

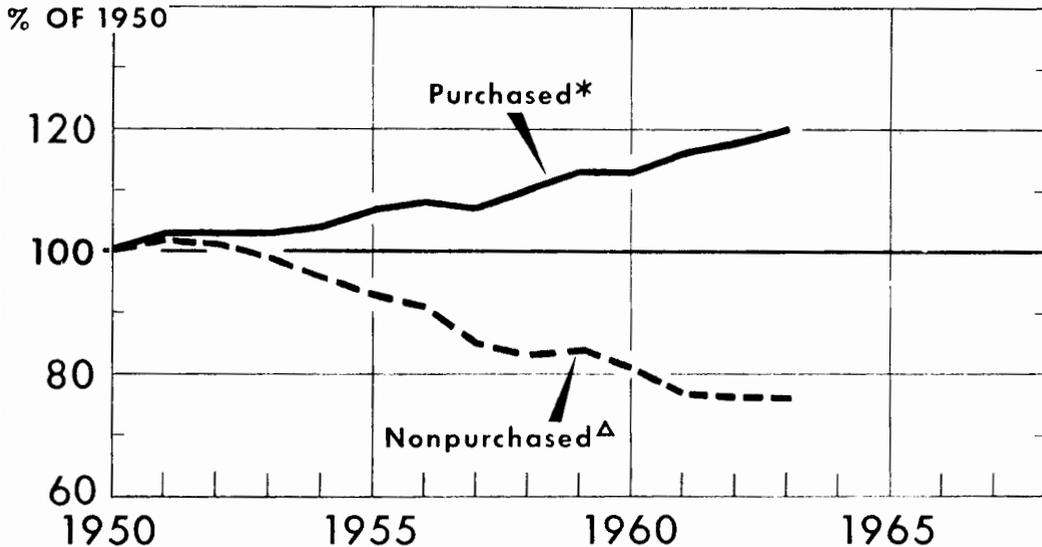
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# The FARM COST SITUATION

## PURCHASED AND NONPURCHASED INPUTS



\* ALL INPUTS OTHER THAN NONPURCHASED INPUTS AND PRODUCTS OF OTHER FARMS.

^ OPERATOR AND FAMILY LABOR, OPERATOR-OWNED REAL ESTATE, AND OTHER CAPITAL ITEMS.

1963 DATA PRELIMINARY.

U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 1386 X-63 (10) ECONOMIC RESEARCH SERVICE

The rapid adoption of new technology and improved practices is reflected in the changing composition of inputs used in farm production since 1950. Purchased inputs have increased both in total and relative to the use of nonpurchased items. Farmers have greatly expanded their output and productivity by using more of the kinds and quality of inputs which could be obtained only through purchases of nonfarm-produced goods and services.

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Goods and services used in production: Index numbers of cost rates and prices paid by farmers, United States

(1957-59=100)

Period	Commodities, interest, taxes and wage rates	Commodities only	Feed	Livestock	Motor supplies	Motor vehicles	Farm machinery	Farm supplies	Building and fencing materials	Ferti- lizer	Seed	Wage rates
1950-----	89	94	105	113	86	78	78	94	81	94	109	73
1951-----	98	104	118	137	90	83	83	100	89	100	111	81
1952-----	100	104	126	115	91	87	86	106	90	102	125	87
1953-----	95	97	114	83	93	86	87	104	91	103	114	88
1954-----	95	97	113	85	94	86	87	100	90	102	107	88
1955-----	94	96	106	83	95	87	87	98	92	102	114	89
1956-----	95	95	103	77	97	89	91	99	96	100	99	92
1957-----	97	98	101	86	100	96	96	100	99	100	103	96
1958-----	100	101	99	107	100	100	100	100	99	100	101	99
1959-----	102	101	100	107	100	104	104	100	102	100	96	105
1960-----	103	101	97	100	101	102	107	100	102	100	101	109
1961-----	104	101	98	100	102	101	110	100	101	100	100	110
1962-----	106	103	100	104	101	106	111	100	101	100	103	114
July-----	105	102	99	100	---	105	---	---	---	---	---	114
Aug.-----	105	102	99	102	---	---	---	---	---	---	---	114
Sept.-----	106	103	100	107	101	105	112	100	101	100	104	114
Oct.-----	106	103	100	108	---	105	---	---	---	---	---	113
Nov.-----	106	103	100	108	---	---	---	---	---	---	---	113
Dec.-----	107	104	102	106	101	108	112	100	100	---	---	113
1963-----	108	104	103	108	---	---	---	---	---	---	---	114
Jan.-----	108	104	104	102	---	---	---	---	---	---	111	114
Feb.-----	108	104	104	101	101	109	113	101	101	---	111	114
Mar.-----	108	104	103	103	---	---	---	---	---	100	110	117
Apr.-----	108	104	102	100	---	109	---	---	---	---	110	117
May-----	108	104	103	97	101	109	114	101	100	---	---	117
June-----	108	104	104	99	---	---	---	---	---	---	---	117
July-----	108	104	104	99	---	---	---	---	---	---	---	117
Aug.-----	108	104	104	99	---	---	---	---	---	---	---	117
Sept.-----	108	104	105	96	101	108	114	101	102	100	112	117
Oct.-----	108	104	104	95	---	108	---	---	---	---	---	117

Source: Statistical Reporting Service.

## THE FARM COST SITUATION

Approved by the Outlook and Situation Board, November 4, 1963

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### GENERAL SITUATION

#### Production Expenses Increase

Farm production expenses through September 1963 were nearly 2 percent, or about \$500 million higher than a year earlier. Production expenses are expected to be about \$28.7 billion in 1963 compared with the previous record-high expenditure in 1962 of \$28.2 billion. Most of this increase is due to an increase of about 2 percent in average prices paid for production goods and services, including interest, taxes and wage rates. Net income realized from farming in 1963 probably will be lower than in 1962 since the slightly higher cash receipts from marketings and a sustained high rate of Government payments to farmers will not offset the increase in production expenditures. However, net income per farm in 1963 is expected to remain about the same as last years record high since the decline in realized net income accompanied a similar drop in the number of farms.

The outlook for 1964 points to a rise in total production expenses at least equal to the 2 percent rise experienced this year. Production expenditures for several important items are expected to increase. These include purchased feed, fertilizer, taxes, interest on indebtedness, and depreciation charges.

Total production expenses increased 57 percent from 1947-49 to 1962. A larger volume of purchased inputs (quantities of those items that usually require cash expenditures) and higher prices paid for those inputs each accounted for about half of this increase.

#### Expenses Take a Greater Share of Gross Income

Production expenses are expected to continue the long-term trend of taking a greater percentage share of gross farm income. These expenses were

Table 1.--Gross farm income, production expenses, net income, and related indexes, specified years, 1950 to 1963 <sup>1/</sup>

Item	1950-54	1955-59	1962	1963 <sup>2/</sup>			
	average	average		First	Second	Third	Year <sup>3/</sup>
	Bil. dol.	Bil. dol.	Bil. dol.	Bil. dol.	Bil. dol.	Bil. dol.	Bil. dol.
Cash receipts from farm marketings-----	31.0	31.4	35.9	36.4	35.6	36.1	36.0
Nonmoney income and Government payments-----	4.2	4.2	4.9	4.9	5.0	5.0	5.0
Realized gross farm income-----	35.2	35.6	40.8	41.3	40.6	41.1	41.0
Farm production expenses-----	21.4	23.9	28.2	28.6	28.6	28.9	28.7
Farmers' realized net income-----	13.8	11.7	12.6	12.7	12.0	12.2	12.3
Net change in farm inventories-----	.5	.3	.7	.8	.6	.5	.6
Farmers' total net income-----	14.3	12.0	13.3	13.5	12.6	12.7	12.9
	Index numbers (1957-59=100)						
Volume of farm marketings: <sup>4/</sup>							
Livestock and livestock products-----	86	99	111	---	---	---	114
Crops-----	87	98	112	---	---	---	114
All farm products-----	86	98	111	---	---	---	114
Volume of purchased inputs-----	94	99	107	---	---	---	109
Productivity, or output per unit of total input-----	88	98	107	---	---	---	108
Prices received by farmers:							
Livestock and livestock products-----	112	96	99	97	92	97	---
Crops-----	112	102	103	105	109	105	---
All farm products-----	112	98	101	100	100	100	---
Prices paid by farmers for commodities used in pro- duction, interest, taxes and wage rates-----	95	98	106	108	108	108	---
Ratio of prices received to prices paid for pro- duction items (including interest, taxes and wage rates) <sup>5/</sup> -----	118	100	95	93	93	93	---

<sup>1/</sup> 48-State data.

<sup>2/</sup> Dollar figures are seasonally adjusted at annual rates.

<sup>3/</sup> Preliminary.

<sup>4/</sup> Converted to 1957-59 reference base, using 1947-49 price weights.

<sup>5/</sup> Not to be confused with the Parity Ratio, which includes prices paid for items used in family living, and has a 1910-14 base.

54 percent of gross income in 1947-49 but increased to 69 percent by 1962. An important reason for this increase is that expanded output and productivity have required more of the kinds and quality of inputs which could be obtained only from nonfarm sources.

The relation of operating expense to gross income varies considerably by types of farms in various locations throughout the country. Operating expenses generally comprise a lower percentage of gross income on extensive types of farms such as cattle ranches in the Intermountain region of the West and the winter wheat farms of the Southern Plains, on which hired labor is a relatively small input and large acreages of land are required. In recent years, operating expenses have comprised about 40 percent of gross income on those farms. Operating expenses usually take the highest percentage of gross income on fruit and vegetable farms, poultry farms, dairy farms, and feeder livestock operations. On poultry farms in New Jersey, for example, the ratio of operating expenses to gross income averaged 89 percent over the 1958-62 period.

Composition of Expenses Change Over Time

Expenditures for most major groups of production items increased from 1947-49 to 1962. However, expenditures for seeds and hired labor remained about the same over the period.

In terms of composition of expenditures, there were several important changes over the period, as follows:

Class of expenditure	: Percent of total : in 1947-49	: Percent of total : in 1962
Feed-----	20	19
Seed-----	3	2
Livestock-----	8	11
Fertilizer and lime-----	5	6
Hired labor-----	16	11
Depreciation and consumption of capital items-----	12	15
Repair and operation of capital items-----	15	14
Taxes-----	4	6
Interest on mortgage debt-----	1	3
Other-----	16	13
Total-----	100	100

Expenditures for hired labor have become much less important relative to other purchased items since 1947-49. Hired labor outlays dropped from 16 percent of total to 11 percent. Feed and seed prices in 1962 were slightly below those of 1947-49 and fertilizer prices were about equal in both periods. Although the total tonnage of fertilizer purchased by farmers has increased more than half, the proportion of all expenditures represented by fertilizer has changed little. The plant nutrient content of fertilizers, however, has doubled over the period, resulting in lower costs per pound of plant nutrients. Similarly, feed expenditures have remained a fairly constant proportion of total expenses, although the quantity purchased increased about 90 percent over the period.

Expenditures for purchased livestock doubled over the period. Most of this increase was due to larger numbers purchased, as average prices paid rose by only 7 percent. In proportion to total expenses, livestock purchases rose from 8 percent to 11 percent. Other items that increased markedly are taxes and interest on mortgage debt. Taxes rose from 4 percent to 6 percent of total expenses in response to greater revenue requirements of local governments. Corresponding increases in farm personal property taxes also contributed to the increasing significance of property taxes as a farm production expense item.

Interest payments on farm mortgage debt increased from 1 percent of total expenses to 3 percent. The total volume of farm mortgage debt outstanding in 1962 was nearly 2 3/4 times that in 1947-49 and the ratio of debt to real estate values increased from 7 percent in 1947-49 to 10 percent in 1962. Farm mortgage interest rates on loans outstanding, all lenders, averaged 4.5 percent in 1947-49 and 5.1 percent in 1962, or a 13 percent increase. The trends toward larger farms and greater capital investments, combined with higher prices, are expected to increase the relative importance of interest payments as a production expense. The increase in depreciation charges, from 12 percent of total production expenses in 1947-49 to 15 percent of the total in 1962, reflects both an increase in the volume of capital goods on farms and their higher replacement cost.

### Farmers Use More Nonfarm-Produced Inputs

Agriculture's increasing reliance on the nonfarm economy is reflected in the continued substitution of nonfarm-produced goods and services for those produced or furnished by the farm operator. Improved technology has made it profitable to substitute mechanical power and equipment for animal power and labor. Higher wage rates, combined with the uncertainty of a continuing supply of skilled farmworkers, have spurred adoption of labor-saving techniques. The importance of land as an input is overshadowed by increasing inputs of fertilizers, pesticides, herbicides, irrigation, improved seeds, and other improved practices. The volume of purchased inputs in 1962 was 24 percent greater than in 1947-1949, while the volume of nonpurchased inputs (operator and unpaid family labor, operator-owned real estate and other equity capital) dropped 28 percent. These trends will continue as farms become larger, more mechanized and more highly specialized.

## Resource Requirements in Agriculture Are High

Total value of production assets used in agriculture rose from \$162.4 billion on January 1, 1962, to \$170.1 billion a year later. Higher real estate prices were responsible for most of this increase. Since 1947-49, the total current-dollar value of production assets has increased 87 percent. This increase, combined with a decline in the number of farms, resulted in a three-fold increase in the average market value of capital per farm, from about \$16,000 in 1947-49 to \$51,500 in 1963. The current value of assets per farm worker also nearly tripled over the period, since the drop in numbers of farm-workers, including farm operators and family workers as well as hired workers, roughly paralleled the drop in farm numbers.

Another way of viewing capital requirements on farms is to determine the minimum complement of resources needed to enable farm operators to achieve specified levels of earnings for their labor and management. A recent budgetary analysis was made for 8 types of farms in 15 selected areas of the United States. <sup>1/</sup> For the budgeted farms, operator's earnings ranging from \$2,500 to \$5,500 are associated with average total capital investment requirements ranging from \$57,000 to \$111,000 (table 2). Capital investments vary widely from one type of farm to another and between farms of a given type among areas; but these data illustrate the high capital requirements associated with relatively low levels of operator earnings.

