U. S. DEPARTMENT OF AGRICULTURE • ECONOMIC RESEARCH SERVICE • November 1969 • FCR-70
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COSTS and RETURNS

Commercial Tobacco-Livestock Farms

Bluegrass Area, Kentucky and Pennyroyal Area, Kentucky - Tennessee

1968

FARM COSTS AND RETURNS STUDIES

This report is part of a continuing nationwide study of costs and returns on commercial farms and ranches in selected U.S. farming regions. 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 studied.

The 1968 costs and returns studies cover the following commercial farms and ranches by type and size:

- Dairy Farms, New York and Wisconsin
- Corn Belt Farms
- Egg-Producing Farms, New Jersey
- Broiler Farms, Georgia
- Cotton Farms, Mississippi Delta
- Tobacco Farms, Coastal Plain, North Carolina
- Tobacco-Livestock Farms, Bluegrass Area, Kentucky and Pennroyal Area, Kentucky-Tennessee
- Wheat Farms, Plains and Pacific Northwest
- Western Livestock Ranches

Substantial revisions have been made in some series to portray farming operations representative of major producers of specified products. Some series were discontinued because they no longer represent a major sector of commodity production or because the farm enterprise could be better represented by another series.

Summary statistics for all types of farms in the study are presented in a report, revised annually. The latest such report, published in 1968, is "Farm Costs and Returns, Commercial Farms, by Type, Size, and Location," AIB 230.

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

COSTS AND RETURNS COMMERCIAL TOBACCO-LIVESTOCK FARMS BLUEGRASS AREA, KENTUCKY AND PENNYROYAL AREA, KENTUCKY-TENNESSEE, 1968

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Kentucky's Bluegrass country is an important tobacco area yielding about 34 percent of U.S. burley output. The Pennyroyal area of Kentucky-Tennessee is an important producer of dark air-cured and fire-cured tobaccos. About 28 percent of the Nation's air-cured output and 23 percent of its dark fire-cured tobacco are Pennyroyal grown. That source also contributes around 2 percent of our national burley crop. In both areas tobacco acreages per farm are generally small. To increase utilization of farmland, many tobacco growers there also raise livestock.

Inner Bluegrass farmland is undulating to gently rolling, suitable for row crops in rotation and highly productive in pasture-forage crops. Tobacco acreages per farm average larger than in other burley areas. The most common type of inner Bluegrass farm produces both tobacco and beef. Sheep raising was once important, but the number of farms keeping sheep has declined rapidly in recent years.

The intermediate Bluegrass, an area of much steeper topography with narrow ridges, surrounds the the inner Bluegrass. Most farmland in this area favors pasture and hay crops with only small fields adaptable to row crops. Commonly found here are tobacco-dairy farms producing manufacturing-grade milk. Dairy herds and tobacco acreage per farm are relatively small. Off-farm employment is of some importance since much of this area is within commuting distance of metropolitan centers. In recent years, part-time farming has increased in this area as many farmers give up dairying and grow tobacco part-time. Some still keep cows, but for beef rather than dairy production.

The outer Bluegrass area is somewhat similar to the inner Bluegrass.

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Much farmland is suitable for row crops in rotation, tobacco-dairy farming is common and milk is usually produced for fluid consumption. One difference is that the outer land is more rolling. Another is that tobacco acreages per farm are smaller than in the inner area (but larger than in the intermediate area).

But in farm size, the Pennyroyal surpasses the Bluegrass, particularly in cropland harvested. Interspersed in the Pennyroyal are tobacco-beef and tobacco-dairy farms, with beef production more common than dairying. These diversified farms typically produce grain (corn and wheat) as a cash crop. Hogs are also an important enterprise. Three types of tobacco are Pennyroyal grown; most farms produce two types and some all three.

Returns to operator and family labor and management, and capital in 1968 for tobacco-livestock and tobacco-dairy farms were above a year earlier in the inner and outer Bluegrass but declined on the Pennyroyal farms (figs. 1 and 2). Per farm returns increased the most on tobacco-dairy farms in the outer Bluegrass; they fell the steepest on Pennyroyal tobacco-beef farms. Returns declined in the Pennyroyal principally because of reduced production of grain and hay and higher operating expenses. Crop production was also below 1967 levels on Bluegrass farms and operating expenses increased. But higher prices received for tobacco and milk, together with increased livestock and dairy production, were more than offsetting (tables 1 and 2).

Detailed costs and returns estimates have been discontinued for tobacco-dairy farms in the intermediate Bluegrass area. Indications are that 1968 returns changed little from a year earlier. Milk cow numbers per farm declined slightly last year, but milk production per cow and prices received averaged higher. Reduced yields lowered tobacco production per farm; prices received for tobacco were above the 1967 average. Estimated returns to operator and family labor and mangement, and capital averaged about $4,000 per farm, virtually the same as in 1967.

