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COSTS AND RETURNS FROM FARM ENTERPRISES
75 Cost-account Farms, 1939

New York State College of Agriculture,
Department of Agricultural Economics
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A. E. No. 335

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Other recent cost-account reports

A.E. 326 - Individual factors, averages by groups of farm and annual averages from farm cost accounts, 75 farms, 1939.

A.E. 328 - Labor incomes on cost-account farms.

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Contents

A farmer who keeps a record of farm receipts and farm expenses, and takes a farm inventory at the beginning and end of the year, may learn some important things about his farm business, such as the income for his own labor. If, however, he wants to see which enterprises returned a profit and which ones lost money, he will need to keep more-detailed financial records and supplementary records, such as one of the daily work.

Records kept by 75 farmers who cooperated with the College of Agriculture in 1939, together with comparisons for 1937 and 1938, are reported in this bulletin to help other farmers estimate costs and returns on their own farms, as well as to furnish some recent standards of comparison. Although the cooperators' farms are more productive and larger than the average for the State, the relative profits of the enterprises are probably typical.

Returns per Hour and Size of Enterprise

The averages reported in this bulletin are representative of good farms which are larger and more productive than many of the farms in their communities.

The "return per hour" is an especially useful measure for comparing enterprises. This measure is not appreciably affected by the estimated value of the operator's time. It comes closest to answering the farmer's question: "What wages did we get for the time spent on different enterprises?" In addition to the return per hour of labor on an enterprise, the number of hours of labor spent on the enterprise is important. For example, alfalfa paid 93 cents per hour but used only 9 hours per acre (table 1). Cabbage paid 92 cents per hour and used 103 hours. Farmers with a limited amount of land can "sell" more labor to intensive crops and livestock enterprises than to the more extensive type.

Summary, 1939

Enterprise	Average size of enterprise	Average per farm		Return per hour of labor
		Profit	Labor	
		dollars	hours	dollars
Livestock:				
Dairy cows	23 cows	-126	3,139	0.25
Hens	762 birds	- 65	1,377	0.27
Chicks	1,824 chicks started	- 18	512	0.29
Incubation	13,879 eggs set	232	274	1.19
Sheep	75 sheep	-158	436	-0.03
Feeder lambs	570 lambs purchased	-476	976	-0.18
Cash crops:				
Potatoes	22.3 acres	772	1,770	0.74
Cabbage	11.9 acres	785	1,233	0.92
Dry beans	19.7 acres	- 11	471	0.30
Canning-factory peas	11.0 acres	- 50	195	0.06
Canning-factory tomatoes	12.6 acres	230	1,645	0.41
Fruit:				
Apples	36.9 acres	-1,177	4,859	0.09
Peaches	5.4 acres	59	592	0.41
Pears	6.2 acres	62	373	0.46
Cherries	7.6 acres	-115	2,004	0.25
Hay:				
Alfalfa	21.5 acres	123	196	0.93
Hay other than alfalfa	32.5 acres	- 28	208	0.16
Grain:				
Corn	8.1 acres	12	392	0.32
Barley	13.8 acres	- 16	172	0.21
Oats	15.6 acres	- 31	214	0.14
Mixed spring grains	14.7 acres	10	210	0.34
Wheat	17.6 acres	94	226	0.73

The Weather for 1939

"The outstanding feature of the weather for the year was the prolonged drought period. The average annual precipitation for the State was 34.34 inches, which is 4.81 inches below normal. Only four other times since 1890 has the average precipitation been as low. The drought period began in May and extended through September, and even longer in some areas. While the whole State, except the extreme north portion, was more or less affected by the drought, the central and south-central portions were affected the most.....The drought caused thousands of dollars damage to crops, ruined new seedings over a large area, and caused a water shortage that continued in some places at the close of the year. Pastures were so poor that some farmers began feeding their stock as early as July."1/

Capital Invested

Cost-account farms were valued at almost $30,000 (table 2). Two-thirds of the farm capital was in real estate and one-third in livestock, tools, and supplies. The real estate was valued by the farmers on the basis of normal agricultural value for the farm as a unit. The values of the buildings and land were adjusted so that the sum of the parts would not exceed the total value of the farm.

