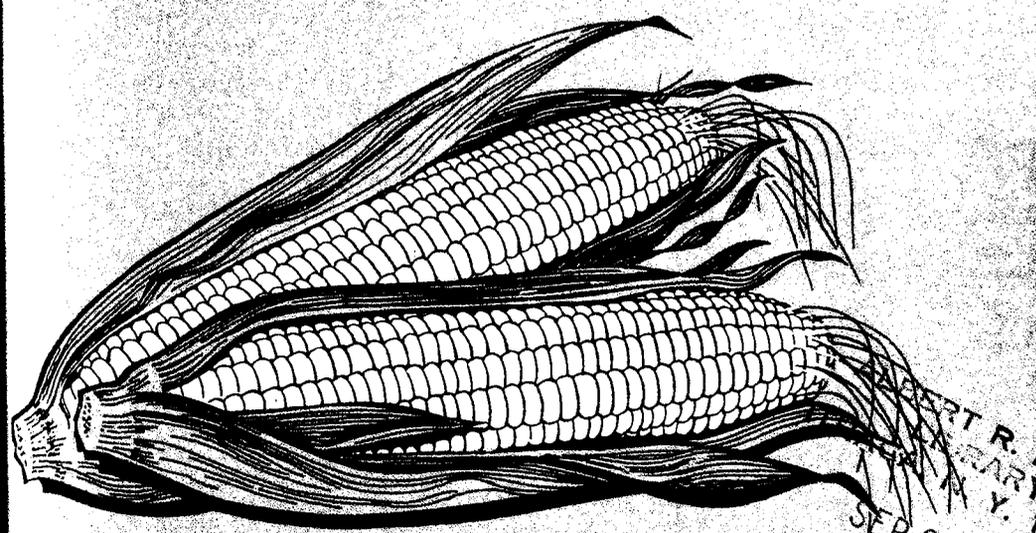


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COSTS and RETURNS



**Commercial
Corn Belt
Farms**

U. S. DEPARTMENT OF AGRICULTURE
ECONOMIC RESEARCH SERVICE
SEP 23 1970

1966

FARM COSTS STUDIES

This report is part of a continuing nationwide study of costs and returns on commercial farms and ranches by type and size in some of the important farming regions of the United States. The study is conducted under the general supervision of Wylie D. Goodsell, Farm Production Economics Division, Economic Research Service. Objectives, methodology, procedure, and terms are uniform for all areas covered in the study.

The 1965 costs and returns studies have been conducted on the following:

Dairy Farms, Northeast and Midwest
 Corn Belt Farms
 Egg-Producing Farms, New Jersey
 Broiler Farms, Maine, Delmarva, and Georgia
 Cotton Farms
 Tobacco Farms, Coastal Plain, North Carolina
 Tobacco-Livestock Farms, Bluegrass Area, Kentucky
 Wheat Farms, Plains and Pacific Northwest
 Western Livestock Ranches

Summary statistics for all types of farms in the study are presented in a report, revised annually. The latest such report was published in 1965 and is titled: "Farm Costs and Returns, Commercial Farms, by Type, Size, and Location," Agriculture Information Bulletin No. 230, Revised 1965.

Information on the studies can be obtained from Farm Production Economics Division, Economic Research Service, U.S. Department of Agriculture, Washington, D.C. 20250.