Tobacco-Beef Farms, Pennyroyal Area

Return to operator and family labor and management, and capital was about $6,700 per farm in 1968, nearly 18 percent below a year earlier on tobacco-beef farms in the Pennyroyal area. Gross farm income declined about $1,050 per farm while operating expenses rose around $370 (fig. 3.).

Tobacco production per farm surpassed the 1967 pace and prices received for the three types of area-grown tobacco were record highs. Although acreages in burley, fire-cured, and dark air-cured tobaccos were essentially the same as in 1967, tobacco yields per acre averaged higher in 1968; burley was up 4 percent, the fire-cured yield rose 17 percent, and the yield of dark air-cured increased 21 percent. Tobacco sales per farm increased about $880 from the 1967 level.

But cash grain sales declined substantially. Corn sales averaged $1,690 less than in 1967 and wheat returned $530 less per farm. Corn and wheat acreages were down slightly, reflecting increased participation in the Government's feed grain and wheat programs. After record-high yields in 1967, Pennyroyal corn yielded a low 74 bushels

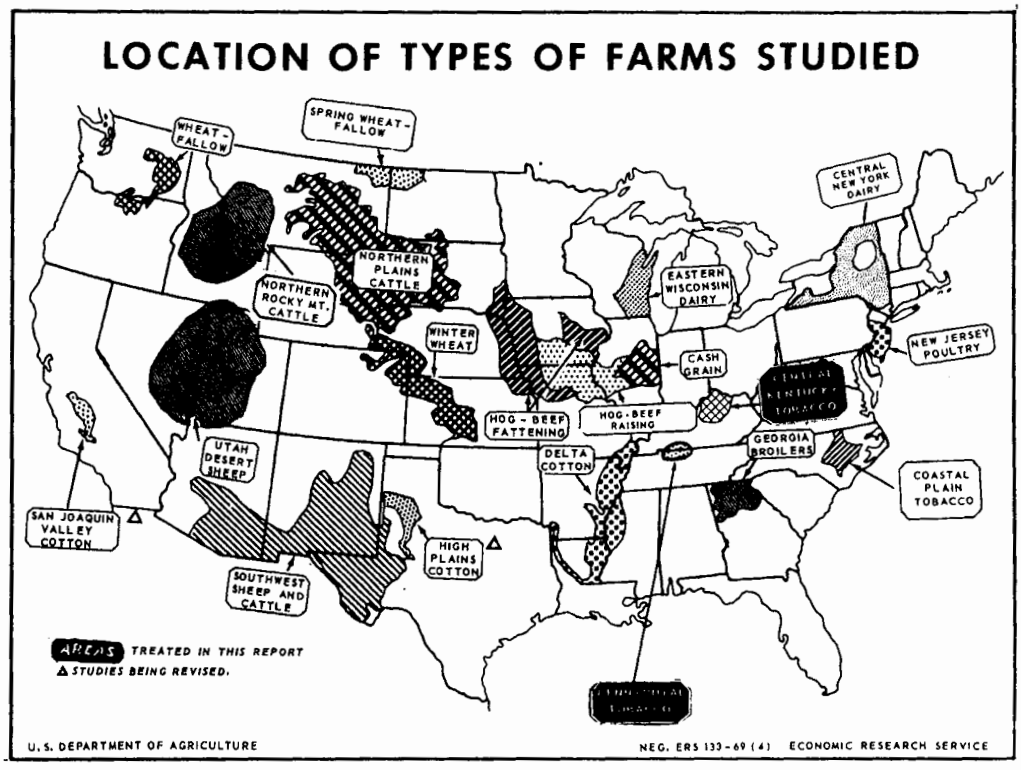

Figure 1

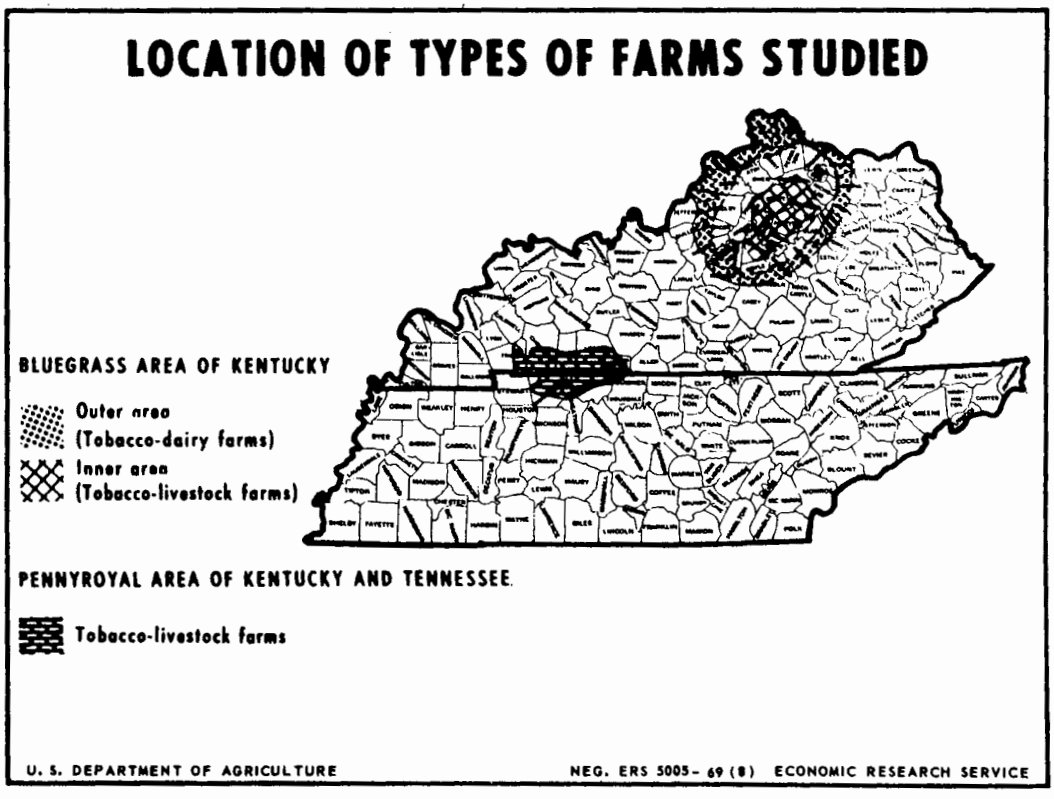

Figure 2

Table 1.--Size, organization, and production, tobacco-livestock farms, Pennyroyal Area, Kentucky-Tennessee, and Bluegrass Area, Kentucky, 1967 and 1968

Item	Unit	Pennyroyal Area, Kentucky-Tennessee				Bluegrass Area, Kentucky			
		Tobacco-beef farms		Tobacco-dairy farms		Tobacco-livestock farms, inner Area		Tobacco-dairy farms, outer Area	
		1967	1968[1]	1967	1968[1]	1967	1968[1]	1967	1968[1]
Land in farm	Acre	336	336	242	245	235	240	146	146
Cropland harvested	do.	143.7	139.8	100.7	100.0	48.1	50.0	40.0	39.1
Crops harvested:									