Crop land was valued at $49 per acre. On 5 farms the value of crop land exceeded $100 per acre while on 6 other farms, the value was lower than $20.

The 20 farmers with commercial orchards valued the land and trees at $167 per acre. The highest value was $325 for an orchard of young McIntosh. Orchards of non-bearing age were valued at cost, averaging $148 per acre. Permanent pasture was worth $14 per acre, or $3 less than the woods.

The investment in livestock exceeded the investment in all farm equipment by a few hundred dollars.

Cost-account farmers included an average of $2695 in assets not directly connected with their farm businesses. This is probably low as no effort was made to check on the completeness of this part of the inventory. Debts of $6974 left an average net worth of $25,311.

1/ From Climatological Data, by H. O. Geren, U. S. Dept. Agr., Weather Bureau.

FARM BALANCE SHEET
End of the fiscal year, 1939

	Average per farm	Per cent of total resources	
Fixed farm capital (real estate)			
107.1 acres crop land, $49 per acre	$ 5,220	16.2	
11.4 acres commercial orchard, $167 per acre	1,899	5.9	
.2 acre home orchard, $90 per acre	18	.1	
4.2 acres non-bearing orchard, $148 per acre	621	1.9	
44.3 acres pasture, $14 per acre	639	2.0	
31.6 acres woods, $17 per acre	530	1.6	
10.8 acres farmstead, lanes, fence rows, waste	0		
.8 acre miscellaneous	46	.1	
210.4 acres, $43 per acre, land and trees			
Buildings and improvements	10,980	34.0	
Total fixed farm capital, $95 per acre		$19,953	61.8
Working farm capital			
Livestock	3,618	11.2	
Farm share, automobile and truck	378	1.2	
Tractor	593	1.8	
Other equipment	2,118	6.6	
Feeds and supplies	1,883	5.8	
Fall plowing, growing crops, manure	1,047	3.2	
Total working farm capital, $46 per acre		9,637	29.8
Total farm capital, $141 per acre		29,590	91.6
Non-farm capital			
Cash on hand	569	1.8	
Accounts receivable	1,131	3.5	
Non-farm share, automobile and truck	260	.8	
Non-farm investments	735	2.3	
Total non-farm capital		2,695	8.4
TOTAL RESOURCES		32,285	100.0
Liabilities	6,974	21.6	
Net worth	25,311	78.4	
TOTAL LIABILITIES AND NET WORTH		32,285	100.0

Incomes from the Farm Business

Cost-account farmers made an average return for their year's work of $1022 (table 3), or $317 more than the average labor income for the preceding twenty-five years.[2/] The value of the use of the operator's house, and the milk, eggs, wood, and other farm products used by the farmer's family was $566 per farm. With the value of these farm privileges included as part of the earnings of the operator, the labor earnings, which is the measure most nearly comparable to the incomes of industrial workers, was $1588.

The farmers estimated that they would have had to pay an average of $885 to hire a manager to do their work and planning. After allowing $885 as pay for the operator's labor, the farms paid $1596 for the use of capital, or 5.5 per cent on the average capital of $29,182.

2/ Cornell Extension Bulletin 439, Twenty-five Years of Farm Cost Accounts, by Paul Williamson.