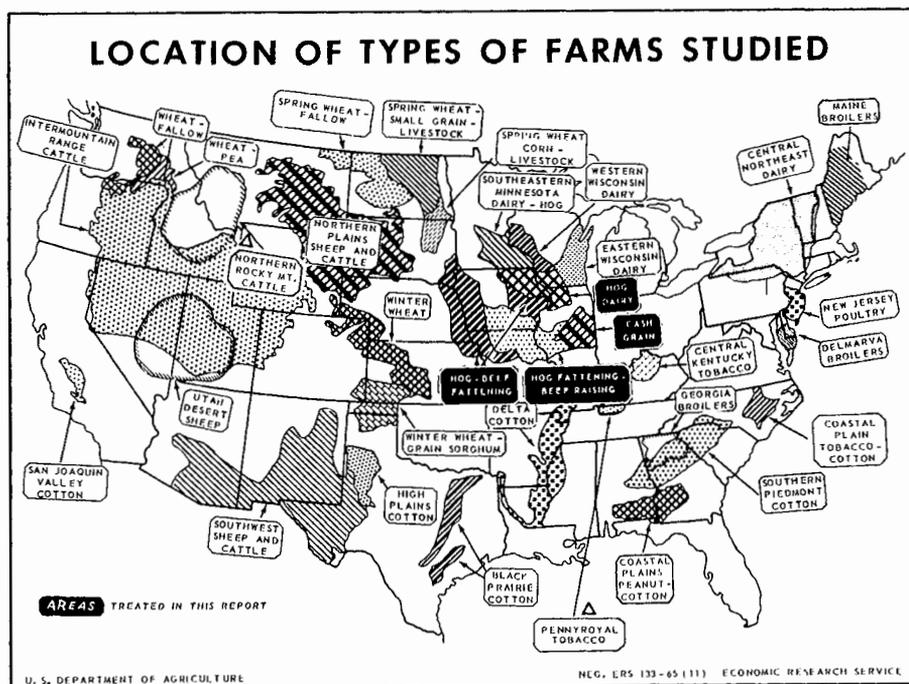


Figure 1

COSTS AND RETURNS

COMMERCIAL CORN BELT FARMS, 1965

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Net returns in 1965 were higher than in 1964 and 1957-59 for each of 4 important types of commercial Corn Belt farms reported in this publication (fig. 1). Net farm incomes for these farms for 1957-59, 1964, and 1965 were as follows:

<u>Farm types¹</u>	<u>1957-59</u>	<u>1964</u>	<u>1965</u>	<u>Percentage change 1964 to 1965</u>
Hog-dairy	\$7,212	\$ 6,703	\$10,543	57
Hog fattening--beef raising	3,974	4,262	7,927	86
Hog-beef fattening	9,401	9,349	16,488	76
Cash grain	7,212	12,992	13,522	4

¹ The data are based on (1) a specific area as shown in fig. 1; (2) specific farm types; and (3) typical or modal farms within each farm type. The distribution pattern of farms within each farm type also permits the data to be an accurate measure of the average of all farm sizes of the specified type. For specific farm sizes falling significantly above or below the typical size reported, it is necessary to adjust the data accordingly.

The major factors influencing returns on Corn Belt farms in 1965 were changes in production and in prices received. Net farm production was record high on each of the 4 types of farms studied. Prices received were above a year earlier on all except the cash grain farms where they were lower. However, the gain in production on cash grain farms more than offset lower prices.

The most outstanding single factor was 40 to 45 percent higher hog prices in 1965. This price increase was responsible for gains of \$2,000 to \$3,000 in hog receipts on 3 of the farm types studied.

Lower corn prices in 1965 were a depressing factor on incomes of

cash grain farmers. On the other hand, operators of hog-beef fattening farms, who buy substantial quantities of corn, benefited from the lower price.

Prices received for soybeans on Corn Belt farms were lower in 1965, but except on hog-beef fattening farms, soybean receipts were above a year earlier due to increased production.

Total operating expenses on each of the Corn Belt farm types studied increased from 1964 to 1965. This increase was due to a larger quantity of inputs purchased and, except on hog-beef fattening farms, higher prices paid for most inputs. Prices

paid for feeder cattle, fattened in 1965, over-shadowed higher prices of other inputs.

Between 1964 and 1965 the ratio of prices received to prices paid (a measure of the so-called "price squeeze") became more favorable except on cash grain farms. Lower corn prices caused a decline in prices received on cash grain farms while prices paid advanced.

Livestock farmers in the Corn Belt realized higher returns per unit of feed fed than in 1964 (table 1). Returns per \$100 feed fed (by type of enterprise) ranged from \$119 for beef-raising to \$205 for beef-fattening in 1965. This compares with \$98 and \$199 for beef-raising and beef-fattening, respectively, in 1964. The hog enterprise showed increases ranging from \$58 to \$66 per \$100 feed fed in 1965.