Burley tobacco	do.	1.6	1.6	1.1	1.1	5.9	5.9	2.4	2.4
Fire-cured tobacco	do.	1.4	1.4	1.1	1.1	---	---	---	---
Dark air-cured tobacco	do.	1.4	1.4	1.2	1.3	---	---	---	---
Corn	do.	49.4	44.6	38.3	35.7	11.5	11.5	7.6	6.7
Small grains	do.	48.8	46.8	28.5	27.7	3.2	2.9	2.6	2.0
Alfalfa hay	do.	5.7	5.1	5.1	4.6	9.8	8.7	8.9	7.9
Other hay	do.	36.9	39.4	29.3	32.8	17.7	21.0	13.1	14.3
Other crops	do.	8.6	7.5	3.1	2.8	---	---	---	---
Crop yield per harvested acre:									
Burley tobacco	Pound	2,188	2,269	2,188	2,269	2,668	2,641	2,620	2,465
Fire-cured tobacco	do.	1,614	1,885	1,614	1,885	---	---	---	---
Dark air-cured tobacco	do.	1,561	1,884	1,561	1,884	---	---	---	---
Corn for grain	Bushel	95	74	95	74	95	86	88	73
Wheat	do.	36	33	36	33	33	29	33	29
Alfalfa hay	Ton	4.0	3.8	4.0	3.8	2.6	3.4	2.7	2.9
Other hay	do.	2.0	1.9	2.0	1.9	1.5	2.1	1.9	1.9
Livestock on farm, Jan. 1:									
All cattle	Number	90.1	94.6	53.7	57.2	63.0	69.5	30.0	31.4
Beef cows	do.	33.1	35.3	7.5	8.0	41.1	45.6	---	---
Milk cows	do.	---	---	19.4	20.4	---	---	18.9	19.1
Brood sows	do.	5.1	4.9	4.9	4.7	3.0	2.5	1.1	1.2
Ewes	do.	---	---	---	---	33.0	25.0	---	---
Milk production per cow	Pound	---	---	7,857	8,171	---	---	8,548	8,710
Pigs raised	Number	67.6	62.2	62.4	59.3	35.7	34.3	15.6	13.7
Total farm capital, Jan. 1	Dollar	119,920	129,930	88,130	96,870	129,780	140,240	57,390	60,780
Land and buildings	do.	93,410	102,820	67,280	74,970	111,860	121,200	42,780	45,410
Machinery and equipment	do.	9,000	9,780	8,730	9,450	6,090	6,520	7,300	7,820
Livestock	do.	13,120	13,080	8,630	9,300	9,400	10,300	5,230	5,660
Crops	do.	4,390	4,250	3,490	3,150	2,430	2,220	2,080	1,890
Total labor used	Hour	4,200	4,220	5,080	5,210	4,020	4,030	4,650	4,650
Operator and family labor	do.	2,850	2,850	3,800	3,800	2,410	2,420	3,950	3,950