	Average per farm	
Crops	$3,885	
Milk	2,178	
Sale of livestock	1,038	
Eggs	1,175	
Poultry	328	
Wood and lumber	27	
Sale of purchased goods, miscellaneous	2,433	
Total cash receipts (1 to 7)		$11,064
Increase in farm capital	870	
Family living from the farm	566	
Privileges to hired help	211	
Gross farm income (8+9+10+11)		12,711
Labor	1,627	
Equipment (gas, oil, equipment bought)	1,074	
Real estate (insurance, repairs)	924	
Taxes	278	
Crops (seed, fertilizer, threshing)	820	
Livestock (feed, bedding, supplies, cows bought)	2,231	
Marketing (containers, commission, storage)	424	
Goods bought for resale, miscellaneous	1,671	
Board of hired labor	172	
Total cash expenses (13 to 21)		9,221
Farm privileges to hired labor	211	
Decrease in farm capital	0	
Total farm expenses, exclusive of unpaid family labor (22+23+24)		9,432
Unpaid family labor	232	
Farm expenses (25+26)		9,664
Net farm income (compensation, including privileges, for use of capital and for labor and management of operator) (12-27)		3,047
Net family farm income (compensation, including privileges, for use of capital and for labor of operator and his family (12-25) or (28+26)		3,279
Interest charge for use of $29,182 capital	1,459	
Operator's earnings (compensation, including privileges, for labor and management of operator) (28-30)		1,588
Family earnings (compensation, including privileges, for operator and family labor)(29-30)		1,820
Estimated wage of operator as farm superintendent	885	
Value of house rent and privileges of operator	566	
Value of operator's labor (33+34)		1,451
Farm capital earnings (compensation for use of capital) (28-35)		1,596
Per cent earnings on capital		5.5%
Farm income (compensation other than privileges, for use of capital and for operator's labor) (28-34)		2,481
Labor income (compensation, other than privileges, for operator's year's work and management) (31-10)		1,022

Real Estate

If these farmers had rented all their crop land for $3.65 per acre, the rent would have paid the share of the taxes apportioned to the crop land, interest on the average value of $49 at 5 per cent, and other costs the landlord would incur such as removal of stumps, maintaining the drains, and repair of the fences.

Table 4. Annual cost per acre of owned crop land
8,036 acres on 74 farms, 1939

Interest on $49 at 5 per cent	$2.36
County, town, and school taxes	.72
Labor	.29
Fences	.03
Drains	.21
Dynamite and all other	.04
Total	3.65

Interest on the crop land owned by the operators was charged at the rate of 5 per cent per annum.

Taxes paid to the local units of government amounted to $278 per farm, or $1.32 per acre. The taxes charged to crop land was the same proportion of the total tax as was the value of the crop land of the total real estate. Taxes averaged 72 cents per acre of crop land, or at the rate of about $15 per $1000 of inventory value. On many farms the assessed value was lower than the inventory values. Hence the average tax rate is probably higher than $15.

Interest and taxes made up 84 per cent of the total cost. Most of the cost of fencing was considered to be part of the cost of pasturing stock. Line fences which were used to keep the other person's stock out of the field were considered a cost of maintaining crop land, and averaged 3 cents per acre.

Interest, taxes, and replacements of tile drains cost 21 cents per acre. Of course the annual cost of drainage is higher than 21 cents per acre drained.

Table 5. Annual cost of pasture land
4,173 acres on 71 farms, 1939

	Permanent pasture	Rotated pasture	All pasture
Per cent of total acreage	77	23	100
Cost per acre of pasture for the year:			
Maintenance (interest, taxes, etc.)	$1.15	$2.73	$1.53
Seed, fertilizer, lime	.16	.90	.33
Manure	.24	.82	.37
Total	1.55	4.45	2.23
Average cost per acre for fences	.87	.87	.87
Cost per acre for pasture and fences	2.42	5.32	3.10

About three-fourths of the land used for pasture was classified as permanent, that is, it had not been cropped in recent years. This land was valued at $14 per acre. Interest and taxes amounted to $1.15, and pasture improvement to 40 cents. The average cost of all fencing charged to animals was 87 cents per acre of pasture Pasture and fence costs amounted to $2.42 per acre for the permanent pasture as compared with a little more than twice this amount for the crop land used for pasture. The average cost of maintaining an acre of owned pasture of all kinds was about $3.

In addition to the land classified as pasture, many of the hay fields provided some pasture after the hay was harvested.