Table 1. Returns per \$100 of feed fed on specified Corn Belt farm types, 1964 and 1965¹

Farm type and enterprise	Returns per \$100 of feed fed	
	1964	1965
	Dollars	
Hog-dairy farms		
Hogs.	129	195
Dairy	189	195
All livestock	157	195
Hog fattening-beef raising		
Hogs.	130	188
Beef raising.	98	119
All livestock	116	157
Hog-beef fattening		
Hogs.	132	191
Beef fattening.	199	205
All livestock.	173	200

¹ Cost of feed includes home-raised feeds valued at market prices. Returns include perquisites and changes in inventory valued at market prices. All livestock category includes milk cows and chickens kept for home use.

Hog-Dairy

Net farm income on hog-dairy farms in 1965 increased more than \$3,800 above 1964 levels (fig. 2 and table 2). Total receipts were up about 22 percent and net farm production was up about 6 percent, while total expenditures increased only 2 percent. The chief contributing factor to an increase in receipts was an average increase of 20 percent in

prices received. Similarly, the increase in expenditures is the result of an average increase of nearly 4 percent in prices paid for items and services used in production. The combined result was an increase of 57 percent in net farm income.

Cash receipts in 1965 from the hog enterprise were 39 percent above 1964 levels. Although net production of hogs declined about 2

