
Meat	180.48	184.64	182.34	194.47	194.30
Dairy	119.26	119.93	121.48	125.05	122.28
Poultry	25.41	25.95	26.00	29.56	30.96
Eggs	15.46	16.01	16.81	16.62	16.75
Bakery and cereal:					
All ingredients	159.92	155.99	158.03	162.49	162.63
Grain	--	--	--	--	--
Fresh fruits	44.09	41.50	39.71	42.67	50.73
Fresh vegetables	58.25	62.58	64.65	72.86	76.39
Proc. fruits and veg.	103.64	104.85	105.96	108.42	109.17
Fats and oils	33.14	34.72	32.25	29.65	29.53
Miscellaneous	49.64	49.66	49.84	50.42	50.26
	Farmer's share				
	Percent				
Market basket	40.4	40.2	43.6	44.4	47.4
Meat	58.2	57.2	61.7	61.6	65.1
Dairy	47.7	47.9	48.2	47.9	50.4
Poultry	50.4	48.8	56.6	57.9	65.3
Eggs	59.0	61.8	66.6	66.7	73.4
Bakery and cereal:					
All ingredients	16.5	18.9	19.4	20.3	23.3
Grain	12.7	15.1	15.2	15.6	18.2
Fresh fruits	31.2	31.2	34.5	35.9	29.7
Fresh vegetables	33.9	30.8	36.1	38.8	34.9
Proc. fruits and veg.	18.9	18.8	18.8	18.6	19.0
Fats and oils	26.1	22.6	27.7	36.4	40.5
Miscellaneous	15.4	16.1	16.4	16.9	18.0

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