[1] Preliminary.

Table 2.--Income, operating expenses, and related data, tobacco-livestock farms, Pennyroyal Area, Kentucky-Tennessee and Bluegrass Area, Kentucky, 1967 and 1968

Item	Pennyroyal Area, Kentucky-Tennessee				Bluegrass Area, Kentucky			
	Tobacco-beef farms		Tobacco-dairy farms		Tobacco-livestock farms, inner Area		Tobacco-dairy farms, outer Area	
	1967	1968[1]	1967	1968[1]	1967	1968[1]	1967	1968[1]
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Total cash receipts	16,353	15,755	16,876	17,979	17,719	18,815	13,663	14,421
Tobacco	4,392	5,269	3,325	4,047	11,417	11,498	4,508	4,375
Corn	3,841	2,152	2,629	1,593	---	---	---	---
Wheat	1,948	1,419	960	700	---	---	---	---
Cattle and calves	2,799	3,301	1,521	2,596	4,538	5,737	1,033	940
Dairy products	---	---	5,680	6,320	---	---	7,734	8,687
Hogs	1,786	1,827	1,841	1,664	754	844	302	335
Sheep, lambs, and wool	---	---	---	---	848	595	---	---
Other, including Government payments	1,587	1,787	920	1,059	162	141	86	84
Value of perquisites	898	930	762	821	1,784	1,858	1,146	1,203
Change in inventory of crops and livestock	872	387	678	-192	724	102	149	344
Gross farm income	18,123	17,072	18,316	18,608	20,227	20,775	14,958	15,968
Total cash expenditures	10,328	10,662	9,669	10,727	10,058	10,203	7,429	8,048
Feed purchased	835	802	1,504	1,869	1,532	1,294	1,328	1,663
Other livestock expense	116	126	246	268	825	661	222	232
Fertilizer and lime	1,744	1,650	1,316	1,278	705	736	455	452
Other crop expense	906	967	679	650	404	437	265	265
Machinery	3,797	4,010	3,384	3,651	2,323	2,453	2,876	3,030
Farm buildings and fences	909	875	707	850	938	1,025	745	750
Labor hired	1,482	1,688	1,412	1,729	2,048	2,291	803	899
Taxes	334	334	235	238	625	639	300	317
Other	205	210	186	194	658	667	435	440
Inventory adjustment, machinery and buildings	-329	-291	-329	-513	-107	-110	-147	-175
Total operating expenses	9,999	10,371	9,340	10,214	9,951	10,093	7,282	7,873
Return to operator labor and management, and capital[2]	8,124	6,701	8,976	8,394	10,276	10,682	7,676	8,095

[1] Preliminary. [2] Information presented here assumes farms are debt-free and producers are full-owners, primarily for comparability between types of farms.

per acre, causing most of the reduction in corn receipts. The price received for corn was the same in both years. On the other hand, about half the decline in wheat receipts resulted from a 20-cent-per-bushel drop in the price received for wheat. Slight payment gains under feed grain and wheat programs offset a little of the decline in grain returns.

Production and sales last year of cattle and calves exceeded the 1967 levels. The trend toward larger herd size continued in 1968. At year's end, cattle and calf numbers averaged 98 per farm, nearly double a decade ago. Per farm cash receipts from cattle and calves increased about $500 above the 1967 level. Most of the advance was due to a greater quantity sold. Prices received for feeder calves, yearlings, and mature cattle in 1968 ranged unchanged to slightly higher than a year earlier. Prices received for fat hogs averaged slightly lower than in 1967 but receipts edged up a bit because of a greater sales volume.

Operating expenses advanced about $370 per farm in 1968 as higher input prices--particular wage rates and machinery and equipment costs--logged the largest percentage hikes. Wage rates averaged about 12 percent higher while machinery and equipment prices were 3 to 5 percent above 1967 levels. Although Pennyroyal farms are rather highly mechanized, tobacco production remains largely a labor-intensive field crop. Tobacco-beef farmers hired a little more labor in 1968 to handle the greater tobacco volume.