NET FARM INCOME

Corn Belt Farms

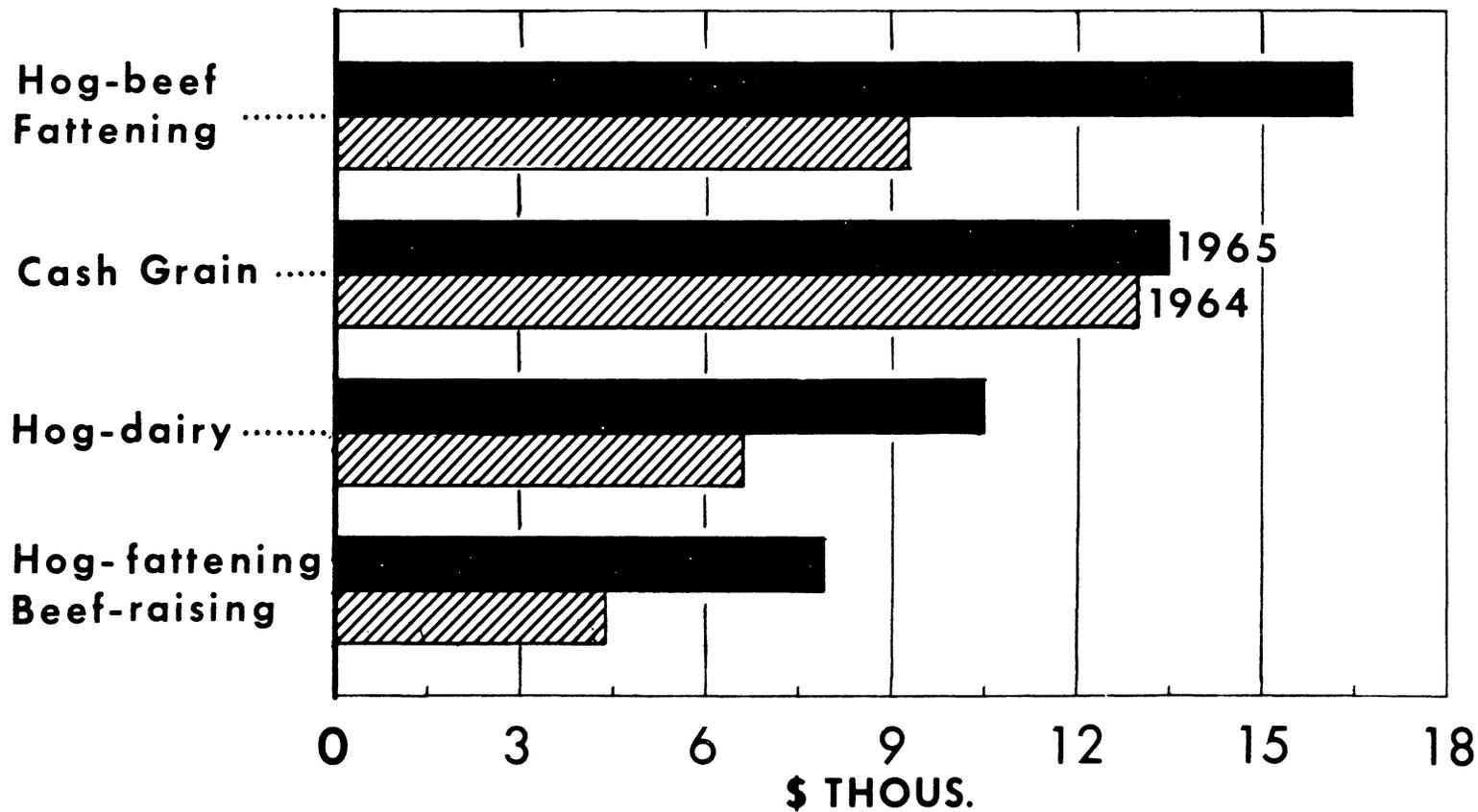


Figure 2

Table 2.- Organization, costs and returns, specified Corn Belt farms, 1964 and 1965

Item	Unit	Hog-dairy		Hog fattening-- beef raising		Hog-beef fattening		Cash grain ¹	
		1964	1965 ²	1964	1965 ²	1964	1965 ²	1964	1965 ²
Land in farm.....	Acre	188	192	288	300	270	274	283	295
Cropland harvested.....	do.	128	130	138	145	195	198	266	277
Crops harvested:									
Corn for grain.....	do.	53.4	55.3	58.3	61.3	96.6	98.1	99.6	107.0
Corn for silage.....	do.	6.3	6.6	---	---	11.3	11.5	---	---
Oats.....	do.	31.7	30.1	15.0	12.9	31.6	29.5	7.3	6.2
Wheat.....	do.	---	---	---	---	---	---	35.2	32.3
Soybeans.....	do.	3.5	4.5	29.0	33.5	20.9	23.9	35.2	32.3
Hay.....	do.	33.6	33.7	36.0	37.3	34.3	34.5	23.1	22.9
Pigs raised.....	Number	222	212	148	149	272	261	---	---
Cattle sold.....	Cwt.	(³)	(³)	(³)	(³)	925.7	1086.7	(³)	(³)
Cows.....	Head	22.9	23.8	23.6	24.5	2.0	2.0	1.0	1.0
Total farm capital, Jan. 1.....	Dollar	74,510	77,830	65,420	72,310	123,660	131,440	152,000	176,210
Land and buildings.....	do.	53,020	55,300	46,940	52,500	86,130	91,790	136,970	158,710
Machinery and equipment.....	do.	8,320	8,710	6,780	7,320	10,470	11,430	14,230	16,700
Livestock.....	do.	7,930	8,250	7,110	7,430	15,640	16,080	360	370
Crops.....	do.	5,240	5,570	4,590	5,060	11,420	12,140	440	430
Total labor used.....	Hour	4,670	4,660	3,700	3,500	3,970	4,060	2,320	2,350
Hired.....	do.	1,320	1,410	700	550	970	1,160	270	300
Total cash receipts.....	Dollar	17,495	21,422	10,994	15,196	34,614	43,781	21,822	23,053
Crops.....	do.	216	945	2,568	3,997	1,538	1,507	19,286	20,326
Hogs.....	do.	7,089	9,825	4,745	6,903	9,317	12,604	0	0
Cattle.....	do.	1,721	1,857	2,233	2,869	21,884	27,363	0	0
Other livestock and livestock products..	do.	7,281	7,560	331	275	102	99	192	203
Other, including Government payments....	do.	1,188	1,235	1,117	1,152	1,773	2,208	2,344	2,524
Value of perquisites.....	do.	846	895	771	860	921	970	1,327	1,514
Change in inventory of crops and livestock	do.	147	305	766	536	91	1,138	11	7
Gross farm income.....	do.	18,488	22,622	12,531	16,592	35,626	45,889	23,160	24,574