Table 6. Costs of maintaining fences
68 farms, 1939

Items	Cost per farm	Per cent of total cost
Labor	$23.78	42
Use of equipment	7.08	12
Interest	9.92	18
Taxes	3.10	6
Posts	4.03	7
Wire	7.55	14
All other	.37	1
Total	55.83	100

More than one-third of the cost of maintaining fences consisted of the labor of repairing old fences and building new ones. About $12 was spent per farm for posts and wire. The annual cost per acre of pasture enclosed was 87 cents.

Many farmers are replacing the conventional-type fence with a single strand of barbed wire charged with electricity. An electric fence can be built for about one-third the cost of a 3-strand barbed wire fence.

Table 7. Costs and returns from wood lands
2,367 acres on 65 farms, 1939

Items	Average per acre
Costs	
Interest	$ .84
Taxes	.26
Labor, power, and equipment	2.91
All other	.97
Total cost	4.98
Returns	
Wood	2.90
Lumber	1.07
All other	.26
Total returns	4.23

The annual cost incurred per acre of woods was about $5. Since these farmers valued their woods at $17 per acre, the annual costs were almost one-third the value. Interest and taxes amounted to about $1 per acre. The cost of labor, power, and equipment to cut the wood and lumber and to do what improvement work was done, amounted to about $3. Other costs of about $1 included the cost of sawing lumber.

On 10 of the 65 farms, no products were harvested from the wood lots. On 49 farms enough stove wood was cut to make an average credit of about $3 per acre for the total acreage. Lumber was cut from 17 wood lots valued at a total of $2523, or about $1 per acre of woods. Christmas tree sales and maple syrup accounted for most of the miscellaneous income.

Returns from the wood lots lacked 75 cents per acre of equaling the total costs.

Table 8. Costs of maintaining buildings
75 farms, 1939

	Operator's house	Tenant house	Other buildings	All buildings
Number of buildings	82	72	--	--
Number of farms	74	47	75	75
	Average per house		Average per farm	
Repairs and improvements	$104	$ 53	$167	$332
Decrease in value	24	8	52	86
Insurance	15	6	30	52
Taxes	42	17	82	144
Interest	150	59	277	497
Farm labor and equipment	20	13	79	114
Other costs	3	1	6	10
Total costs	358	157	693	1,235

Cost-account farmers paid $30 per month "rent" for the houses in which they lived. Instead of paying the rent to landlords, they paid it to the tax collector, insurance companies, hardware stores, and lending agencies for the use of the money invested. Although some farmers were fortunate enough not to pay interest on borrowed money, the use of their capital was considered a cost and interest was charged to the house account at 5 per cent. The houses in which the farmers lived were valued at $3234. The cost for the year was $11.10 for each $100 capital value.

"Tenant houses", occupied by the hired men, were valued at $1194. The annual cost was $157, or less than one-half as much as for the operator's houses.

Barns, silos, and implement sheds, valued at $5522 per farm, cost $693 per year, or 12.5 per cent of their value.

Buildings represented about 37 per cent of the real estate value on cost-account farms. The cost of maintaining the buildings was $106 per month.

Table 9. Costs of operating water systems
61 farms, 1939

Items	Cost per farm
Labor	$13.10
Use of equipment	3.53
Interest	11.58
Taxes	3.41
Repairs and depreciation	53.22
Electricity	6.15
Other costs	2.38
Total	93.37

A separate account was kept to determine the annual cost of the water system on 61 farms. Interest on the cost of the well, pump, motor, and pipe amounted to $12. Repairs and depreciation cost $53. If these farmers could have purchased village water for $93 for the year, assuming the water to be piped to the farmstead, they would have been as well off as to supply their own water.

Labor

Cost-account farms were 4-man farms. About one-fourth of the total months of work was represented by the operator's labor, one-fourth by the regular hired men who were provided with house and privileges and lived on the farm, one-fourth by men hired by the day or hour, and the other one-fourth made up of men hired by the month at a straight wage or with board, and of unpaid members of the operator's family.