Less fertilizer usage per farm and significantly lower prices for nitrogen meant a cutback in 1968 cash expenditures for fertilizer. The quantity decline reflected reduced corn and wheat acreages. Price declines averaged about 17 percent for anhydrous ammonia and 8 percent for ammonium nitrate.

Tobacco-Dairy Farms, Pennyroyal

Return to operator and family labor and management, and capital averaged about $8,400 per farm on tobacco-dairy farms in the Pennyroyal in 1968. This was about 6 percent below a year earlier. Although the return was lower than in 1967, tobacco-dairy farmers fared better than did the tobacco-beef farmers. Gross farm income increased on tobacco-dairy farms but declined on the beef farms (figs. 3 and 4). Although operating expenses increased more on the dairy farms, the net return to the unpaid factors was down only 6 percent, compared with 18 percent on the beef farms.

Pennyroyal tobacco-dairy farms are a bit more diversified than the beef farms. Tobacco is the most important farm enterprise after dairying. Cash grain, hogs, and beef are other important income sources. In 1968 returns from dairy, tobacco, and beef were higher than in 1967. Cash receipts from grain and hogs declined.

Gains in milk cow numbers and yields boosted milk production per farm 9 percent above the 1967 level. Manufacturing milk prices averaged $4.12 per 100 pounds, up about 2 percent from the 1967 price. Cash receipts from milk rose by $640 per farm.

Income from tobacco improved in 1968 because of increased yields per acre and higher tobacco prices. Cash receipts from grain declined, reflecting 1968's reduced production. Corn yields were down substantially and acreage per farm was