Item	Unit	Hog-dairy		Hog fattening-- beef raising		Hog-beef fattening		Cash grain ¹	
		1964	1965 ²	1964	1965 ²	1964	1965 ²	1964	1965 ²
Total cash expenditures.....	Dollar	12,088	12,465	8,778	9,327	26,616	29,708	11,629	12,429
Feed purchased.....	do.	2,763	2,480	1,351	1,382	6,409	8,398	157	160
Livestock expense.....	do.	1,101	1,131	378	405	⁴ 10,783	⁴ 11,092	36	38
Fertilizer and lime.....	do.	714	790	632	652	1,097	1,194	1,278	1,296
Other crop expense.....	do.	639	645	515	507	998	1,003	1,051	1,119
Machinery.....	do.	3,145	3,344	3,070	3,519	3,926	4,167	5,842	6,299
Farm buildings and fences.....	do.	890	910	835	845	665	680	750	770
Labor hired.....	do.	1,558	1,762	756	626	1,164	1,450	305	347
Taxes.....	do.	902	963	996	1,085	1,227	1,302	1,683	1,840
Other.....	do.	376	440	245	306	347	422	527	560
Inventory adjustment, machinery and buildings.....	do.	-303	-386	-509	-662	-339	-307	-1,461	-1,377
Total operating expenses.....	do.	11,785	12,079	8,269	8,665	26,277	29,401	10,168	11,052
⁵ Net farm income.....	do.	6,703	10,543	4,262	7,927	9,349	16,488	12,992	13,522
Index numbers (1957-59 = 100):									
Gross farm income.....	---	123	150	145	192	140	181	161	171
Net farm income.....	---	93	146	107	199	99	175	180	187
Net farm production.....	---	116	123	142	168	129	136	135	151
Crop yields per acre.....	---	108	116	114	129	114	122	117	124
Production per hour of man labor.....	---	111	118	134	167	122	126	154	170
Production per unit of input.....	---	102	106	110	125	104	104	113	120
Operating expense per unit of production	---	124	123	122	111	113	113	106	103
Total cost per unit of production.....	---	111	111	103	93	105	102	103	103
Power and machinery (quantity).....	---	106	110	114	121	111	119	186	209
Prices received for products sold.....	---	95	114	94	110	92	106	108	102
Prices paid, including wages to hired labor.....	---	112	116	113	116	107	103	115	118

¹ Revised. ² Preliminary. ³ Not applicable. ⁴ Includes purchased feeder cattle.

Note: Information presented here is on an owner-operator basis primarily for comparability between types of farms. Net farm income is the return to operator and unpaid members of the family for their labor and management on the farm and return to total capital. No allowance has been made for payment of rent, interest, or mortgage.

percent, prices received for hogs increased 42 percent. A rough measure of the increased profitability of the hog enterprise is shown by the 50-percent increase in the returns per \$100 of feed (table 1).

The dairy enterprise, also important on these farms, added about \$420 more to cash receipts in 1965 than in 1964. This increase was made possible by an increase of 10 cents per hundredweight in the price received for milk and a slight increase in sales of milk. Milk production per cow dropped slightly from record 1964 levels but was offset by a 2-percent gain in the number of cows milked. Higher prices received for cull milk cows and for calves also helped to increase receipts from this enterprise. The more favorable prices received in 1965 allowed dairy returns per \$100 of feed to increase 3 percent from 1964.