The farms were divided by number of men into 3 groups. The largest one-third had 6 men per farm (table 10). On these large farms, more than one-half the labor force was made up of day and hour help and of year men with privileges. The hired man who had his meals with the farm operator was unusual, even on the big farms.

The middle-sized group of farms had the equivalent of 3.3 men per farm. The operator and the year man with privileges constituted one-half the labor force on this type of farm.

On the smallest one-third of the farms, the operator himself was one-half of the labor force. Other unpaid members of the family contributed more labor toward the operation of the farm than any other single type of hired labor.

The cost of an hour of labor was 30 cents, or 1 cent less than in 1938. On 11 farms, labor cost less than 25 cents per hour compared with 35 cents or more on the 15 farms with the highest labor cost.

Farmers and their hired men worked an average of 2995 hours per year. The time spent per working day would average 9.2 hours if we make an arbitrary allowance of 2 hours on Sundays for chores. The hours per man was calculated by dividing the number of men on all farms into the hours of recorded work. One-half the farms fell within the range of 2700 to 3300 hours per man. On the one-third of the farms working the fewest number of hours per man, the cost per hour of labor averaged 34 cents, or 8 cents an hour higher than on the farms where the hours per man were the longest.

Farm operators valued their own time at $73 per month plus farm privileges (table 11). The value of privileges used by these operators averaged $35 per month, making a total cost for the operator's labor of $108 per month. This estimated value of the operator's labor was included in the cost of farm labor.

In determining the value of the operator's time, the same principle is followed as in determining the value of a feed crop produced on the farm for home use. The question in both cases is: "What is the market value?" It is much easier to estimate the value of a bushel of wheat than of a year's labor and management because there is a well-established price for wheat. Since labor and management vary tremendously in quality and market price, there is a great deal of variation in the estimated value of the operator's time. Five farmers valued their time, including privileges, at less than $70 per month while the estimates of 5 other farmers ranged above $150 per month. How much these variations in the estimated value of the operator's time affect the cost of labor on the farm is indicated by the fact that on the one-third of the farms with the lowest value of operator's time, the cost per hour for all farm labor was 27 cents, in the middle group the cost was 31 cents per hour, and in the high group, the cost was 34 cents. Farmers who estimated their time at higher-than-average value operated larger-than-average farms; the third with the highest

Table 10. Months of work by type of worker

	Large farms	Middle-sized	Small farms
Farms	25	25	25
Man equivalent:			
Range	4.2 to 11.2	2.6 to 4.1	1.0 to 2.6
Average	6.1	3.3	2.0
Months of work performed by:			
Men hired by month or year			
with privileges	20	9	3
with board	2	5	3
with wage only	9	3	1
Men hired by day or hour	25	6	2
Operator	12	12	11
Other unpaid	5	5	4
Total	73	40	24

value on their time had 5.2-men farms as compared with 3.1-men farms for the men with the lowest value on their time.

Hired men working under the supervision of the farm operators were not paid as high a wage as the operators valued their own time. The most common type of labor was the year man who lived on the farm and was provided with a house and such farm products as wood, milk, and eggs. He received an average cash wage of $57 per month and was given $20 a month in privileges, or a total monthly wage equivalent of $77.

Men who boarded with the family were paid $37 a month. Since the board was estimated to be worth an average of $22 a month, the total wage and board of these men who were boarded was $59, or $18 a month less than the cost of men with privileges.

Wages paid to men who lived off the farm and received all their pay in cash amounted to about the same as the total value of wage and board, or about $57 per month.

About one-fourth of the total labor on these farms, including the operator, was made up of day and hour help, workers hired for short periods of time during rush seasons, to whom the average wage paid was 26 cents per hour.

The average cost for all types of farm labor, including both wages and privileges, was $913 for one full year of work.