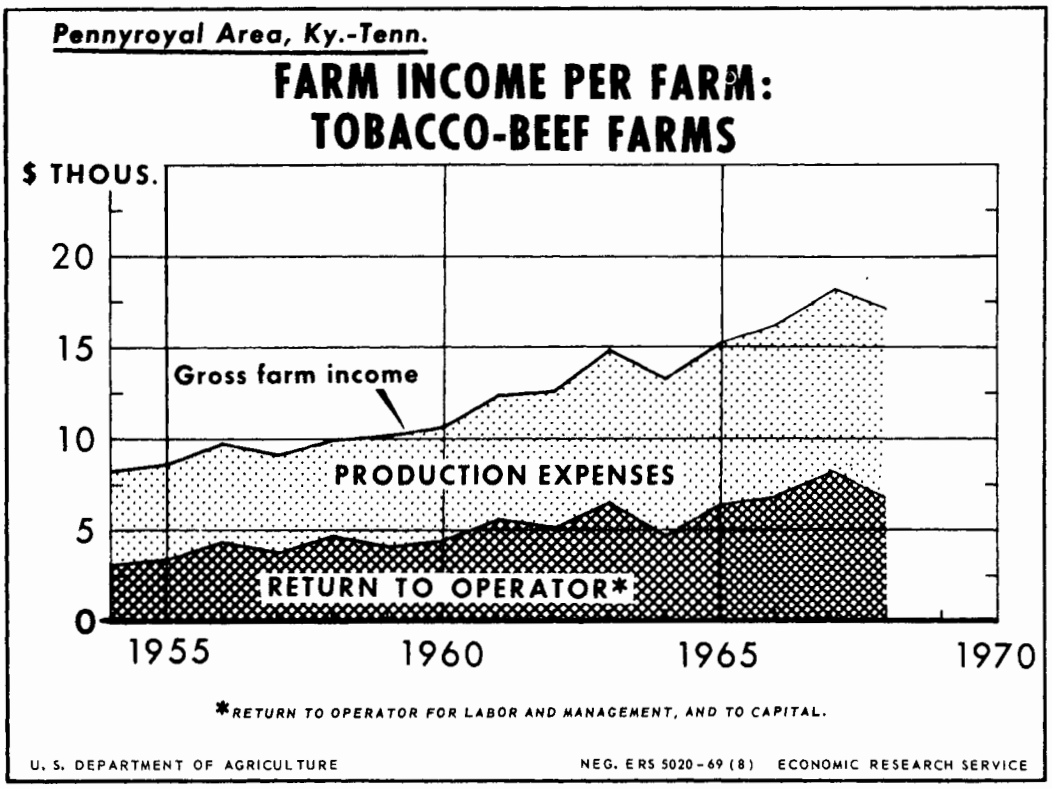

Figure 3

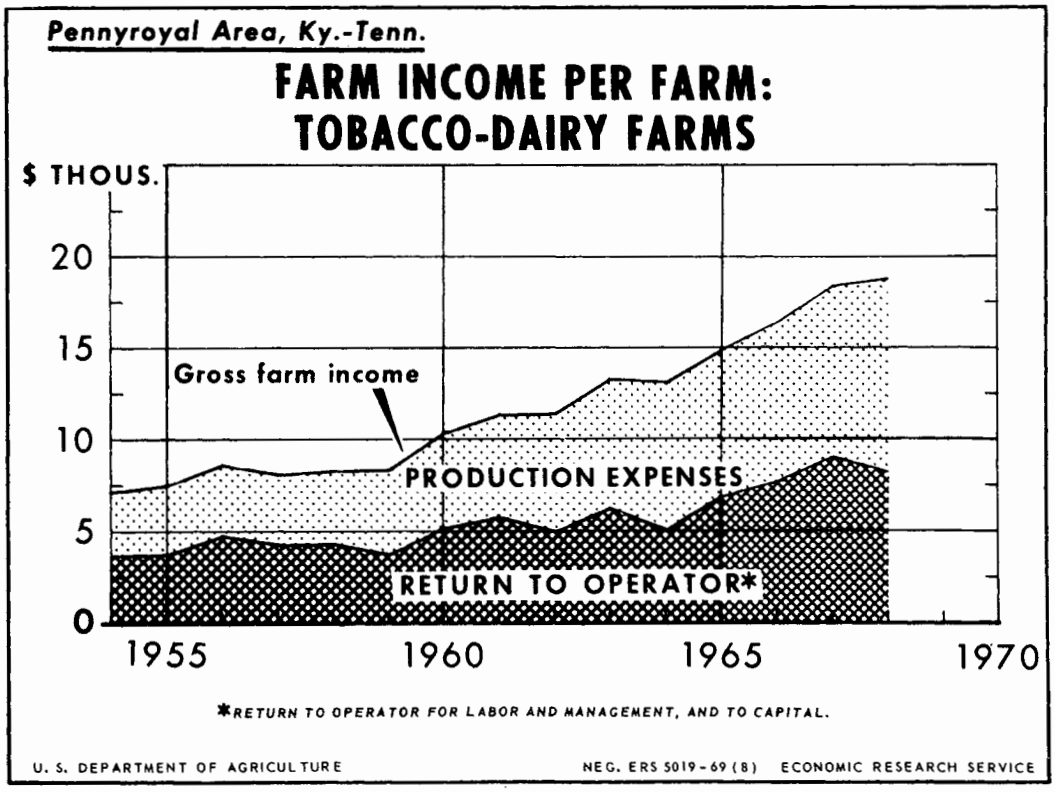

Figure 4

down a little. Corn prices averaged the same as in 1967 but wheat prices were down 20 cents a bushel.

Sales of cattle and calves increased by about $1,075 per farm in 1968. The number of beef animals kept on tobacco-dairy farms has increased the past several years. However, tobacco-dairy farmers last year increased their marketings of cattle and calves. Perhaps this was in response to prospects for a poorer corn crop in 1968, reduced hay yields, and less favorable pasture conditions. Cash receipts from hogs were down about $180 as fewer hogs were sold. Prices received for fat hogs averaged about 60 cents per 100 pounds lower than in 1967, but feeder pigs sold a little higher in 1968.

Operating expenses were up about $875 per farm in 1968. Total production inputs increased about 6 percent and prices paid averaged 2 percent higher than in 1967 (table 3). Major expenditure items showing increases in 1968 were purchased feed, machinery, and hired labor. A little larger dairy herd and higher feeding rates, coupled with reduced roughage production in 1968, led to greater feed expenditures. Rather severe weevil infestation in recent years has reduced alfalfa acreage

Table 3.--Index numbers of income, production, and prices, tobacco-livestock farms, Pennyroyal Area, Kentucky-Tennessee and Bluegrass Area, Kentucky, 1967 and 1968

(1957-59=100)

Item	Pennyroyal Area, Kentucky-Tennessee				Bluegrass Area, Kentucky			
	Tobacco-beef farms		Tobacco-dairy farms		Tobacco-livestock farms, inner Area		Tobacco-dairy farms, outer Area	
	1967	1968[1]	1967	1968[1]	1967	1968[1]	1967	1968[1]
Return to operator labor and management, and capital[2]	194	160	217	203	145	150	169	178
Net farm production	177	158	202	192	121	126	134	131
Operating expense per unit of production	103	119	112	125	110	110	116	123
Production per unit of input	124	111	128	120	112	115	111	109
Prices received for products sold	102	106	107	112	111	113	120	126
Prices paid, including wages to hired labor	119	124	121	124	119	125	119	120

[1] Preliminary. [2] The information presented here assumes farms are debt-free and producers are full-owners, primarily for comparability between types of farms.

in the Pennyroyal. Other hay acreage has been increased but hay yields in 1968 averaged below a year earlier.