In 1965, crop production increased 11 percent above 1964 levels. Harvested cropland increased only 2 percent, but crop yields increased an average of 7 percent. Corn and soybean acreages continued to increase, while acreages of small grains, hay, and pasture decreased. The sale of corn on these farms accounted for 74 percent of the increase in crop receipts from 1964 to 1965. However, these farmers usually feed all the corn they produce. In 1965 corn yields were a record high and acreage of corn was near record high. This accounts for the large amount of corn sold on these farms in 1965.

Total operating expense on hog-dairy farms increased 3 percent over 1964 levels. A 2-percent smaller quantity of inputs was purchased in 1965, but prices paid for these inputs increased nearly 4 percent above a

year earlier. Expenditures for power and machinery, labor, and crop inputs registered the largest gains from 1964. In contrast, expenditures for feed were 10 percent below the previous year. This was made possible by higher yields of corn and silage and a decrease in the size of the hog enterprise.

Operating expense per unit of production decreased from an index of 124 in 1964 to 123 in 1965 (1957-59=100). Lower costs of production were the result of a 2-percent smaller quantity of inputs purchased with a record 6-percent larger net farm production. Physical efficiency, measured by the index of production per unit of input, increased almost 5 percent from 1964 levels, and production per man hour of labor increased 6 percent.

Hog Fattening--Beef Raising Farms

Net farm income on hog fattening--beef raising farms increased almost \$3,700 per farm from 1964 to 1965 (table 2). In 1965, total cash receipts were about \$4,200 per farm higher than in 1964, while total operating expenses were only \$396 above a year earlier. The increase in total receipts resulted from larger sales of corn and soybeans and an increase in livestock prices. Sales of soybeans increased nearly 200 bushels and sales of corn increased by slightly more than 900 bushels from 1964 to 1965. Prices of hogs increased by \$6.20 per hundredweight and cattle by slightly more than \$2.00 per hundredweight from 1964 to 1965. The overall average of prices received for products sold on these farms increased about 17 percent. Prices paid increased about 3 percent.

In 1965, cash receipts from the hog enterprise averaged about \$2,160

per farm higher than in 1964. Prices received for hogs increased 42 percent, while net production of hogs increased about 2 percent. Higher hog prices raised returns per \$100 of feed fed to 45 percent above 1964 levels (table 1). Receipts from the beef enterprise averaged around \$2,870 per farm in 1965, some \$635 above a year earlier. This increase was made possible by a 14-percent increase in the quantity sold and a 13-percent increase in the average price received for cattle. Returns per \$100 of feed fed to beef cattle averaged 21 percent higher than in 1964.

Total crop production increased 23 percent from 1964 to 1965. The acreage of cropland harvested increased 5 percent, and crop yields increased by 13 percent and were a record high, 129 percent of the 1957-59 average. Corn and soybean acreages continued to expand, whereas acreages of small grains and tillable pasture contracted. Crop receipts were about \$1,430 above 1964, due mostly to record corn and soybean yields. Prices received for both corn and soybeans were lower in 1965 than in 1964.

Total operating expenses increased almost 5 percent from 1964 to 1965. This resulted from a 2-percent gain in the quantity of inputs purchased and a 3-percent increase in prices paid for these inputs. Expenditures for power and machinery increased the most.

The record net farm production in 1965 was 18 percent above 1964. Record breaking levels also were set in production per man hour of labor and the production per unit of input. Reductions were made in operating expense per unit of production and in total cost per unit of production.

Hog-Beef Fattening Farms

From 1964 to 1965, net farm income on hog-beef fattening farms increased more than \$7,000 per farm (table 2). Total cash receipts were about \$9,170 above 1964, reflecting a favorable rise in livestock prices and a substantial increase in farm production. In 1965, prices received for hogs sold by these farm operators averaged about \$20.80 per hundredweight and finished cattle sold for an average of \$25.20 per hundredweight. A year earlier, hogs sold for \$14.65 per hundredweight and cattle brought \$23.65 per hundredweight. These farmers buy feeder cattle in the fall, feed them during the winter and spring, and sell them during the late summer and fall as finished cattle. In 1963 they paid approximately \$25.70 per hundredweight for feeder calves compared with \$22.40 in 1964. The margin between buying and selling was much more favorable in 1965 than in 1964 (fig. 3).