The budgets describe resource requirements for 4 levels of operator earnings on efficiently organized farms making full use of improved practices and available technology. Operator earnings were defined as the return to labor and management. This was calculated as farm income minus total farm expenses, including an imputed return on capital investment and to unpaid family labor.

Table 2.--Capital investments required, 15 farms budgeted for specified levels of operators earnings

Annual operator earnings of--	Investment capital per farm		
	Average	Range	
		From	To
	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>
\$2,500-----	57,000	26,000	162,000
\$3,500-----	73,000	29,000	221,000
\$4,500-----	92,000	33,000	280,000
\$5,500-----	111,000	36,000	353,000

<sup>1/</sup> Barnhill, Harold E., Resource Requirements on Farms for Specified Operator Incomes. AER No. 5, ERS, USDA, February 1962.

## HIGHLIGHTS

### Farm Labor

Farm wage rates increased in 1963 and are expected to increase again in 1964. The total hired farm wage bill in 1964, however, will be about the same as this year. The probable reduction in number of hired workers may about offset the increase in wage rates. The national average of all types of cash farm wage rates may be about 88 cents per hour in 1963. In comparison, the hourly earnings of production workers in manufacturing are expected to average \$2.44 per hour in 1963. A continued downtrend is the prospect for labor requirements on farms in view of further mechanization and automation of farmwork, and continued consolidation of farms into fewer and larger units.

### Farm Power and Machinery

Wholesale prices of farm tractors, farm machinery, and equipment have risen about 2 percent each year since 1960. Prices paid by farmers in 1964 are expected to continue the general rise that has been underway since the early 1940's. The average new tractor is rated at 56 belt horsepower as compared with 29 belt horsepower in 1950. Prices paid per belt horsepower have risen much less than prices per tractor. The trend toward diesel tractors will probably continue, but at a slower rate of increase than in recent years.

### Building Materials

Expenditures for building materials and nonfarm labor used in new construction, additions, and repairs of farm service buildings were about \$1.3 billion in 1962. Quantities of building materials purchased by farmers for capital additions may increase 5-10 percent over the next 5 years. With the current changes in building materials and design, new farm buildings will become more functional and versatile over time. In the long run this may lead to the construction of buildings less durable and less costly than many existing structures. These buildings may be depreciated faster and replaced more frequently. They may cost less per unit of farm production than earlier types, or allow greater production at the same unit cost.

### Fertilizer

Improved fertilizer technology since 1954 has contributed importantly to a 17-percent reduction in the combined average cost per pound of plant nutrients used by farmers. The cost per pound of nitrogen (N) dropped by about 5 cents, or 30 percent from 1954 to 1962. General improvements in farm technology and wider recognition of yield response have played important roles in increasing levels of fertilizer use and crop yields in recent years.

### Pesticides

Farm prices of pesticides are not likely to be affected by the slight downward adjustment in wholesale prices of numerous pesticidal chemicals during 1963. Increases in other manufacturing costs are absorbing small savings to the formulators of ready-to-use preparations.

## Feed

For the third successive year, production of feed grains is estimated to be less than utilization, despite a record corn crop. The carryover is expected to be reduced to about 59 million tons in 1963-64. Supplies of concentrates per animal unit will be about the same as last year. Feed grain prices are expected to remain at about the 1962-63 level. Livestock-feed price ratios are less favorable than a year ago, since livestock prices declined during the past year.

## Seed

Prices paid by farmers for seed averaged about 7 percent higher in mid-September 1963 than a year earlier. As usual, prices of different kinds of seed varied considerably depending primarily on the available supply. A smaller supply of seed is indicated for several winter cover crops. The 1963 domestic production of several important grass seeds was below last year's crop.

## Feeder and Replacement Livestock

For several months, prices paid by farmers for feeder cattle have been high relative to prices received by farmers for slaughter cattle. Feeding margins (difference between prices of slaughter steers and prices of stockers and feeders 7 months earlier) are low and may continue low for several more months. Despite unfavorable price margins on cattle sold and the unfavorable current price relationships, the number of cattle put on feed remained at record levels.

## Taxes

Taxes levied on farm real estate in 1962 averaged \$1.36 per acre, up 5.4 percent over 1961. Preliminary reports on 1963 levies indicate that the uptrend is continuing at about the same rate. Taxes on farm personal property are showing a parallel rise. Nationally, the property tax contributes about 88 percent of all local tax revenue, but the proportion is higher in most rural areas.

## Interest

Interest payments in 1963 on real estate loans and production credit were 11 percent above those in 1962. Interest costs in 1964 are expected to show a further large rise. Total farm debt (excluding CCC loans) is expected to reach \$30.5 billion on January 1, 1964, about 9 percent above the amount owed a year earlier. Interest rates charged on new real estate loans have been generally stable so far this year. Rates on nonreal estate loans have increased slightly.

## Crop Insurance

In each of the last 5 years farmers paid premiums of about \$100 million for about \$2.5 billion insurance against loss of crops from hail. The amount of all-risk crop insurance coverage extended by the Federal Crop Insurance Corporation in 1964 is expected to be double the amount carried in 1961.

## Farm Real Estate

Market prices of real estate increased 6 percent per acre in the year ending July 1, 1963, as compared with 5 percent in 1961-62 and 3 percent in 1960-61. The greatest increases occurred in the Delta and Southern Plains States. Continued strong demand from farmers for additional land for farm enlargement and limited offerings of land for sale have provided the chief support for higher land prices in recent years.

## Costs by Type of Farm

Preliminary estimates for 1963 on 8 selected types of farms indicate a continuing rise in prices paid for items used in production. Operating expenses per unit of production also will be higher than in 1962 on 6 of the 8 types of farms. Net farm incomes in 1963 will probably be lower than in 1962 on 7 of these 8 selected farms. Factors responsible for lower incomes include higher production expenses and, on some farms, lower prices received and lower crop yields.

## FARM LABOR

Farm wage rates are expected to average higher in 1964 than in 1963. However, cash expenditures for hired labor in 1964 are not expected to change materially because a decrease in the amount of labor hired may approximately offset the higher rates. Cash expenditures for labor have eased upward over the years, though, as has the value of perquisites and fringe benefits. In recent years, board, housing, Social Security contributions, and the like have added about 20 percent annually to cash wages.

On October 1, 1963, the national composite of all types of cash farm wage rates was about 90 cents per hour, nearly 4 percent higher than on October 1, 1962. This is a greater rise from a year earlier than occurred in each of the first 3 quarters of 1963. The yearly average rate in 1963 is expected to be about 88 cents per hour (table 3).

Changes in the composite rate in the year ending October 1, 1963, varied considerably among different parts of the country. Regionally, the increases ranged from 2.2 percent in the Pacific to 5.8 percent in the East South Central. The rates were higher by 5 percent or more in 7 scattered States and were lower than a year ago in 3 States.

Regional differences in the upward climb in farm wage rates and in the actual level are also apparent in the annual data (fig. 1). The composite rate is expected to average \$1.30 per hour in the Pacific Region in 1963 and \$1.10 in the New England States. The increase in rates since 1954 has been greater in these regions than elsewhere. Rates paid hired farmworkers in the southern regions remain lower than in other parts of the country.

Many factors influence farm wage rates but an important one is the higher rates paid industrial workers. During the first 8 months of 1963 the average hourly earnings of production workers in manufacturing was \$2.44 per hour. This

Table 3.--Labor used on farms, wage rates, and related data, United States, 1940-63 1/

Year	Farm employment			Man-hours of farmwork	Farm output index (1957-59=100)		Average hourly wage rates	
	Total <u>2/</u>	Family <u>2/</u>	Hired		Total <u>3/</u>	Per man- hour	Farm workers <u>4/</u>	Industrial workers <u>5/</u>
	Thousands	Thousands	Thousands	Millions			Dollars	Dollars
1940-----	10,979	8,300	2,679	20,472	70	36	0.17	0.66
1941-----	10,669	8,017	2,652	20,046	73	39	.21	.73
1942-----	10,504	7,949	2,555	20,583	82	42	.27	.85
1943-----	10,446	8,010	2,436	20,297	80	42	.36	.96
1944-----	10,219	7,988	2,231	20,163	83	44	.43	1.01
1945-----	10,000	7,881	2,119	18,838	81	46	.48	1.02
1946-----	10,295	8,106	2,189	18,080	84	49	.52	1.08
1947-----	10,382	8,115	2,267	17,196	81	50	.55	1.22
1948-----	10,363	8,026	2,337	16,833	88	56	.58	1.33
1949-----	9,964	7,712	2,252	16,202	87	57	.56	1.38
1950-----	9,926	7,597	2,329	15,137	86	61	.56	1.44
1951-----	9,546	7,310	2,236	15,222	89	62	.62	1.36
1952-----	9,149	7,005	2,144	14,504	92	68	.66	1.56
1953-----	8,864	6,775	2,089	13,966	93	71	.67	1.74
1954-----	8,651	6,570	2,081	13,310	93	74	.66	1.78
1955-----	8,381	6,345	2,036	12,808	96	80	.68	1.86
1956-----	7,852	5,900	1,952	12,028	97	86	.70	1.95
1957-----	7,600	5,660	1,940	11,059	95	91	.73	2.05
1958-----	7,503	5,521	1,982	10,548	102	103	.76	2.11
1959-----	7,342	5,390	1,952	10,301	103	106	.80	2.19
1960-----	7,057	5,172	1,885	9,825	106	115	.82	2.26
1961-----	6,919	5,029	1,890	9,473	107	120	.83	2.32
1962-----	6,700	4,873	1,827	9,085	108	127	.86	2.39
1963 <u>6/</u> ---	6,533	4,741	1,792	8,704	110	134	.88	2.44

1/ Data on farm employment and farm wage rates are from the Statistical Reporting Service, USDA.

2/ Includes farm operators and members of their families.

3/ Net calendar-year production for eventual human use.

4/ Composite or hourly equivalent of all types of rates, excluding perquisites.

5/ Average hourly earnings of production workers in manufacturing. From the Bureau of Labor Statistics, U. S. Dept. of Labor. Figure for 1963 is average of first 8 months.

6/ Preliminary. Estimates of farm output and man-hours based on October 1963 "Crop Production" report and other releases of the Statistical Reporting Service, USDA.

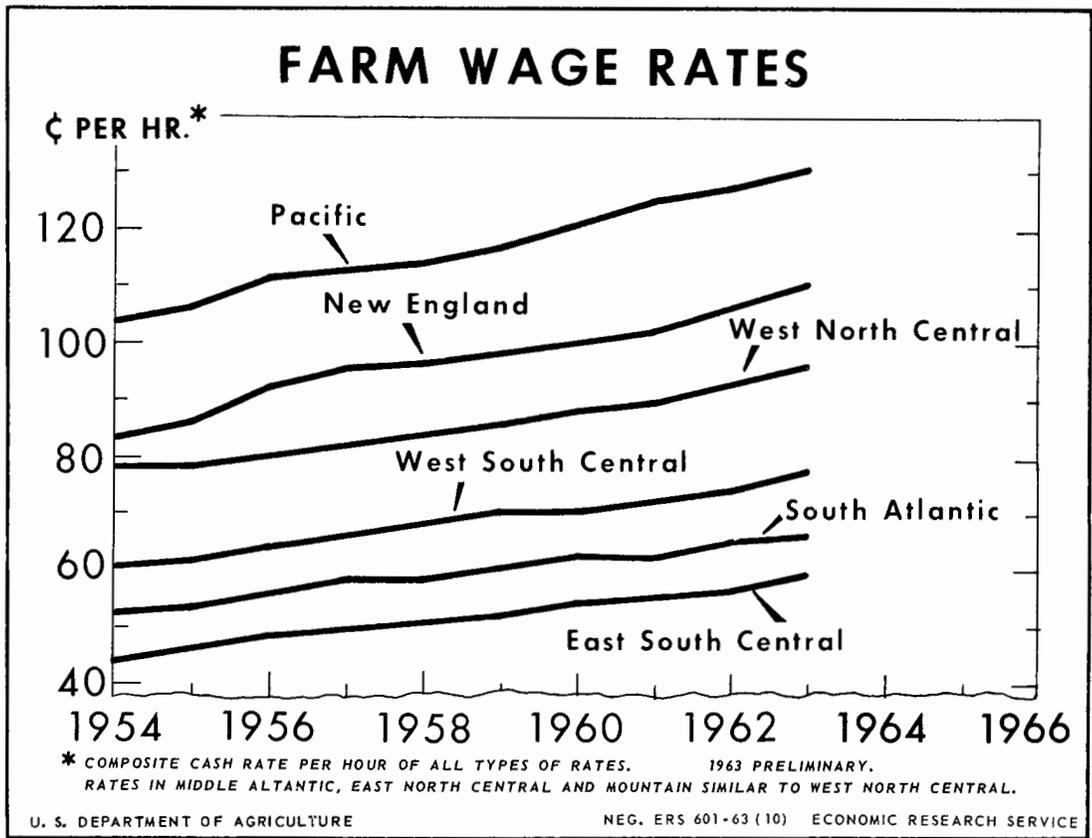


Figure 1

represents an increase of 5 cents or about 2 percent over the same period in 1962. Nonfarm wage rates are much higher than those for farm work and the spread between them continues to widen.

Another factor affecting nonfarm wages is the higher legal minimum rates for certain workers effective in 1963 and 1964. In 1961, the Fair Labor Standards Act was amended to provide that (1) the minimum wage for workers previously covered be raised from \$1.15 to \$1.25 per hour in September 1963, and (2) coverage be extended to workers in certain large retail, construction, and service enterprises, with their minimum wage being raised from \$1.00 to \$1.15 per hour in September 1964. Provisions of the original act and amendments do not apply to farmworkers, but indirectly the legislation affects farm wage rates. In some States, however, legislation or regulations directly provide for minimum wages under certain conditions for some farmworkers, such as women and youth of specified ages.