Machinery prices and repair cost rates were higher than in 1967 and expenditures for power and machinery rose nearly $270 per farm. Hired labor was more expensive in 1968 as wage rates rose about 12 percent. Also more hired hands were needed to handle the heavier tobacco crop. Fertilizer purchases were down slightly because of lower prices for nitrogen materials.

Tobacco-Livestock Farms, Inner Bluegrass

In 1968 the return to operator and family labor and management, and capital improved about $400 on tobacco-livestock farms in the inner Bluegrass. Gross farm income averaged around $20,775 per farm, up nearly $550 from a year earlier. Operating expenses advanced about 1 percent (fig. 5).

Cash receipts from tobacco averaged about the same as in 1967. Record-high burley prices offset slightly lower tobacco output per farm. Burley prices averaged $73.79 per 100 pounds in this area in 1968, compared with $72.53 in 1967. Tobacco yields were down only slightly from the record yields of 1966 and 1967. Tobacco acreage per farm was the same as in 1967. The burley acreage allotment has not been changed since 1966 when it was reduced 15 percent.

Cash receipts from cattle and calves increased around $1,200 per farm in 1968. Prices received for

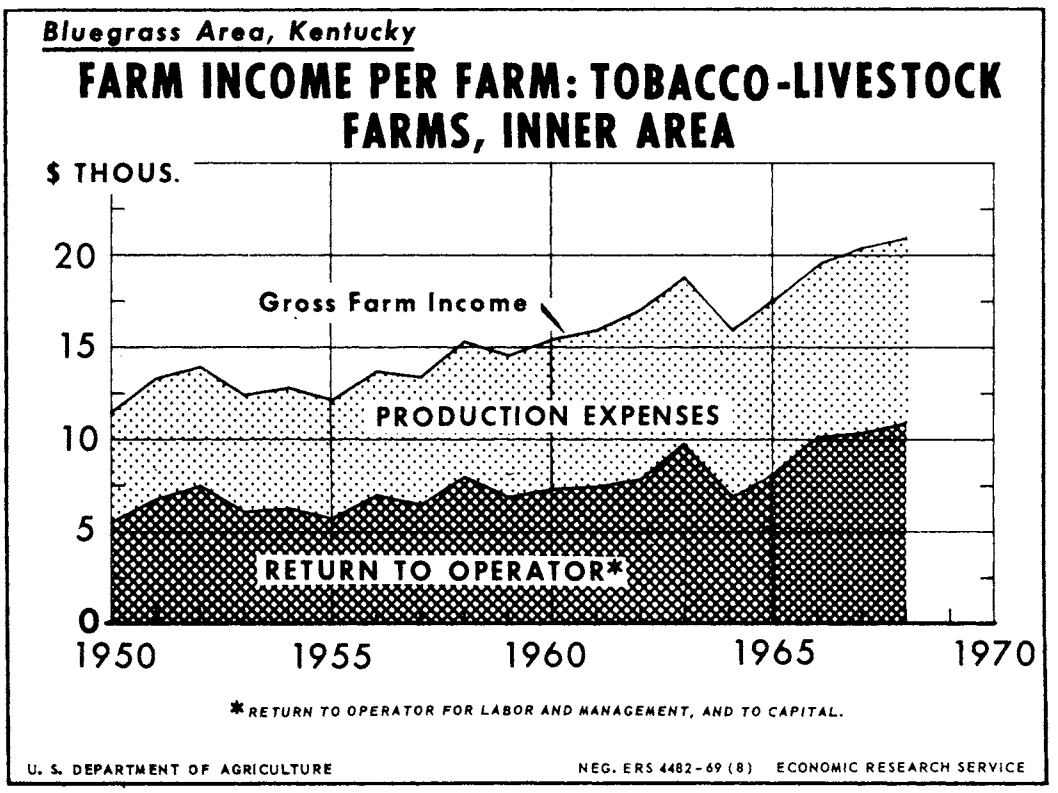

Figure 5

feeder calves and yearlings averaged a little higher than a year earlier. However, over two-thirds of the gain in receipts was due to increased marketings. Tobacco-beef farmers continued to increase their herds, but at a less rapid rate than in 1967. At year end 1968 the number of beef cows averaged 47 per farm. Hog and pig returns were a little higher in 1968 because slightly more animals were marketed and feeder pigs sold a bit higher than a year earlier. Sales of sheep, lambs, and wool averaged $595 per farm in 1968, down about $250 from the 1967 level, reflecting a further decline in sheep numbers.

Operating expenses per farm were only slightly higher than in 1967. Reduced expenditures for feed and livestock purchases partially offset bigger outlays for power and machinery, labor, and buildings and fences. Purchases of feed declined because of higher yields and a larger acreage of hay in 1968. Hired labor costs advanced. Approximately the same amount of hired labor was used in both years but wage rates were up 12 percent in 1968. Wage rates paid by tobacco-livestock farmers in the inner Bluegrass have increased 60 percent during the 1960's. Prices paid for machinery and equipment were higher in 1968 and repairs were more expensive. Power and machinery expenditures increased about $130 per farm.