Prices of corn and soybeans were both lower in 1965 than in 1964. As these operators are primarily purchasers of feeds and not sellers, these lower prices in 1965 were advantageous. In addition, grain production--primarily because of improved yields per acre--was 6 percent higher in 1965. Returns per \$100 feed fed to cattle average \$205 in 1965, and for hogs \$191 compared with \$199 and \$132, respectively, in 1964.

In 1965, gross cash receipts from the sale of cattle and hogs were about \$5,480 and \$3,290 greater per farm than in 1964. This occurred with a favorable combination of prices and production. From 1964 to 1965, hog production decreased by 5 percent, but prices received for hogs increased by approximately 42 percent. Likewise prices received for

PRICE SPREAD, FEEDER AND FAT CATTLE

On Hog-Beef Fattening Farms, Corn Belt

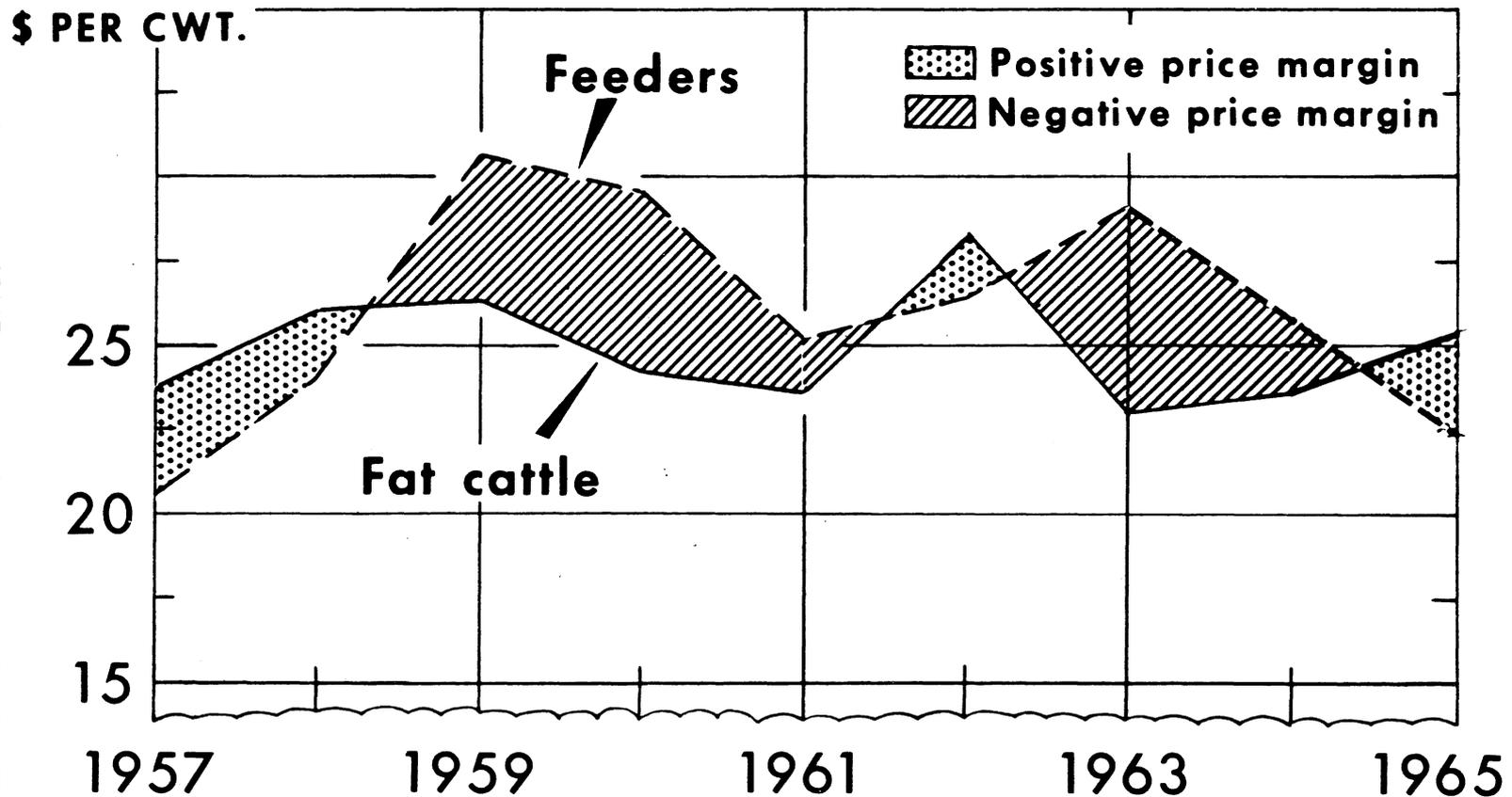


Figure 3

cattle increased by nearly 7 percent and, in addition, production increased by 17 percent. These 2 enterprises made up more than 90 percent of the gross cash receipts on these farms in 1964 and 1965.

Prices paid for items and services used in production decreased 4 percent from 1964 to 1965. This was due to a slight softening of a few items in nearly all major groups. However, the volume of inputs used per farm increased by 16 percent from 1964 to 1965, resulting in an increase of about \$3,100 per farm in total operating expenses.

Total operating expense per unit of production remained about the same from 1964 to 1965. The decline in prices paid for feeder cattle from \$25.70 per hundredweight in 1964 to \$22.37 in 1965 was the chief factor in offsetting increases in prices of other inputs. (It should be noted that prices paid for feeder cattle are entered in the farmer's cash accounts when purchase is made although the cattle are sold the following year.) Although prices paid for most other major inputs were generally higher in 1965, the lower price paid for feeders caused the index of prices paid to decrease from 107 in 1964 to 103 in 1965 (1957-59=100). The major changes in production expenses were associated with the expanded beef fattening enterprise. The hog enterprise, the other major enterprise on these farms, was reduced slightly in size, but any cost savings were overshadowed by the beef enterprise. Inputs showing the largest increases were feed, purchases of livestock, and hired labor. There were no significant decreases in expenditures for any of the major input classes.