The supply of skilled farmworkers for machinery operation and maintenance and for work with livestock continues to be tight in some areas. At the same time, overall unemployment remains relatively high, particularly among those whose normal employment is farm work. Higher proportions of farmworkers were without jobs during most of the first 8 months this year than in the corresponding months in 1962. An average of 7.3 percent of them were unemployed last year. This compared with an unemployment rate at 5.6 percent for the total labor force in 1962.

The number of foreign workers imported for temporary farm jobs has dropped during recent years. On September 15, 1963, about 89,000 of them were employed, which was 78 percent of the number on the same date in 1962. The average number of foreign workers employed last year was about two-thirds the number in 1961 and about half as many as in 1959. The reduction has been in Mexican contract workers, admitted under Public Law 78. At the time of this writing, a 1-year extension of this law has been passed by both Houses of Congress. However, because of differences in the bills passed, conferees will be appointed to frame a compromise bill.

The drop in Mexican contract workers has not resulted in a net reduction in workers from Mexico, however, as many other Mexican nationals were admitted as permanent residents under the Immigration and Nationality Act (PL 414). But, in June 1963, new regulations were issued regarding the granting of permanent visas to Mexicans. Prior to that time, groups of applicants containing 25 or more workers with job offers from a single employer would be prevented from immigrating upon certification by the Secretary of Labor that: (1) sufficient domestic workers are able, willing, and qualified to perform the work in question, or (2) employment of such aliens would adversely affect the wages and working conditions of domestic workers. Under the new procedures, a certification is required on the application of each alien worker from Mexico for a visa to immigrate under provisions of the Immigration and Nationality Act. The lowering of the number of workers from 25 to 1 in this rule will undoubtedly reduce the number of permanent visas granted Mexicans to immigrate for farm jobs.

## NONFARM INPUTS

### Farm Power and Machinery

The outlook for farm power and machinery costs is highlighted by certain trends, as follows:

1. Larger and better equipped tractors.
2. More diesel tractors.
3. More self-propelled machines.
4. Fewer but larger farms, and fewer farmworkers.

These trends, underway now for several years, largely reflect individual farm adjustments to reduce costs and increase incomes by taking advantage of available technology in farming or better employment opportunities elsewhere. Technology includes not only machinery but a long list of other improvements in farming.

These trends are likely to continue into the future. Several phases of farmwork, such as the harvesting of fruits, vegetables, and tobacco, are still relatively unmechanized and represent opportunities for cost reduction. However, if a device saves only the operator's time or that of a regular hired man who must still be kept, the total labor cost for the farm is unchanged. In this case, higher net income to the farm unit will not be obtained unless output increases by more than enough to pay for the costs of owning and operating the device and for any associated additional costs. Overmechanization can occasionally reduce profits more than undermechanization.

Farm machinery prices are expected to be slightly higher in 1964 than in 1963. From 1958 to 1962, retail prices paid by farmers for farm machinery increased annually about 3 percent, while wholesale prices of farm machinery rose only about 2 percent (table 4). Wholesale prices rose about 2 percent from 1961 to 1962 and about one-half percent from December 1962 to September 1963. Prices paid by farmers for machinery rose about 1 percent from 1961 to 1962 and 1.8 percent from December 1962 to September 1963.

The rise in tractor numbers on farms illustrates the pace of farm mechanization over the last 2 decades. From 1940 to 1950 the number of tractors on farms increased from 1.5 million to nearly 3.4 million. Horses and mules on farms decreased from 14.5 million in 1940 to 7.8 million in 1950. One tractor replaced about 4 workstock on farms during this period. The average horsepower of tractors on farms during this decade remained about the same.

From 1950 to 1960, the horse and mule population on farms declined about 60 percent from 7.8 to 3.2 million. Tractor numbers on farms increased by over 38 percent: 1 tractor displaced 3.5 head of workstock. Compared to the previous decade, substituting tractors for horses and mules was a diminishing factor in the increase of tractors on farms. The average horsepower of tractors on farms in 1960 was one-fourth higher than in 1950, and the average horsepower of tractors shipped for farm use had risen more than 65 percent during that decade. The spread between average horsepower of tractors on farms and those shipped indicates that over the next decade the increase in horsepower of tractors on farms will increase at a faster rate than in previous decades.

The slight drop in the number of tractors on farms since 1961, the continuing increase in horsepower, and the decreasing number of farms (average of 1.9 percent per year since 1940) suggest a continued decline in the number of tractors on farms. A contributing factor, which may become more important as farm size and specialization increase, is the displacement of tractor-drawn or tractor-mounted machines by self-propelled units. In the forefront are combines with cornpicker heads replacing mounted or tractor-drawn cornpickers, self-propelled windrowers replacing trailing types in the small-grain producing areas, and self-propelled cottonpickers and cornpickers coming into increasing use and replacing the tractor-mounted or the trailing types.

The demand for diesel and LP-gas type tractors is increasing relative to that for gasoline tractors. Though the largest proportion of tractors on farms is still gasoline powered, the percentage of new tractor production which is gasoline powered has dropped slowly the last 10 years, largely in favor of diesel units. The factory-produced LP-gas proportion rose slightly in the mid-1950's and has remained fairly steady the last 5 years. Indications are that one-half of the 1963 tractor production will be diesel and LP-gas compared to 5 percent in 1952.

The higher price of diesel tractors has not deterred sales in recent years because of a combination of factors favoring the diesel engine. These include greater fuel and machine efficiency, lower fuel price, and reliability under heavy use.

Table 4.--Number of farms, average horsepower of tractors on farms, number of specified machines on farms, prices paid by farmers, and wholesale prices of farm tractors, machinery and equipment, United States, 1940-1963 <sup>1/</sup>

Years	Number of farms	Average horsepower of tractors on farms <sup>2/</sup>	Number of farms				Index of prices paid by farmers 1957-59=100			Index of wholesale prices 1957-59=100
			Farm tractors <sup>3/</sup>	Motor-trucks	Grain combines	Corn pickers (includes picker-shellers)	Motor supplies <sup>4/</sup>	Motor vehicles <sup>5/</sup>	Farm machinery	
	Thousands	Horsepower	Thousands	Thousands	Thousands	Thousands				
1940-----	6,350	27	1,567	1,047	190	110	58	40	43	49.7
1945-----	5,967	27	2,354	1,490	375	168	67	53	49	52.6
1950-----	5,648	27	3,394	2,207	714	456	86	78	78	79.8
1951-----	5,428	28	3,678	2,325	810	522	90	83	83	86.6
1952-----	5,198	28	3,907	2,430	887	588	91	87	86	87.7
1953-----	4,984	29	4,100	2,535	930	630	93	86	87	88.2
1954-----	4,798	29	4,243	2,610	965	660	94	86	87	88.1
1955-----	4,654	30	4,345	2,675	980	688	95	87	87	88.8
1956-----	4,514	31	4,480	2,707	1,005	715	97	89	91	92.0
1957-----	4,372	31	4,570	2,745	1,015	740	100	96	96	96.3
1958-----	4,233	32	4,620	2,775	1,030	755	100	100	100	100.3
1959-----	4,097	33	4,673	2,800	1,045	775	100	104	104	103.4
1960-----	3,949	34	4,684	2,826	1,040	795	101	102	107	105.3
1961-----	3,811	35	4,700	2,850	1,035	800	102	101	110	107.4
1962-----	3,688	36	4,690	2,875	1,025	815	101	106	111	109.5
1963 <sup>7/</sup> ---	3,580	36	4,670	2,900	1,020	820	101	109	114	110.9

<sup>1/</sup> Excludes Alaska and Hawaii.

<sup>2/</sup> Average maximum belt horsepower.

<sup>3/</sup> Excludes garden tractors.

<sup>4/</sup> Includes fuel, oil, grease, tires, tubes, batteries, and spark plugs.

<sup>5/</sup> Includes tractors, automobiles, and motor trucks.

<sup>6/</sup> Bureau of Labor Statistics, U. S. Department of Labor, through August 1963. Includes farm tractors, machinery and equipment.

<sup>7/</sup> Preliminary. The indexes of prices paid by farmers are averages of the first 3 quarters.

Increased production and sales of diesel tractors have been major factors in increases in the average price of tractors. Accessories such as hydraulic pumps and controls, multispeed on-the-go transmissions, and two-speed power-takeoffs increase tractor price averages, especially when these features, once "optional," are now an integral part of the machine. The average diesel tractor is priced 15 percent or more above a comparable horsepower gasoline tractor. This price differential reflects mainly the cost of heavier parts, and labor necessary to maintain closer tolerances in the production of a diesel engine compared with a gasoline model.

These 2 factors--optional equipment and large diesel units--are important determinants of the increasing spread between average wholesale price per tractor and the average wholesale price per maximum belt horsepower since 1940 (fig. 2). In 1963, average wholesale price per unit shipped was 5.3 times the 1940 average while the average price per maximum belt horsepower was only 2.5 times the 1940 average price.

This spread between average price per unit versus average price per horsepower is expected to widen further. Manufacturers' proposed plans envision larger tractors. These require equipment powered by hydraulic or auxiliary motors mounted on the machine for implement handling, and add to the purchase price of the tractor. But this enables a farmer to do more work with less labor.

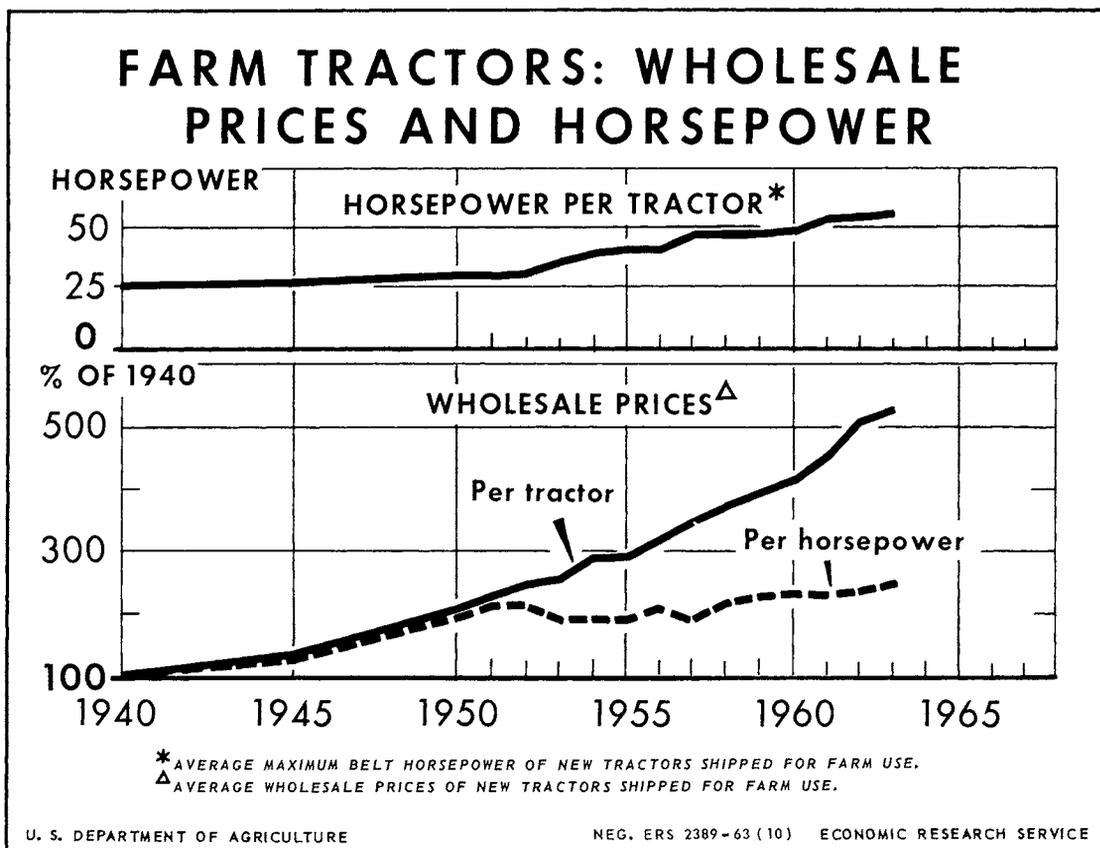


Figure 2

## Building Materials

Expenditures for building materials and nonfarm labor used in new construction, additions, and repairs of farm service buildings were about \$1.3 billion in 1962. In the last 15 years they ranged from \$1.2 to \$1.5 billion annually, or from 3 1/2 to 4 1/2 percent of yearly farm cash receipts. Over the next few years greater quantities of building materials will likely be used.

Expenditures for building materials include purchases for both capital expenditures and repairs. Repairs in recent years have totaled about half of capital expenditures. Capital expenditures include new construction, additions, and major improvements. Estimates of expenditures for both capital outlays and repairs include fences, wells, and dwellings not occupied by the farm operator.

Quantities (constant dollar values) of building materials purchased for capital additions in recent years are about twice as high as during the 1920's. They dropped sharply during the depression years of the early 1930's, and increased steadily during the late 1930's and World War II. By the end of the war, quantities purchased were equal to those of the 1920's. In 1946 they rose sharply to about 3 times higher than the 1920's and remained there for almost 8 years.