Tobacco-Dairy Farms, Outer Bluegrass

Returns to operator and family labor and management, and capital averaged about $8,095 per farm in 1968 on tobacco-dairy farms in the outer Bluegrass. The return was up about $420 from the 1967 level as gross farm income increased by $1,010 and operating expenses rose $590 (fig. 6).

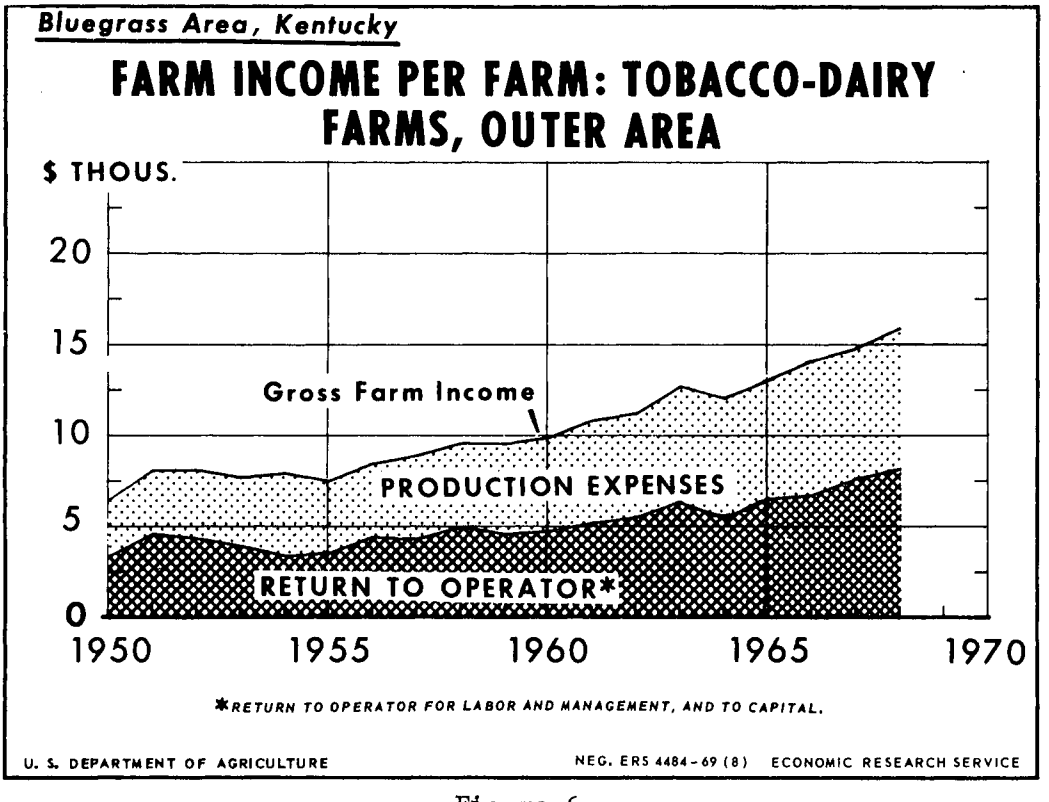

Figure 6

Milk sales averaged nearly $8,690 per farm in 1968. Milk prices averaged $5.68 per cwt., up 28 cents from 1967, and milk production per farm increased about 6 percent. The number of cows milked per farm was up a little in 1968 and production per cow was also higher. Cash receipts from milk rose about $950 per farm.

Despite a record high burley price, cash receipts from tobacco were a little lower in 1968. Tobacco yields were off about 155 pounds per acre, compared with 1967, but still averaged the third highest on record. The burley acreage per farm was unchanged.

Milk and tobacco sales account for about 90 percent of total cash receipts on tobacco-dairy farms in this area. Other sources of cash receipts in 1968 included sales of calves and cull dairy cows, down slightly from a year earlier, and hogs, principally feeder pigs, which returned about the same in both years.

Increased purchases of feed, machinery, and hired labor were chiefly responsible for 1968's higher operating expenses on outer Bluegrass tobacco-dairy farms. Expenditures for other input categories ranged from about the same as in 1967 to a little higher. Feed costs were up, reflecting increased farmer purchases. Feeding rates for dairy cows were increased, the dairy herd was a little larger, and less grain was produced than in 1967. Both corn yields per acre and acreage per farm were below 1967 levels. Prices paid for purchased grain and concentrate feed were lower in 1968.

Greater expenditures for hired labor resulted from wage hikes averaging about 12 percent higher. There was no change in the quantity hired. Equipment costs increased chiefly because of higher prices paid for machinery.

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