Cost of one month of farm labor

Hired by month or year

Men with privileges:

Wage	$57	
Value milk, wood, house, etc.	20	
Total	77	(high third $95; low third $57)

Men boarded with farmer:

Wage	$37	
Value of board	22	
Total	59	(high third $67; low third $50)

Men living off farm:

Cash wage $57 (high third $68; low third $35)

Hired by day or hour

Average of 26 cents per hour, or $61 per month (high third 33 cents, or $77; low third 18 cents, or $42)

Members of family other than operator

Average value $63 (high third $95; low third $40)

Farm operator

His estimate of what he could get as superintendent of a similar farm, $73 per month in cash and $35 in privileges, or $108 (high third $136; low third $78)

Average cost of all types of farm labor

Average of 30 cents per hour or $76 per month (high third $90; low third $63)

Horse and Tractor Costs

Costs for the year for 2 horses amounted to a little more than the cost for one tractor. Two horses cost $275, compared with $227 for a tractor. Since horses were used more hours than tractors, the cost per hour for a 2-horse team, harness, and driver was 68 cents, or 11 cents less than the cost of an hour's work of tractor and driver. On most farms, work is performed more economically with tractors than with horses. However, many of the costs of keeping horses are part of the general cost of maintaining the farm rather than costs incurred specifically because of the horses. For example, interest, taxes, and repairs for the barn, fences, and pasture must be met whether or not horses are kept.

Feed, which is one-half the total cost of keeping a horse, was 18 cents per day, or $65 for the year (table 12). Labor of feeding and caring for the horse cost $29 per year. Depreciation amounted to almost $20 per horse, or about 3 cents for each hour of use.

Twelve per cent were "horse-less" farms. Tractors were used on 64 of the 75 farms. On 9 of these 64 farms, horsepower had been entirely replaced by tractor power, while on 54 farms both horses and tractors were used. Eleven farms had horses but no tractor.

Tractors were used less than 500 hours per year (table 13). Some farmers are getting lower tractor costs by finding more work for their tractors. Those who used their tractors for 600 hours or more had an average cost of only 38 cents, although 80 per cent were 2-plow tractors or larger.

Trucks cost $268 per year, or 5.5 cents per mile (table 14). Trucks were driven a little more than 5000 miles. Gasoline and oil accounted for only one-third of the cost of operating the trucks. Depreciation and repairs were about as important as fuel and oil.

Costs vary inversely with use. Since almost two-thirds of the costs of operating a farm truck are about the same regardless of the amount of use, farmers who make full use of their trucks have relatively low costs per mile. Trucks used for 7000 miles or more cost 4.6 cents per mile, compared with 7.3 cents for trucks driven less than 4000 miles.

Table 12. Horses

1939 (64 farms)		1938	1937
Costs per horse			
2,069 pounds of grain at $1.37 per hundredweight	$28.38	$25.86	$34.24
2.9 tons of hay at $9.49 per ton	27.51	22.57	28.25
Pasture and fences	4.79	4.80	4.84
Other feed and bedding	4.24	4.20	3.95
Total feed and bedding	64.92	57.43	71.28
101 hours of man labor at 29 cents per hour	29.19	28.40	29.86
Depreciation	19.78	18.90	14.43
Buildings	9.26	8.75	9.15
Interest on average value of $148 per horse	7.31	7.40	7.22
Shoeing	3.00	2.78	3.56
Veterinarian and medicine	.77	.92	1.51
All other	3.43	3.13	3.35
Total other than feed, bedding, and labor	43.55	41.88	39.22
Total cost to keep a horse	137.66	127.71	140.36
Credits per horse			
8.3 tons of manure at $1.07 per ton	8.91	9.02	9.38
Colts, fair premiums, and the like	.98	1.05	3.23
Total credits	9.89	10.07	12.61
Net cost of horse work	127.77	117.64	127.75
Harness cost	5.23	4.96	5.49
Cost for year's work	133.00	122.60	133.24
Cost per hour of work	$.19	$.18	$.19
Hours of work	698 hrs.	699 hrs.	716 hrs.