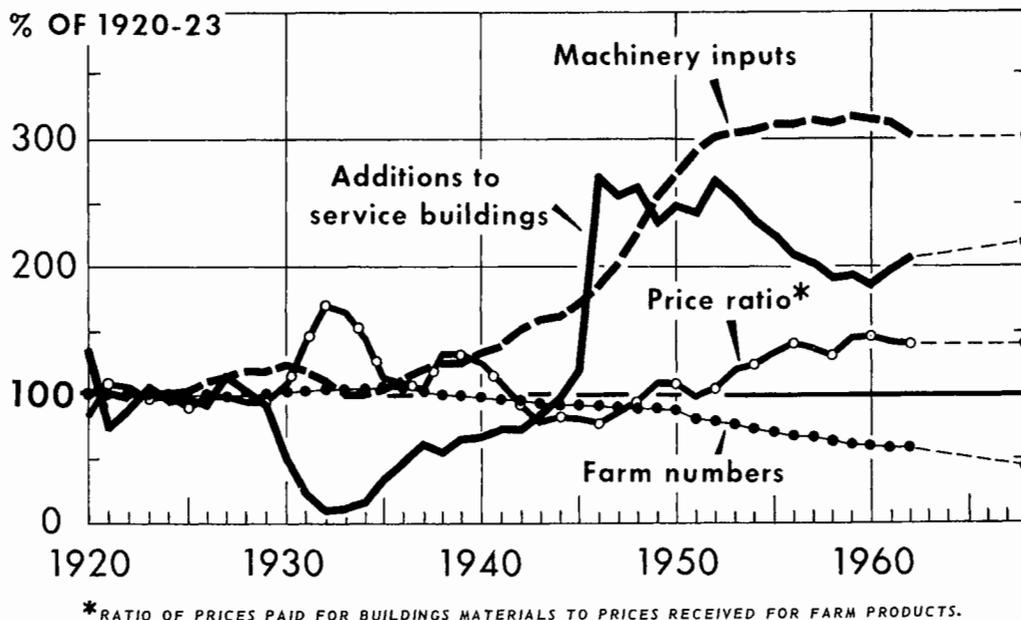
Quantities of building materials purchased for repairs did not follow the same pattern as those for capital additions although they followed a similar trend during and immediately after the depression. The drop in repairs was much less severe during the depression and the recovery was completed by 1940 when record high quantities of repair items were purchased.

During the World War II years, expenditures for repairs were down sharply as contrasted with increases in purchases for capital additions. With the limited building materials available during World War II, farmers elected to build some additional buildings and postpone many of the repairs on existing buildings. After the war quantities purchased for repairs rose sharply to the level prevailing in the 1920's.

The level of expenditure for building materials is influenced by the level of farm income. During a period of extended low incomes, as during the depression, capital outlays are postponed. If only limited materials are available and conditions encourage greater production, as during World War II, farmers will tend to postpone many repairs and put up new buildings. They may reason that returns from new buildings will be greater than the losses due to the obsolescence or deterioration of existing buildings.

In the long run capital outlays for additional buildings are related to agricultural production. They are, however, more directly related to changes in farm machinery, the number of farms, and to price relationships (fig. 3). Additional buildings are related to changes in farm machinery both directly and indirectly. The direct relation is the need for more buildings to house the greater number and larger sizes of machines. The indirect relation is the need for more buildings to store or help transform increased crop and livestock production. From 1910 to 1962 about 80 percent of the annual variation in capital outlays for farm service buildings can be explained by variations in farm

# ADDITIONS TO SERVICE BUILDINGS AND RELATED FACTORS



U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 2391-63 (10)

ECONOMIC RESEARCH SERVICE

Figure 3

machinery inputs, farm numbers, and the ratio of prices paid for building materials to prices received for farm products sold. Quantities of building materials purchased for capital additions to farm service buildings may increase 5-10 percent over the next 5 years.

As building materials and designs of new farm service buildings change, farmers may add more buildings per unit of livestock, such as adding a milking parlor to an existing stanchion barn or adding new livestock buildings to take advantage of the latest technology in materials handling. Farm buildings will become more functional over time. Construction designs are more versatile, with some planned for ease of alteration.

In the long run, farmers may construct less durable buildings than existing structures. They may be depreciated faster and replaced more frequently. They may cost less per unit of farm production than earlier types or they may allow greater production at the same unit cost. Thus, future farm buildings may contribute more to farm incomes.

### Fertilizer

Preliminary estimates indicate that total farm consumption of nitrogen (N) in 1963 was about 12 percent higher than in 1962. A further increase is expected in 1964. Applications of N per acre of corn in 1963 increased an

estimated 30 percent or more from 1962 in 2 important Corn Belt States--Iowa and Illinois.

Improvements in fertilizer technology and increases in supplies of fertilizer since 1954 have brought about a 17-percent reduction in the combined average cost per pound of nitrogen (N), phosphoric oxide ( $P_2O_5$ ), and potash ( $K_2O$ ) in fertilizers currently used by farmers. The cost per pound of N to farmers dropped by about 5 cents, or 30 percent, from 1954 to 1962. Cost per pound of  $P_2O_5$  and  $K_2O$  changed little during this period. In 1954, the average cost per pound of N was about 50 percent higher than the cost per pound of  $P_2O_5$ , but in 1962 it was not more than 10 percent higher. The total farm expenditure for fertilizer in 1962 was about \$300 million less than the same quantities of nutrients would have cost in 1954.

The trend toward bulk distribution and custom application contributes to lower plant nutrient costs per pound applied. Shifts to higher analysis materials as a result of technological developments mean lower transportation costs per unit of plant nutrients. Improvements in general farm technology have resulted in greater yield response to fertilizers in the less favorable as well as the favorable seasons. These factors have all contributed to higher levels of use.

Total farm consumption of plant nutrients rose by about 42 percent from 1954 to 1962. But use of N increased 85 percent, while use of  $P_2O_5$  and  $K_2O$  each increased by only 22 percent. With N=1.00, the nutrient ratio of 1.00-1.24-1.00 in 1954 had shifted to 1.00-0.82-0.66 by 1962 for N,  $P_2O_5$ , and  $K_2O$ , respectively.

Lower cost of N has appreciably reduced the aggregate expenditure needed for specified quantities of fertilizer. But changes in technology have had a greater influence on increase in fertilizer use than have reductions in the cost of nitrogen. The increased use that has occurred would have been highly profitable even at 1954 costs per pound of plant nutrients. General improvements in farm technology, wider recognition of yield response, and increasing supplies have played the major role in increasing levels of fertilizer use and crop yields in recent years.

### Pesticides

The slight downward adjustment in wholesale price of numerous pesticidal chemicals during 1963 is not likely to affect farm prices. Increases in other manufacturing costs absorb small savings formulators receive in ready-to-use preparations. Although individual firms hold the proprietary rights to many of these chemicals, alternative materials used against many of the same pests holds wholesale prices competitive.

Early in 1963 the wholesale price of Lindane declined 28 cents to \$1.85 a pound. Most prices underwent less changes, i.e., TDE (down 1 cent to \$0.45) and cube (down 2 cents to \$0.16). Quotations for DDT fluctuated between 17 and 21 cents a pound, depending upon the rate of use by the World Health Organization in its malaria eradication program.

The value of U. S. pesticide exports rose in 1962 to about \$131 million, an increase of 22 percent over 1961. Exports during the first 6 months of 1963 had a value of about \$63 million. U. S. shipments of pesticides are increasingly important for food production abroad.

Infestations by major insect pests in the United States were generally less severe than usual in 1963, largely because of drought conditions in many areas. Insecticides usually make up about 60 percent of pesticide consumption, so total U. S. use of pesticides (insecticides, fungicides, and weed killers) in 1963 is likely to be substantially below 1962. Boll weevil infestations on cotton were lightest in several years. Insecticide applications were required only where other cotton insects appeared in damaging numbers. Spider mites, favored by dry weather, required control in some areas on cotton, corn, orchard trees, and other crops. Unusually cool weather in the Pacific Northwest favored heavy infestations of aphids and pear psylla.

## FARM PRODUCED INPUTS

### Feed

Although a record corn crop appears likely--more than 4 billion bushels as of October 1--production of the 4 feed grains, is still expected to be somewhat less than utilization in the 1963-64 feeding year. Feed grain carryover into 1964-65 may be about 3 or 4 million tons, or about 6 percent, less than a year earlier. Livestock-feed price ratios are less favorable than a year ago because of lower livestock prices and higher feed prices.

Supplies of all concentrates, 247 million tons, will be about the same as last year (table 5). Animal units of livestock will increase less than a million units, so the supply per animal unit will be about the same as a year earlier. At a feeding rate of 0.91 ton per animal unit, about 158 million tons of concentrates will be fed in 1963-64.

Current production of the 4 feed grains is expected to be about 152 million tons, 6 percent more than the 1962 feed grain crop and the second highest production on record. Production of corn and sorghum grain, respectively, increased 10 percent and 3 percent more than last year. Production of oats and barley was down 5 percent and 8 percent, respectively, from last year.

The total corn supply is estimated to be about 149 million tons, nearly the same as last year. The sorghum grain supply is estimated to be about 33 million tons, about 1 percent more than a year ago. The oat supply, estimated to be 20 million tons, is 4 percent below 1962-63. The supply of barley at 13 million tons is about 3 percent less than a year ago.

Although oat and sorghum grain prices have shown normal seasonal increases during the past year, corn prices have shown more than a seasonal increase and from July-September averaged close to the support level, which at that time was \$1.20 per bushel. Short supplies of "free" corn were largely responsible for the rise which sent prices above the loan rate for the first time in 4 years. With the harvesting of the record 1963 crop, corn prices are expected to fall below the current loan rate of \$1.07 per bushel. Prices may

Table 5.--Supply and utilization of feed concentrates, and livestock fed, United States, 1937-63 <sup>1/</sup>

Year beginning Oct. 1	Supply				Utilization			Stocks of feed grains, end of year	Number of grain- consuming animal units	Per grain-consuming animal unit		
	Stocks of feed grains, begin- ning of year	Produc- tion of feed grains <sup>2/</sup>	Other feed concen- trates <sup>3/</sup>	Total supply	Seed, human food, and export	Concen- trates fed to live- stock <sup>4/</sup>	of grains, end of year			Produc- tion of feed grains	Supply of concen- trates	Concen- trates fed
	Mil. tons	Mil. tons	Mil. tons	Mil. tons	Mil. tons	Mil. tons	Mil. tons	Millions	Tons	Tons	Tons	
Average:												
1937-41-----	16.9	92.2	19.9	129.0	12.1	97.9	19.9	153.1	0.60	0.84	0.64	
1942-46-----	14.7	109.2	29.4	153.3	14.8	124.9	13.5	176.9	.62	.89	.71	
1947-51-----	22.2	108.8	25.5	156.5	17.1	115.9	23.5	162.2	.67	.96	.71	
1952-56-----	32.2	114.7	27.1	174.0	18.4	117.7	38.0	160.7	.71	1.08	.73	
1957-61-----	66.9	144.5	29.7	241.1	26.1	143.3	71.5	166.0	.87	1.45	.86	
1962-63-----	67.2	147.6	31.9	246.7	29.6	156.2	60.8	173.6	.85	1.42	.90	
1952-----	20.1	111.0	27.9	159.0	16.9	114.0	27.0	158.9	.70	1.00	.72	
1953-----	27.0	108.3	27.8	163.1	16.0	116.6	31.7	156.9	.69	1.04	.74	
1954-----	31.7	114.1	26.0	171.8	18.5	116.2	39.1	161.6	.71	1.06	.72	
1955-----	39.1	120.8	26.9	186.8	20.6	121.9	43.2	165.3	.73	1.13	.74	
1956-----	43.2	119.3	27.0	189.5	19.9	119.7	48.8	160.9	.74	1.18	.74	
1957-----	48.8	132.4	28.4	209.6	22.9	129.0	59.0	159.9	.83	1.31	.81	
1958-----	59.0	144.1	29.2	232.3	25.8	139.5	67.5	167.7	.86	1.39	.83	
1959-----	67.5	149.6	29.4	246.5	25.2	144.7	74.6	165.7	.90	1.49	.87	
1960-----	74.6	155.6	30.2	260.4	25.4	150.3	84.7	167.6	.93	1.55	.90	
1961-----	84.7	140.6	31.2	256.5	31.1	152.9	71.8	168.9	.83	1.52	.91	
1962 <sup>5/</sup> -----	71.8	143.1	31.4	246.3	29.9	154.1	62.5	173.2	.83	1.42	.89	
1963 <sup>6/</sup> -----	62.5	152.1	32.4	247.0	29.3	158.3	59.0	174.0	.87	1.42	.91	

<sup>1/</sup> Grain and Feed Statistics, U. S. Department of Agriculture, Economic Research Service.

<sup>2/</sup> Includes corn for grain. Omits seeds and corn hogged-off or for silage and other forage purposes.

<sup>3/</sup> Includes byproduct feeds, imported grains, and domestic wheat and rye fed.

<sup>4/</sup> Stocks do not necessarily equal supply less feed and other utilization because of a difference in the crop year for different feed grains.

<sup>5/</sup> Preliminary.

<sup>6/</sup> Preliminary estimates based on indications in October 1963.

continue below the loan rate this winter, but are expected to rise above this level by next spring. As marketing from the current crop declines next spring and summer, the new CCC sales policy (that sales will not be made for less than the loan rate plus reasonable carrying charges) is expected to become important in influencing prices. The carrying charges used to determine the formula price for such sales are announced on a month to month basis. The exact formula prices for 1963-64 are therefore not now known. However, if the formula price is increased about in line with the increase for carrying charges which applied to sales of storable corn for unrestricted use last year, the sale price for corn would rise 7 to 9 cents per bushel above the loan rate by late spring and summer of 1964.

While sorghum grain prices also are higher this year than last, they rose somewhat less than corn during the 1962-63 marketing year. In July-September this year, sorghum grain prices averaged \$1.77 per cwt., or about 6 cents higher than a year earlier. Sorghum grain prices also are expected to decline below the loan rate this fall, but probably will rise as "free" supplies tighten later in the marketing year.

About 17 million tons of high-protein feeds will be available in 1963-64, about 3 percent more than last year. During 1962-63 demand for these feeds remained strong and prices rose 11 percent over the preceding year to the highest level since 1951-52. Increased availability of high-protein feeds is expected to allow a further increase in the amount fed per animal unit in 1963-64.

The estimated production of soybeans, as of October 1, was 727 million bushels, 8 percent higher than last year and the highest on record. However, stocks on October 1 of this year were only about 15 million bushels, or 26 percent of the stocks on hand last year. Thus the total supply of soybeans for 1963-64 is about 742 million bushels.

Production of cottonseed meal for the 1963-64 feeding year may be about the same as last year. Linseed meal production may be a little larger than last year.