Cash Grain Farms

Net farm income on cash grain farms averaged about \$530 higher per farm in 1965 than in 1964. This is an increase of about 4 percent and was due to a number of factors. On the plus side was an increase of about 12 percent in farm production, which was due to an increase of nearly 6 percent in per acre yields and a 4-percent increase in harvested acres per farm. On the other side was a decrease of approximately 6 percent in prices received and an increase of 2 to 3 percent in prices paid for items and services used in production.

Practically all of the cash income on these farms is from the sale of crops and from Government payment. Of the crop receipts in 1965 nearly 85 percent was from the sale of corn and soybeans, and cash receipts from corn were nearly double those of soybeans. Consequently, changes in prices received and of production of corn and soybeans on these farms largely determine changes in income to these farm operators.

In 1965, these farmers produced and sold nearly 13 percent more corn than in 1964, because acreage and yields of corn were higher in 1965. However, the price was about 7 percent lower in 1965. The acreage of soybeans grown was substantially higher in 1965 and yields per acre were 16 percent higher, but the price received was lower than in 1964.

Total operating expense on cash grain farms increased 9 percent from 1964 to 1965. The quantity of inputs purchased increased about 6 percent, and average prices paid for these inputs increased 3 percent.

OFFICIAL BUSINESS

Outlays for machinery, power, and taxes showed a greater increase than other inputs from 1964.

The record net farm production in 1965, 12 percent above 1964, made possible several favorable changes in the indexes of these farms' cost and efficiency. Most significant was the new record set in the level of production per man hour of labor--

10 percent above 1964 and 70 percent greater than 1957-59. Production per unit of input also increased 6 percent. These farms are highly mechanized. In 1965, the index of power and machinery reached a level of 209 (1957-59=100), up about 12 percent from a year earlier. This indicates the rapid buildup in machinery and equipment on these farms.