Prices paid or received by farmers for selected feeds on October 15, 1963, and earlier years are compared in table 6. Prices of all feed grains increased in 1963 compared to 1962. Oats and barley were 2 percent higher, while corn and sorghum grains were 6 and 7 percent higher, respectively. Prices of commercial formula feeds purchased by farmers increased 2 or 3 percent. Soybean meal increased 4 percent and cottonseed meal and alfalfa hay were up 8 percent over a year ago. Since livestock prices declined during the past year, livestock-feed price ratios are less favorable than a year ago.

Feed inputs per unit of livestock production for the period 1940-1962 are shown in figure 4. These estimates show increases from 1961-62 in feed-conversion efficiency for beef cattle and poultry, with a slight decrease for sheep, and with no change indicated for hogs. Although feed conversion ratios are sometimes used as measures of efficiency of livestock enterprises, the costs of many other inputs are important in determining the most profitable combination of resources in each feeding operation.

Table 6.--Average prices of selected feeds, United States, Oct. 15, 1961-63

Item	Unit	1961	1962	1963 <sup>1/</sup>	Percentage change from 1962 to 1963
		Dollars	Dollars	Dollars	Percent
Prices received by farmers:					
Corn-----	Bushel	1.02	1.02	1.08	6
Oats-----	do.	.64	.62	.63	2
Barley-----	do.	.99	.89	.91	2
Sorghum grain-----	Cwt.	1.61	1.62	1.73	7
Hay, baled-----	Ton	20.20	20.30	23.00	13
Prices paid by farmers:					
Mixed dairy feed, 16 percent protein-----	Cwt.	3.57	3.69	3.78	2
Laying feed-----	do.	4.29	4.41	4.53	3
Broiler grower feed-----	do.	4.55	4.69	4.85	3
Cottonseed meal, 41 percent protein-----	do.	4.06	4.36	4.72	8
Soybean meal, 44 percent protein-----	do.	4.23	4.85	5.04	4
Bran-----	do.	2.81	3.01	3.11	3
Middlings-----	do.	2.88	3.12	3.22	3
Alfalfa hay, baled-----	Ton	30.40	30.40	32.70	8
Average value of concentrate ration fed to poultry and milk cows: <sup>2/</sup>					
Fed to poultry-----	Cwt.	3.33	3.43	3.55	3
Fed to milk cows, in milk-selling areas--	do.	2.89	2.95	3.05	3
Fed to milk cows, cream-selling areas----	do.	2.40	2.43	2.55	5

<sup>1/</sup> Preliminary.

<sup>2/</sup> Value of corn, oats, oilmeal, millfeed, commercial mixed feed, and so on, which makes up 100 pounds of "grain" ration.

## FEED INPUTS\* PER UNIT OF PRODUCTION

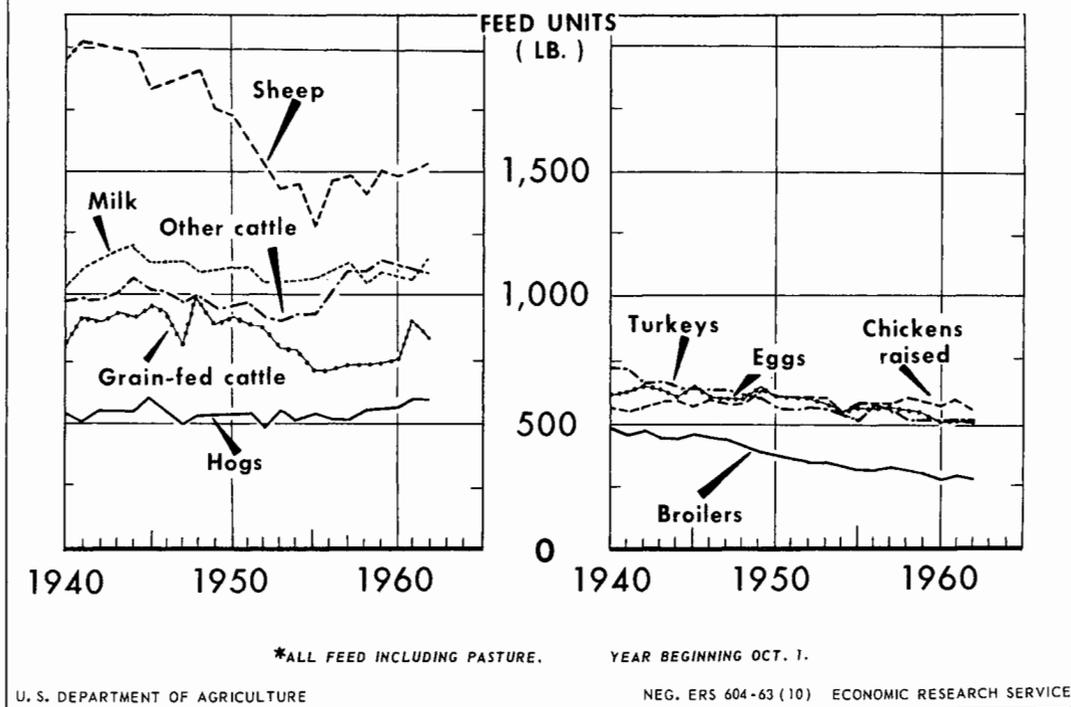


Figure 4

Gross returns from livestock enterprises per dollar of feed cost, based on October 15 prices, are given in table 7. For all of the enterprises, gross returns declined from a year earlier. The greatest declines were from sheep raising, hogs, and beef raising--12, 13, and 19 percent, respectively. Returns from broilers declined 10 percent, from milk, 7 percent, and from butterfat and eggs, 6 percent each. Returns from turkeys declined about 2 percent.

Trends in gross returns from various livestock enterprises per dollar of feed costs, based on October 15 prices, from 1950 to 1963 are shown in figure 5. In general, downward trends in these returns were experienced in broilers, turkeys, eggs, and sheep raising. Trends in returns from milk and butterfat remained about level, and returns from hogs turned slightly upward. Returns from beef raising showed the greatest increase. Considerable variation in returns was experienced in eggs, turkeys, hogs, and beef raising.

Table 7.--Gross returns from livestock enterprises per \$1.00 of feed costs, United States, based on Oct. 15 prices, 1957-59 average and 1961-63 1/

Livestock enterprise or product	Gross return per \$1.00 of feed cost				Percentage change from 1962 to 1963
	Average 1957-59	1961	1962	1963	
	Dollars	Dollars	Dollars	Dollars	Percent
Eggs-----	1.64	1.59	1.52	1.43	-6
Broilers-----	1.18	1.00	1.28	1.15	-10
Turkeys-----	1.43	1.15	1.43	1.40	-2
Milk-----	2.34	2.23	2.14	2.00	-7
Butterfat-----	1.55	1.51	1.40	1.32	-6
Hogs-----	1.87	1.95	1.93	1.67	-13
Sheep raising---	1.54	1.24	1.38	1.22	-12
Beef raising---	2.33	2.19	2.37	1.92	-19
	Index numbers (1957-59=100)				
Eggs-----	100	97	93	87	---
Broilers-----	100	85	108	97	---
Turkeys-----	100	80	100	98	---
Milk-----	100	95	91	85	---
Butterfat-----	100	97	90	85	---
Hogs-----	100	104	103	89	---
Sheep raising---	100	81	90	79	---
Beef raising---	100	94	102	82	---

1/ The following quantities of feed were used to calculate the cost of feed:

Eggs (per dozen)----- 7 lbs. poultry ration  
 Broilers (per lb.)----- 2.5 lbs. broiler mash  
 Turkeys (per lb.)----- 4.5 lbs. poultry ration  
 Milk (per cwt.)----- 31 lbs. concentrates and 110 lbs. hay  
 Butterfat (per lb.)----- 7.75 lbs. concentrates and 27 lbs. hay  
 Hogs (per cwt.)----- 7.5 bu. corn and 20 lbs. soybean meal  
 Sheep raising (per cwt.)----- 2 bu. corn and 1,500 lbs. hay  
 Beef raising (per cwt.)----- 3 bu. corn and 600 lbs. hay

To estimate costs of all harvested forages and pasture in the above quantities of feed, feeds from these sources were converted into hay equivalent and the price received by farmers for "all hay" was applied. Feed nutrients from pasture were assumed to cost one-fourth as much as the nutrients in hay. About one-third of the feed consumed by sheep is used in the production of wool. During the period 1957-63, the quantities of broiler mash used to calculate the broiler feed costs were: 1957-60, 2.8 pounds; 1961, 2.6 pounds; 1962-63, 2.5 pounds. During the same period, the quantities of poultry ration used to calculate turkey feed costs were: 1957-61, 4.75 pounds; 1962-63, 4.5 pounds.

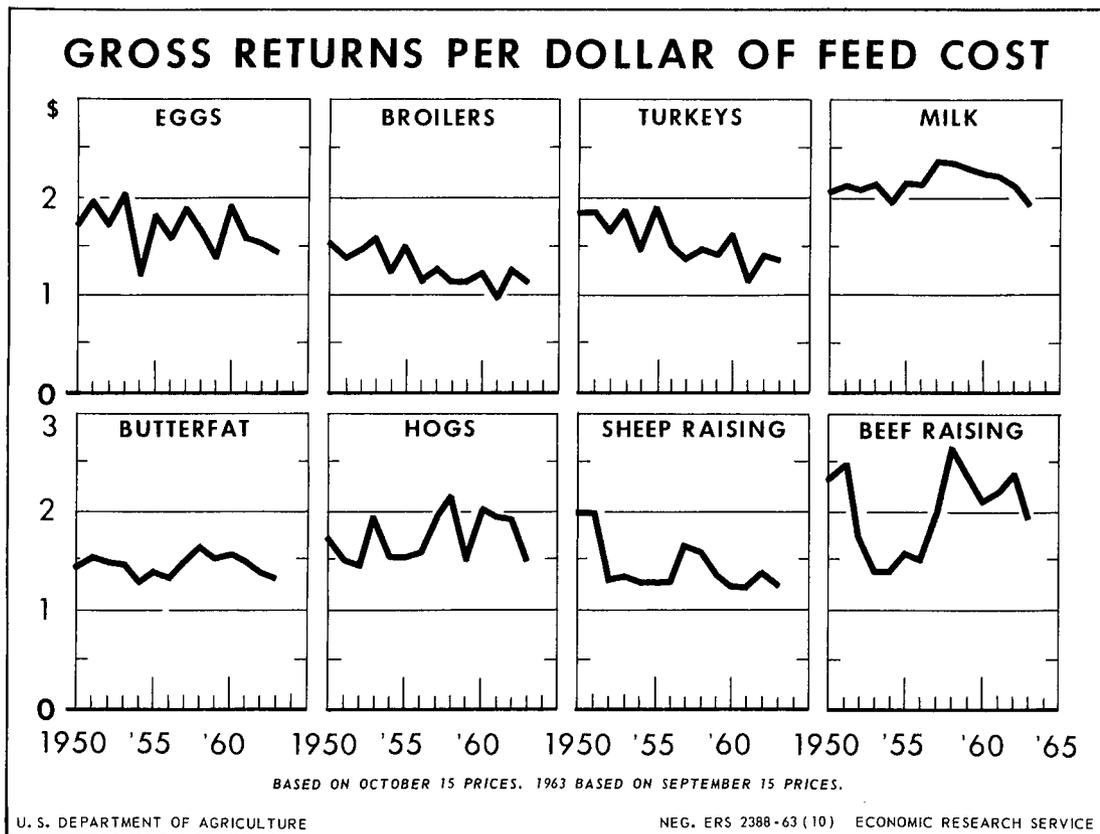


Figure 5

#### Seed

Prices paid by farmers for seed used in fall planting of grain, winter cover crops, legumes, and grasses averaged about 7 percent higher in mid-September than a year earlier. Prices of several kinds of important field seeds were higher than a year earlier. Timothy seed prices advanced 59 percent while crimson clover, redbud, tall fescue, and sweet lupine seed prices advanced 25 percent or more over mid-September 1962 prices. Common alfalfa seed prices are up 10 percent; certified alfalfa, up 15 percent; orchardgrass seed, up 20 percent; smooth bromegrass, up 19 percent; and seed oats, up 22 percent.

Lower prices were reported for other field seeds, as follows: crested wheatgrass, down 23 percent from last year; hairy vetch, down 22 percent; wild winter peas, down 11 percent; seed wheat, down 2 percent.

A smaller supply of seed is forecast for several winter cover crops. The supply (1963 production plus carryover) of lupine seed is 40 percent below last year. The supply of crimson clover seed is down 18 percent and the seed supply of Austrian winter peas is down 10 percent. On the other hand, the supply of hairy vetch seed is 35 percent above a year ago. Common vetch and purple vetch supplies are near year-ago levels.

Domestic production of several grass seeds is below last year's crop: Orchardgrass seed production dropped 41 percent; Kentucky bluegrass seed production is down 71 percent in the Midwest and Kentucky districts--the smallest crop since 1928; production of Merion Kentucky bluegrass is down 16 percent. A smaller supply of several other grass seeds is likely. Supplies of Chewings fescue, red fescue, redtop, and timothy are less than a year ago.

Supplies of most clover seeds are plentiful. The expected supply of sweetclover seed is 31 percent over last year. White clover seed supply is forecast at 24 percent more than last year. Initial supply of Ladino clover seed is slightly below last year.

Imports will offset the lower domestic production of 2 grass seeds. Kentucky bluegrass seed imports for last year were a record high. Imports of red fescue seed are 25 percent above last year.

### Feeder and Replacement Livestock

Prices paid by farmers for feeder and replacement livestock in October 1963 averaged 12 percent lower than a year earlier and 7 percent lower than in the spring of 1963. The decline in prices paid for feeder cattle and pigs accounted for most of the decline from a year ago, whereas most of the decline since spring was caused by a seasonal decline in prices paid for baby chicks and turkey poults, and some decline in prices of feeder lambs (table 8). Prices of milk cows declined slightly from those of 6 months and a year earlier.

Expenditures for stocker and feeder cattle comprise about four-fifths of farmers' total expenditures for all feeder and replacement livestock. Because price margins (or the excess of prices received for fat cattle over the prices paid for feeders several months earlier) are small relative to prices of cattle, any change in the price of feeder cattle significantly affects the profits from cattle feeding. Price margins of fat cattle going to market this fall are nearly zero, although this is a slight improvement over the negative margins of a few months earlier.

In recent months, prices paid for feeder steers at Kansas City have averaged nearly as high as prices received for Choice fat steers in Chicago (fig. 6). This relation of feeder cattle prices to fat cattle prices is the highest of record. Despite unfavorable price margins on cattle sold and the unfavorable current price relationships, the number of cattle put on feed remained at record levels and prices paid for feeder cattle remained firm. With increases in population and rising incomes, demand for beef may be expected to rise. The increasing number of cattle on feed relative to total population indicates that a larger proportion of total beef production is grain-fed beef. The rising proportion of fed beef accounts partly for the lower price of fed beef relative to prices of other (feeder) cattle.

Profits from current feeding operations will be low unless prices of fat cattle rise sharply during the next several months. Although feeders have reason for optimism about the long-run demand for beef, that demand is not likely to materialize soon enough to permit profits to many operators on cattle now in feedlots or those purchased at current prices.



## OVERHEAD COSTS

### Taxes

Taxes levied on farm real estate in 1962 were up 5.4 percent over 1961. This was the 20th consecutive increase, and brought the U. S. average tax per acre to \$1.36, compared with \$0.38 in 1942. Preliminary reports on 1963 levies indicate that the uptrend is continuing at about the same rate. If levies in 1963 should rise another 5 percent, farm real estate taxes would rise to a total of \$1,468 million. These levies are payable, for the most part, in late 1963 and early 1964.

Taxes on farm personal property (livestock, farm machinery, household belongings, etc.) are showing a parallel uptrend. In 1962, these taxes totaled about \$303 million.

The long-term uptrend in farm property taxes reflects steadily rising costs of State and local Government. Rising salary levels for public employees, higher costs of materials, expanded public service requirements resulting from population growth and shift toward the suburbs, and rising standards for schools, roads, welfare, and other governmental services all help to push State and local expenditures and taxes higher. Nationally, the property tax contributes about 88 percent of all local tax revenue. The proportion is higher in most rural areas.

The forces behind the uptrend in farm real estate taxes are also producing increases in other State and local taxes that affect farm costs. Sales taxes, for example, are becoming increasingly prevalent among the States and rates are rising. In 1963, retail sales taxes were in force in at least 37 States. The most common rate was 3 percent, and at least 8 States had higher rates. In 1951 there were 28 sales-tax States and the most common rate was 2 percent. No State employed a rate greater than 3 percent in 1951.

Sales taxes apply broadly to retail purchases of items for personal consumption. In many States, however, they also cover purchases of various farm production items such as feed, seed, machinery, livestock, fertilizer, pesticides, and other farm supplies.

### Interest

Farmers are paying about \$1.7 billion in interest for the mortgage and production credit they are using this year. This will be about \$175 million or 11 percent more than they paid in 1962, and double their outlays in 1955 (table 9). Total interest costs are expected to show a further substantial increase in 1964, chiefly because of the increasing use of credit by farmers.

Total farm debt, excluding Commodity Credit Corporation price support loans, is expected to reach \$30.5 billion by January 1, 1964, \$2.6 billion or 9 percent above the amount owed at the beginning of 1963. The factors underlying the increased use of credit this year are liberal supplies of funds held by lenders, good repayments on loans and few delinquencies, rising land values, and strong farm demand for capital to enlarge and improve operations.

Table 9.--Annual interest charges on the farm debt, selected years, 1950-1963

Year	Total	Charges on mortgage debt	Charges on short-term debt owed to--				
			All lenders <u>1/</u>	Commercial banks	Production credit associations <u>2/</u>	Farmers Home Administration	Merchants, dealers and misc. creditors
	Million dollars	Million dollars	Million dollars	Million dollars	Million dollars	Million dollars	Million dollars
1950-----	594	264	330	136	32	17	145
1955-----	846	402	444	187	47	21	189
1960-----	1,306	636	670	307	120	21	222
1961-----	1,380	685	695	324	117	24	230
1962-----	1,525	758	767	363	125	27	252
1963 <u>3/</u> -----	1,692	848	844	410	144	30	260

1/ Includes service fees. Excludes interest charges on Commodity Credit Corporation price support loans and interest charges on debt for family living purposes.

2/ In addition to production credit associations, includes Federal intermediate credit bank loans to and discounts for livestock loan companies and agricultural credit corporations.

3/ Preliminary.

In 1964, loanable funds of financial institutions are expected to be less plentiful and requirements for farm mortgage loans may be tightened a little. Moreover, farm income prospects are less favorable, particularly for wheat producers, and this may temper farmers' credit demands.

Interest rates charged on new farm mortgage loans have been generally stable so far this year. Rates charged by life insurance companies on their farm mortgage loan commitments in the April-June quarter averaged 5.76 percent, approximately the same rate as in the preceding quarter. Rates charged by commercial banks have also been stable, according to an American Bankers Association survey. However, 2 of the Federal land banks have made temporary rate reductions on their farm mortgage loans--of 0.3 and 0.5 percentage points, respectively. On October 1, 1963, 9 of the banks were charging 5.5 percent, 1 was charging 5.75 percent, and the remaining 2 were charging 5.2 percent and 5.0 percent, respectively.

Rates charged on new farm mortgage loans have been higher than the average rate charged on farm mortgage debt incurred in earlier years, notably during the 1950's. Consequently, the average rate on outstanding debt is rising slightly as new debt is incurred and old debt paid off.

Rates on nonreal estate farm loans have edged up a bit so far this year. Rates charged by commercial banks were reported to be fractionally higher, and a few production credit associations have raised their rates. Recent sales of Federal intermediate credit bank debentures were at rates about 0.5 percent above the rates of last spring, and most of the banks have raised their discount rates to the associations. The higher debenture rates, if continued, will be at least partly reflected in higher rates charged PCA borrowers later this year and next year.

The increase in cost of Federal intermediate credit bank funds has reflected the general increase in short-term money rates accompanying the increase from 3.0 percent to 3.5 percent in the discount rate charged member banks by the Federal Reserve Banks. This increase in the discount rate was designed to aid the Nation's efforts to ease its international payments problem by encouraging investment of short-term funds in this country rather than abroad. The increases in short-term rates in the central money markets have had little effect to date on rates charged on farm loans, but these increases can eventually be expected to increase the cost of nonreal estate farm loans and possibly presage sufficient increases in long-term rates to affect the rates charged on farm mortgage loans.

### Crop Insurance

As cash costs increase and profit margins narrow on a larger volume of production, fewer farmers are able and willing to assume the risk of partial or total crop failure. Insurance coverage also makes it easier to obtain necessary operating credit.

In each of the last 5 years, farmers paid premiums of about \$100 million for about \$2.5 billion insurance against loss of their crops from hail.

In 1964 farmers will probably pay about \$35 million in premiums for more than a half billion dollars of Federal crop insurance against loss of their crops from any cause. This is about double the amount of that carried in 1961.

The Federal Crop Insurance Corporation has expanded its insurance to new crops and new counties and is now offering coverage on additional crops in counties where only 1 or 2 crops had previously been insured. Farmers now may choose between several levels of insurance coverage per acre to fit their particular needs.

### FARM REAL ESTATE

Market prices of farm real estate continued their upward trend in the year ending July 1, 1963, at a somewhat sharper rate than in 1961 and 1962. Nationally, per-acre values advanced 6 percent, compared with 5 and 3 percent in each of the preceding 12-month periods. Regional patterns of increase have not changed much in the last 2 years. They have ranged from 4 percent in the Northeast, Lake, and Corn Belt States to 8 or 9 percent in the Delta and Southern Plains States (fig. 7).

Continued strong demand from farmers for additional land to enlarge their farms, and limited offerings of land for sale have provided the chief support for higher land prices in recent years. Credit with which to purchase land has been readily available, both from sellers and commercial lenders. This has been

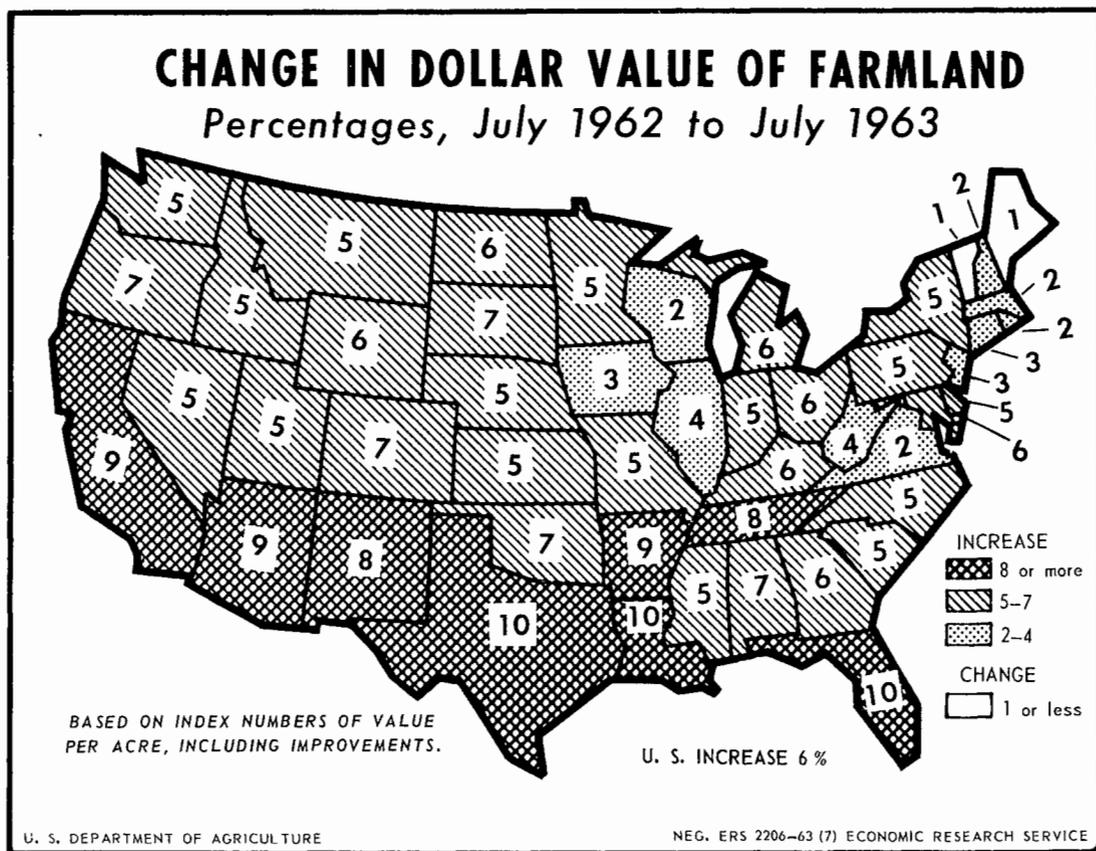


Figure 7

especially true for established farmers who have built up substantial equities from previous farming operations and have ample security and proven ability to repay loans. Individuals seeking to buy land for initial entry into farming are in a less favorable position. Low-equity financing by means of installment land contracts has steadily increased in recent years.

The established farmer can benefit from the appreciation in market values of farm real estate only by sale, or by borrowing against the increased value of the security. Since sale would require repurchase at equally high prices, or a change in occupation, the credit market provides his only means of converting a part of the increase in values into working capital. Mortgage lending operations of commercial lenders reflect a substantial amount of refinancing and increases in existing mortgages. Such borrowings are an important source of the additional capital needed for the purchase of land, livestock, machinery, and other farm improvements needed to keep pace with advancing farm technology.

Since most of the increase in the total capital requirements in agriculture has been in prices of farm real estate, rather than in nonreal estate items, higher land prices have become an increasingly difficult obstacle for those seeking entry, as well as for those who need additional land for greater production efficiency. The average market value of production assets for the country as a whole was about \$51,500 per farm in 1963, of which \$40,000 or 78 percent was in land and service buildings. Total investment was equivalent to about \$10,500 per \$1,000 of net farm income, and for real estate alone, \$8,300 per \$1,000 net income. Total investment is now about a third higher in relation to net income than 5 years ago.

The relative importance of land and nonland investment, as well as total investment per \$1,000 net income, varies widely among different types of farms. <sup>2/</sup> For the years 1960-62, total investment per \$1,000 net income ranged from a low of \$4,000 for North Carolina tobacco farms to over \$20,000 for Southwest cattle ranches (fig. 8). Real estate represented 80 percent or more of the total investment for grain and cotton farms, but less than two-thirds of the total for farms deriving a substantial proportion of their total income from livestock.

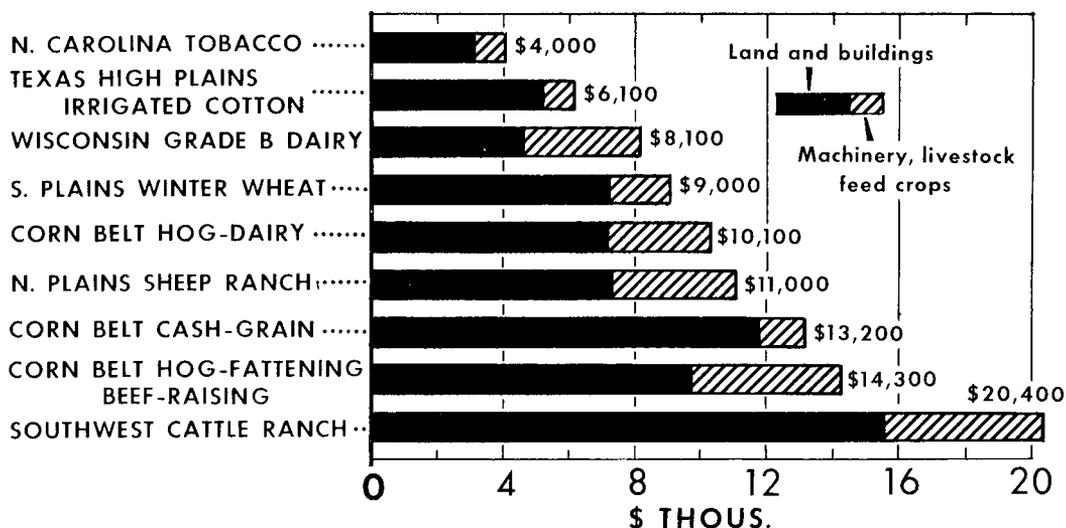
Types of farms that require relatively large investments in relation to net income generally are more difficult to finance. Renting of a part or all of the land required is often a common practice used to reduce the total capital needed by the farm operator. The increasing tendency for operators of all types of farms to own only a part and to rent additional land needed can be attributed largely to the steadily increasing investment required to utilize new technology, and to higher land prices.

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<sup>2/</sup> Based on actual farm organization, practices, and prices on selected types of farms. Not to be confused with the analysis referred to on page 7.

Commercial Farms

## MARKET VALUE OF ASSETS PER \$1,000 NET FARM INCOME\*



\*1960-62 AVERAGES; NET FARM INCOME IS NET RETURN AVAILABLE FOR OPERATOR AND FAMILY LABOR, MANAGEMENT AND RETURN ON CAPITAL.

U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 2398-63 (10) ECONOMIC RESEARCH SERVICE

Figure 8

### COSTS BY TYPE OF FARM

The relative importance of specific inputs varies greatly by enterprises and by types of farms. Thus, changes in prices paid for production inputs affect operating expenses differently on different types of farms. The series on farm costs and returns, representative of important segments of commercial agriculture, provide an illustration of these differences (fig. 9). The net effect of changes in prices paid and production efficiency on operating expenses per unit of production is shown in table 10.

On some types of farms, such as the New Jersey egg-producing farms and the cotton farms in the High Plains of Texas, operating expenses per unit of production in 1962 were lower than in 1950-54. On some other types of farms, such as the Corn Belt farms, operating expenses per unit of production were substantially higher than they were a decade earlier. The reduction in operating expenses per unit of production on egg-producing farms in New Jersey was due to a decrease in inputs per unit of production (increased efficiency) and lower prices paid for feed. On these farms, purchased feed accounts for about three-fourths of cash expenses. New Jersey egg-producing farms were the only farms with lower average prices paid in 1962 than in 1950-54.

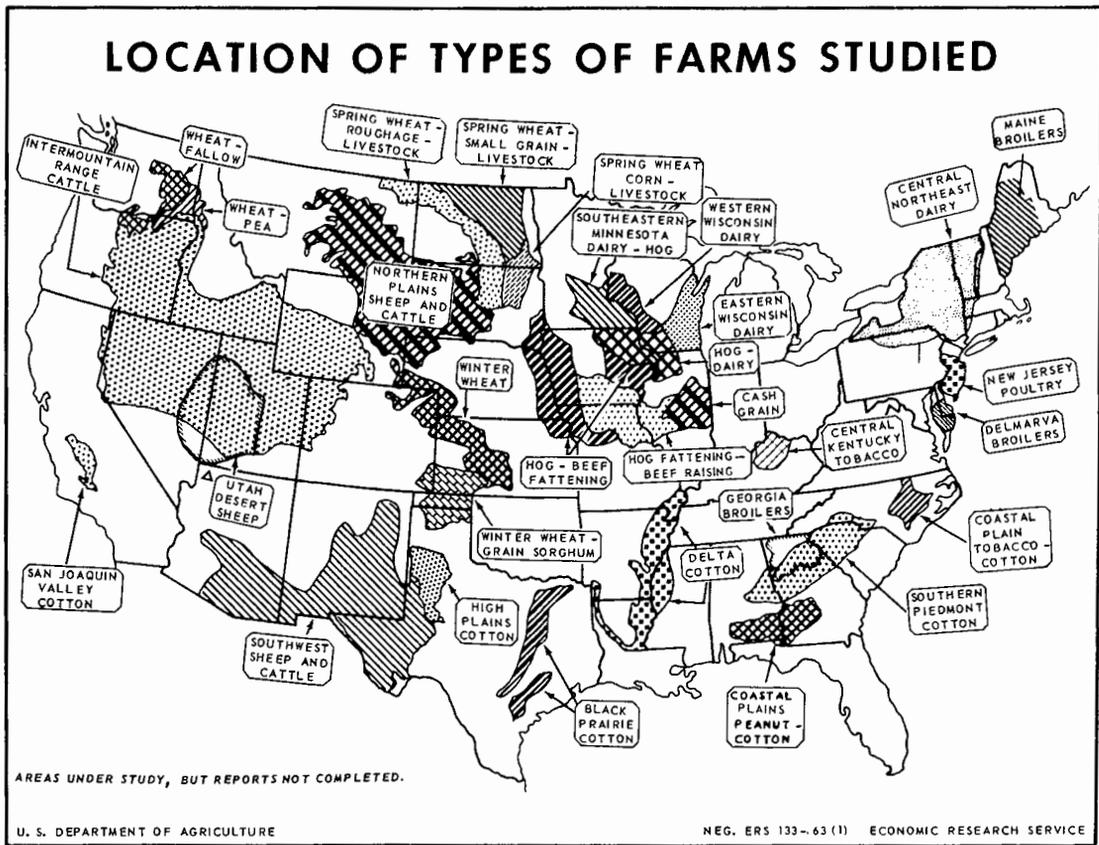


Figure 9

In contrast to the generally-increasing prices paid for items used in production, inputs per unit of production were lower in 1962 than in 1950-54 on most types of farms (table 11). On some farms, such as the Texas High Plains cotton farms, increased production efficiency more than offset the increase in prices paid for production inputs. On other types of farms, such as the Corn Belt farms, the decrease in inputs per unit of production was not sufficient to offset the increase in prices paid.

The index of input per unit of production is a more stable estimate of true changes in production efficiency on some types of farms than on others. Large year to year variations in crop yields experienced on some farms are due chiefly to weather conditions. With these variations, the index has more meaning when averaged over a period of several years.

Preliminary estimates for 1963 on 8 selected types of farms indicate that the general upward trend in average prices paid for items used in production is continuing through 1963. Operating expenses per unit of production also will be higher than in 1962 on all of the 8 types of farms except the cotton farms in the Mississippi Delta and the tobacco farms in the Coastal Plain of North Carolina. Lower yields per acre as well as higher prices paid contributed to higher operating expenses per unit of production on grade A

dairy farms in eastern Wisconsin, winter wheat and the wheat-small grain-livestock farms, and cattle ranches in the Intermountain area. On cotton farms in the Mississippi Delta, record yields per acre of cotton more than offset the effect of higher prices paid and reduced acreage of cotton. Higher yields per acre also offset higher prices paid on tobacco farms in the Coastal Plain of North Carolina.

On all of the 8 selected types of farms, except cotton farms in the Mississippi Delta, net farm incomes in 1963 probably will be lower than in 1962.

#### Commercial Dairy Farms, Eastern Wisconsin, Grade "A"

Total operating expenses on representative commercial grade A dairy farms in eastern Wisconsin are expected to continue to increase in 1963. Prices paid for inputs are expected to be slightly higher, and quantities of inputs used, particularly purchased feed, are expected to increase substantially. Total operating expense per unit of production is expected to increase 6 percent as a result of higher expenditures and lower net farm production.

Prices paid for dairy feed are expected to average about 6 percent higher in 1963 than a year ago, and total feed expense probably will increase more than 8 percent. Lower roughage production, caused by drought, combined with an expected increase in herd size, accounts for the increase in feed purchased.

The total volume of milk sold per farm in 1963 is expected to average about 3 percent higher than in 1962, primarily because of an increase in the number of cows milked. Milk production per cow in 1963 probably will increase only slightly from last year's level, chiefly because of generally poor spring and early summer pasture conditions. Prices received for milk sold by these dairymen are expected to continue a downward trend, probably averaging around 5 percent lower in 1963 than in 1962. Cattle, calf, and hog prices received also are expected to decline in 1963. Generally lower prices received by these farmers this year are expected to result in total cash receipts about 4 percent lower than those realized in 1962. Gross income per farm on these farms in 1963 is expected to drop from a year earlier, primarily because of reduced feed production and lower prices received. Reduced gross income, coupled with increased operating expenses, is expected to result in a drop in net farm income per farm of nearly 20 percent from 1962 (table 12).

#### Hog-Beef Fattening Farms, Corn Belt

Total operating expenses on representative hog-beef fattening farms are expected to be about 16 percent higher in 1963 than in 1962 (table 12). The main factors accounting for this increase were higher prices paid for feeder cattle and feed, combined with increased purchases over a year ago of feed and other items required for additional livestock.

The upward trend in size of farm continued in 1963 on hog-beef fattening farms. Total production of hogs and beef will exceed a year earlier, but the increase is not enough to offset the effect of lower prices received for cattle

Table 10.--Operating expense per unit of production: Index numbers, selected types of farms, 1962, with comparisons 1/

(1957-59=100)

Type of farm and location	Average			1960	1961	1962 <u>2/</u>
	1945-49	1950-54	1955-59			
Dairy farms:						
Central Northeast-----	86	95	96	104	104	110
Eastern Wisconsin:						
Grade A-----	---	104	99	102	102	104
Grade B-----	91	106	99	100	97	99
Western Wisconsin, Grade B-----	98	106	100	101	98	95
Dairy-hog farms, Southeastern Minnesota-----	86	102	97	112	107	110
Poultry farms:						
New Jersey, egg-producing-----	118	121	102	92	87	90
Maine, broilers-----	---	107	98	105	98	104
Delmarva, broilers-----	---	112	100	89	93	99
Georgia, broilers-----	---	87	96	105	106	109
Corn Belt farms:						
Hog-dairy-----	90	106	101	112	112	119
Hog fattening-beef raising-----	85	104	99	109	113	125
Hog-beef fattening-----	74	104	101	111	111	121
Cash grain-----	75	99	97	105	111	115
Cotton farms:						
Southern Piedmont-----	88	106	99	104	98	99
Mississippi Delta:						
Small-----	67	97	95	99	101	101
Large-scale-----	104	115	96	91	89	88
Texas:						
Black Prairie-----	85	112	105	100	107	105
High Plains (nonirrigated)-----	113	185	122	91	90	120
High Plains (irrigated)-----	104	122	110	97	89	100
San Joaquin Valley, Calif. (irrigated):						
Cotton-specialty crop-----	---	93	97	109	113	111
Cotton-general crop (medium-sized)-----	---	98	99	109	113	109
Cotton-general crop (large)-----	---	100	100	111	116	111
Peanut-cotton farms, Southern Coastal Plains-----	72	98	96	93	90	101
Tobacco farms:						
North Carolina Coastal Plain:						
Tobacco-----	---	87	98	94	97	97
Tobacco-cotton-----	---	91	98	95	97	96
Kentucky Bluegrass:						
Tobacco-livestock, Inner Area-----	71	88	97	103	108	105
Tobacco-dairy, Intermediate Area-----	64	84	97	109	101	99
Tobacco-dairy, Outer Area-----	68	89	98	105	108	98
Spring wheat farms:						
Northern Plains:						
Wheat-small grain-livestock-----	75	101	90	87	208	60
Wheat-corn-livestock-----	79	111	105	84	99	94
Wheat-roughage-livestock-----	69	97	96	72	139	53
Winter wheat farms:						
Southern Plains:						
Wheat-----	78	104	111	86	94	99
Wheat-grain sorghum-----	---	110	109	71	84	102
Pacific Northwest:						
Wheat-pea-----	81	101	106	109	114	93
Wheat-fallow-----	91	118	116	118	121	109
Cattle ranches:						
Northern Plains-----	65	95	99	99	87	102
Intermountain Region-----	64	109	102	125	115	113
Southwest-----	92	136	111	95	93	104
Sheep ranches:						
Northern Plains-----	84	116	109	108	108	103
Southwest-----	99	146	115	86	96	101

1/ Exclusive of charges for capital and unpaid labor.

2/ Preliminary.

Table 11.--Input per unit of production: Index numbers, selected types of farms, 1962, with comparisons 1/

(1957-59=100)

Type of farm and location	Average			1960	1961	1962 2/
	1945-49	1950-54	1955-59			
Dairy farms:						
Central Northeast-----	115	105	99	99	97	100
Eastern Wisconsin:						
Grade A-----	---	115	102	96	93	93
Grade B-----	125	114	101	97	92	93
Western Wisconsin, Grade B-----	136	115	102	97	93	88
Dairy-hog farms, Southeastern Minnesota-----	134	117	101	103	97	100
Poultry farms:						
New Jersey, egg-producing-----	117	106	102	100	96	95
Maine, broilers-----	---	147	107	94	90	91
Delmarva, broilers-----	---	137	105	81	89	92
Georgia, broilers-----	---	121	102	98	95	95
Corn Belt farms:						
Hog-dairy-----	126	115	103	106	104	105
Hog fattening-beef raising-----	125	117	102	104	103	109
Hog-beef fattening-----	110	109	105	100	106	112
Cash grain-----	115	114	100	88	92	94
Cotton farms:						
Southern Piedmont-----	119	119	101	102	91	92
Mississippi Delta:						
Small-----	100	107	97	93	93	92
Large-scale-----	120	114	98	90	87	84
Texas:						
Black Prairie-----	121	121	109	95	101	96
High Plains (nonirrigated)-----	155	209	130	86	81	111
High Plains (irrigated)-----	137	131	113	94	84	90
San Joaquin Valley, Calif. (irrigated):						
Cotton-specialty crop-----	---	107	101	103	104	104
Cotton-general crop (medium-sized)-----	---	114	104	102	104	99
Cotton-general crop (large)-----	---	114	104	102	106	100
Peanut-cotton farms, Southern Coastal Plains-----	118	115	99	108	93	99
Tobacco farms:						
North Carolina Coastal Plain:						
Tobacco-----	---	105	100	89	89	86
Tobacco-cotton-----	---	107	100	90	89	86
Kentucky Bluegrass:						
Tobacco-livestock, Inner Area-----	104	100	99	99	102	96
Tobacco-dairy, Intermediate Area-----	109	104	101	100	95	91
Tobacco-dairy, Outer Area-----	111	107	102	101	98	89
Spring wheat farms:						
Northern Plains:						
Wheat-small grain-livestock-----	100	113	92	82	201	55
Wheat-corn-livestock-----	106	116	107	83	98	92
Wheat-roughage-livestock-----	90	103	97	73	144	49
Winter wheat farms:						
Southern Plains:						
Wheat-----	101	110	113	81	87	90
Wheat-grain sorghum-----	---	138	120	63	72	85
Pacific Northwest:						
Wheat-pea-----	109	106	105	110	113	91
Wheat-fallow-----	124	124	117	114	120	106
Cattle ranches:						
Northern Plains-----	97	100	102	100	94	101
Intermountain Region-----	117	126	106	107	106	101
Southwest-----	102	123	113	86	91	92
Sheep ranches:						
Northern Plains-----	118	121	111	102	108	98
Southwest-----	101	126	114	85	92	97

1/ Includes charges for capital and unpaid labor. 2/ Preliminary.

Table 12.--Costs and returns, selected types of farms average 1957-61, 1962, and preliminary 1963

Type of farm	Unit	Average 1957-61	1962	1963
<b>Dairy farms (grade A) Eastern Wisconsin:</b>				
Gross farm income-----	Dollar	13,676	15,638	14,876
Operating expenses-----	do.	7,974	9,417	9,856
Net farm income-----	do.	5,702	6,221	5,020
Cows, 2 years old and over-----	Number	28.2	31.7	32.0
Milk production per cow-----	Pound	9,612	10,150	10,189
Total farm capital, Jan. 1-----	Dollar	56,026	66,740	67,288
Index numbers (1957-59=100):				
Net farm production-----	---	105	120	119
Operating expense per unit of production-----	---	101	104	110
Total cost per unit of production-----	---	100	102	107
Prices paid-----	---	102	108	110
Prices received-----	---	101	100	96
<b>Hog-beef fattening farms, Corn Belt:</b>				
Gross farm income-----	Dollar	23,459	33,702	32,187
Operating expenses-----	do.	15,955	23,519	27,353
Net farm income-----	do.	7,504	10,183	4,834
Fat cattle sold-----	Cwt.	583	819	874
Hogs sold-----	do.	358	442	477
Total farm capital, Jan. 1-----	Dollar	79,696	94,570	98,917
Index numbers (1957-59=100):				
Net farm production-----	---	103	110	111
Operating expense per unit of production-----	---	104	121	131
Total cost per unit of production-----	---	103	110	116
Prices paid-----	---	101	96	99
Prices received-----	---	98	108	95
<b>Egg-producing farms, New Jersey:</b>				
Gross farm income-----	Dollar	27,234	27,264	27,617
Operating expenses-----	do.	24,166	25,305	25,896
Net farm income-----	do.	3,068	1,959	1,721
Layers on hand during year-----	Number	4,189	4,646	4,646
Egg production-----	Dozen	67,864	74,336	75,110
Total farm capital, Jan. 1-----	Dollar	42,874	44,720	44,089
Index numbers (1957-59=100):				
Net farm production-----	---	106	110	116
Operating expense per unit of production-----	---	96	93	94
Total cost per unit of production-----	---	97	93	94
Prices paid-----	---	97	93	95
Prices received-----	---	101	93	93
<b>Cattle ranches, Intermountain region:</b>				
Gross ranch income-----	Dollar	17,170	18,875	18,875
Operating expenses-----	do.	6,582	7,145	7,671
Net ranch income-----	do.	10,588	11,730	11,204
Cows, 2 years old and over-----	Number	131.5	145.2	149.5
Total ranch capital, Jan. 1-----	Dollar	77,786	89,910	95,611
Index numbers (1957-59=100):				
Net ranch production-----	---	99	103	106
Operating expense per unit of production-----	---	108	113	116
Total cost per unit of production-----	---	106	112	113
Prices paid-----	---	103	109	110
Prices received-----	---	98	104	100

Table 12.--Costs and returns, selected types of farms average 1957-61, 1962, and preliminary 1963  
--Continued

Type of farm	Unit	Average 1957-61	1962	1963
<b>Tobacco farms, Coastal Plain, North Carolina:</b>				
Gross farm income-----	Dollar	10,442	12,741	12,436
Operating expenses-----	do.	5,428	6,377	6,402
Net farm income-----	do.	5,014	6,364	6,034
Tobacco harvested-----	Acre	7.9	8.7	8.3
Yield per acre-----	Pound	1,742	1,970	2,068
Total farm capital, Jan. 1-----	Dollar	23,244	27,190	28,195
Index numbers (1957-59=100):				
Net farm production-----	---	111	132	132
Operating expense per unit of production-----	---	98	97	97
Total cost per unit of production-----	---	97	94	95
Prices paid-----	---	102	108	110
Prices received-----	---	104	105	103
<b>Cotton farms (large-scale) Mississippi Delta:</b>				
Gross farm income-----	Dollar	65,940	75,115	79,887
Operating expenses-----	do.	42,815	44,129	42,940
Net farm income-----	do.	23,125	30,986	36,947
Cotton harvested-----	Acre	235	267	239
Yield per acre-----	Pound	514	550	635
Total farm capital, Jan. 1-----	Dollar	202,096	218,410	232,250
Index numbers (1957-59=100):				
Net farm production-----	---	106	117	122
Operating expense per unit of production-----	---	96	88	82
Total cost per unit of production-----	---	96	90	86
Prices paid-----	---	101	105	107
Prices received-----	---	101	105	107
<b>Wheat-small grain-livestock farms, Northern Plains:</b>				
Gross farm income-----	Dollar	9,566	17,226	15,616
Operating expenses-----	do.	5,876	6,145	6,119
Net farm income-----	do.	3,690	11,081	9,497
Wheat harvested-----	Acre	140.2	126.9	124.2
Yield per acre-----	Bushel	16.7	31.3	26.4
Total farm capital, Jan. 1-----	Dollar	59,528	54,120	57,460
Index numbers (1957-59=100):				
Net farm production-----	---	93	175	162
Operating expense per unit of production-----	---	119	60	64
Total cost per unit of production-----	---	119	61	66
Prices paid-----	---	100	103	106
Prices received-----	---	103	100	99
<b>Winter wheat farms, Southern Plains:</b>				
Gross farm income-----	Dollar	15,489	17,903	17,273
Operating expenses-----	do.	5,735	6,643	6,762
Net farm income-----	do.	9,754	11,260	10,511
Wheat harvested-----	Acre	209.2	215.1	204.0
Yield per acre-----	Bushel	22.3	24.2	22.7
Total farm capital, Jan. 1-----	Dollar	87,874	103,420	110,372
Index numbers (1957-59=100):				
Net farm production-----	---	109	116	106
Operating expense per unit of production-----	---	96	99	110
Total cost per unit of production-----	---	95	98	111
Prices paid-----	---	102	105	107
Prices received-----	---	100	110	117

and hogs and higher prices paid for production items. Prices received will average about 12 percent lower than the previous year while prices paid will be up about 3 percent. As a result, net incomes will probably average about 50 percent lower for hog-beef fattening farms in 1963 than in 1962. Operating expenses are normally high in relation to gross receipts; thus, a reduction in gross receipts on these farms results in a much larger reduction in net farm income than would result on most other types of farms.

#### Commercial Egg-Producing Farms, New Jersey

Total operating expenses on typical commercial egg-producing farms in New Jersey in 1963 are expected to average about 2 percent higher than for a year earlier, mainly because of an increase of about 3 percent in prices paid for the poultry ration. Expenditures for inputs other than feed will also average slightly above the previous year due to higher prices paid and increased quantities purchased for the larger replacement flock raised in 1963.

Prices paid for the poultry ration (laying mash, scratch grain, chick grower, etc.) by these New Jersey farmers during January through September 1963 averaged about 4 percent above the same period in 1962. However, a slight price decline is expected in the fourth quarter. Reduced freight rates in 1963 increased the relative price advantage of producers in some southern areas compared with those in New Jersey.

For the first 9 months of 1963, the rate of lay averaged about 1 percent above a year earlier. This rate is expected to continue for the remainder of the year. Higher production per layer is primarily due to the increase in proportion of pullets in the laying flock. In 1963, producers raised about 3 percent more pullets than a year earlier. These pullets are replacing layers completing a second year of production. The average number of layers during 1963 is expected to be the same as in 1962.

Net farm production will be about 5 percent higher than in 1962. This increase is due to higher rates of lay and more pullets raised. The increase in net farm production partly offsets the effect of high prices paid for feed. Operating expenses per unit of production will be only about 1 percent higher than a year earlier.

The annual average price received for eggs in New Jersey in 1963 is expected to average 34.9 cents per dozen, no appreciable change from the previous year. Higher operating expenses in 1963 are expected to more than offset increased egg production on these New Jersey poultry farms, and cause a 12-percent drop in net farm income from a year earlier.

#### Cattle Ranches, Intermountain Area

Total operating expenses on typical Intermountain cattle ranches probably will average around 7 percent higher in 1963 compared with a year earlier. This increase is mostly the result of more purchased inputs although prices paid for nonfarm-produced items also contributed. Slight increases were reported in prices paid by these ranchers for nearly all nonfarm-produced items. In addition, ranchers paid higher grazing fee rates for cattle grazed on B. L. M. lands.

Prices paid for hay, one of the most important purchased items on these ranches, however, averaged nearly 20 percent lower in 1963 than in 1962.

Range production in 1963 varied considerably from area to area. Some areas experienced another good year of range growth, whereas drought persisted again in some areas. In general, ranges were dry in the critical summer months. Rains came late to most areas and produced unusually good late summer and fall ranges in most areas; but this was too late to benefit calves sold as feeders. Despite spotted production conditions, lower average output of ranges, and reduced crop production in 1963 on these ranches, net ranch production probably will average 2 to 3 percent higher than last year.

Relatively high prices for feeder calves in 1962, prospects for continued favorable feeder prices in 1963, and large supplies of hay on irrigated farms in the valleys, encouraged cattle ranchers to expand their herds to record levels. Total capital investment for the typical ranch is approaching \$100,000. Gross ranch income probably will average about the same in 1963 as in 1962; however, with higher operating expenses in 1963, net income is expected to be 4 to 5 percent lower than in 1962.

#### Tobacco Farms, Coastal Plain, North Carolina

Operating expenses are expected to be slightly higher than in 1962 on tobacco farms in the Coastal Plain of North Carolina. Preliminary estimates indicate that higher prices paid for production goods and services in 1963 will offset a decline in the quantity of inputs used. Flue-cured tobacco acreage allotments were cut about 5 percent in 1963, nullifying the acreage increase of 1962. Although the total acreage of crops harvested per farm is a little larger in 1963, inputs declined because of the smaller acreage of the highly intensive crop, tobacco.

Net farm income in 1963 is expected to be about 5 percent below 1962. A record high tobacco yield per acre offset the reduction in acreage. But prices received for tobacco as of October 26, with approximately 88 percent of the crop in this area sold, averaged below those of a comparable period in 1962. Production of other crops, except soybeans, is slightly lower than in 1962. The acreage of corn increased from the previous year but yield per acre declined from the record high of 1962. Soybean acreage and yield will be about the same as in 1962.

#### Large-Scale Cotton Farms, Mississippi Delta

Total operating expenses on large-scale cotton farms in the Mississippi Delta are expected to be about 3 percent lower in 1963 than in 1962. Lower expenses are due to a 10-percent reduction in the acreage of cotton, increased mechanization, and lower expenses for insect and weed control. These changes more than offset the effect of a small increase in prices paid for items used in production.

If the price of lint continues about the same as in mid-October, net farm income in 1963 will be about 19 percent above 1962. Record-high yields of cotton, increased soybean acreage and slightly higher prices received more

than offset the effect of a lower acreage of cotton and higher prices paid. The yield of cotton, 635 pounds per acre harvested, is 15 percent above 1962 and 4 percent above the previous record established in 1959. Despite less cotton acreage, net farm production will be 4 percent above 1962.

#### Wheat-Small Grain-Livestock Farms, Northern Plains

Total operating expenses in 1963 on spring wheat farms are expected to average about the same as in 1962, a level about 5 percent higher than 1957-59 (table 12). An increase in average prices paid for goods and services used in production approximately offset a slight decrease in purchased inputs.

Net farm incomes in 1963 are expected to average about \$9,500, the second highest on record but down about 14 percent from \$11,081 in 1962. Gross farm incomes in 1963 are about 9 percent lower than in 1962 primarily because of lower yields. Prices received for products sold are expected to average about 1 percent lower than in 1962.

As a result of near crop failure in 1961, net farm incomes averaged only \$135, and purchases of capital items such as tractors and building materials were virtually stopped. Following the good income years of 1962 and 1963, capital purchases are expected to increase substantially.

#### Winter Wheat Farms, Southern Plains

Total operating expenses in 1963 on typical winter wheat farms in the Southern Plains are expected to be about the same as in 1962 (table 12). Prices paid for goods and services used in production are up about 2 percent, but the quantity of inputs purchased decreased slightly.

Because of fewer harvested acres and lower crop yields, net production on these farms is expected to be about 9 percent less in 1963 than a year earlier. The yield of wheat on these farms is expected to average around 22 bushels per acre in 1963 compared with 24 bushels in 1962. Grain sorghum is expected to yield about 30 bushels compared with 37 bushels in 1962. The acreage of grain sorghum since 1960 has been reduced 14 percent, chiefly as a result of the Feed Grain Program.

Prices received for products sold are expected to average about 6 percent higher than in 1962. Gross income per farm probably will average about 4 percent lower and net farm income 7 percent lower than in 1962.

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FCS-35 -- Farm Cost Situation

Prior to this issue, The Farm Cost Situation was published twice annually--in May and November. Henceforth, it will be published once a year as an Outlook report. The next issue is scheduled for release in November 1964.