Table 13. Tractors

1939 (64 farms)		1938	1937
Average per tractor			
771 gallons of fuel at 11 cents per gallon	$ 81.83	$ 90.30	$ 83.20
17 gallons of oil at 62 cents per gallon	10.59	11.56	10.24
Grease and greasing	2.05	1.95	2.40
Farm labor	6.49	8.69	8.14
Insurance	1.05	1.36	.98
Depreciation	66.66	66.56	58.25
Repairs	20.07	20.00	26.25
Interest on average value of $531	26.48	24.65	22.12
Buildings	5.85	5.92	6.56
All other	6.41	3.60	3.18
Cost of year's work	227.48	234.59	221.32
Cost per hour	$.49	$.49	$.51
Hours of work	469 hrs.	478 hrs.	436 hrs.

Table 14. Trucks

1939 (57 farms)		1938	1937
Average per truck			
524 gallons of fuel at 15 cents per gallon	$ 76.16	$ 78.10	$ 74.70
13 gallons of oil at 65 cents per gallon	8.49	6.83	6.06
Grease and greasing	1.74	2.01	1.76
Farm labor	6.78	6.33	8.69
License	26.90	26.47	25.58
Insurance	19.04	22.08	19.76
Depreciation	54.23	64.89	48.68
Repairs	40.53	33.90	37.12
Tires	8.55	11.94	12.28
Interest on average value of $280	14.30	14.93	13.90
Buildings	9.74	9.33	9.41
All other	1.99	1.70	3.65
Cost of year's work	268.45	278.51	261.59
Cost per mile	$.055	$.055	$.056
Miles driven per year	5,389	5,439	4,724

Farm Equipment

"May I borrow your corn binder?" is not an uncommon request. The borrower may not realize that it cost $568, or $1.55 for each day in the year, for cost-account farmers to keep the equipment in repair, replace implements that have worn out, pay interest on the investment, provide space in the barn or implement shed, and to pay insurance (table 15). This surprisingly high annual cost does not include the cost of tractors, trucks, nor automobiles.

The average investment in farm equipment was more than $2000. Annual costs were 27 per cent of the investment. If a farmer had $100 invested in a farm tool, he can expect to incur an annual expense of about $27. The average value is lower than the original cost, because the tool becomes less valuable with the passage of time. A tool which costs $100 may have an average value, after allowance for salvage or trade-in value, of $70. The annual cost, in this illustration, would be about $19, or 27 per cent of $70.

The most expensive special equipment was for orchards. Sprayers, graders, and other specialized implements on the 30 farms with orchards were valued at $618. The cost for the year was higher than for most other kinds of equipment, or 35 per cent of its value. The cost for the year was $7.55 for each acre of bearing orchard.

Table 15. Value and cost of farm equipment, 1939

Type of equipment, with illustrations	Number of farms	Value per farm	Annual cost per farm	Annual cost per unit	Unit
Dairy (milking machine, cooler)	57	$257	$68	$3.90	cow
Poultry (incubator, brooders, mash hoppers):	52	295	75		
incubation				.79	100 eggs set
brooding and rearing				2.68	100 chicks brooded
egg production				.09	mature hen
Plows	75	67	26	.45	acre plowed
Harrows and drags	75	88	26	.46	acre fitted
Cultivating	72	57	14	.42	acre cultivated
Hay (mower, rake, loader)	75	193	49	1.24	acre of hay
Grain (drill, binder)	69	126	32	1.24	acre of small grain harvested
Silage (binder, cutter)	56	146	31	2.63	acre of silage
Orchard (sprayer, grader)	30	618	217	7.55	acre of bearing orchard
Potato (planter, digger)	42	280	93	6.21	acre of potatoes
Harness	66	52	16	5.23	horse
Wagon	72	100	22		
Manure (spreader or wagon)	64	69	24		
All equipment	75	2,118	568	.60	work unit

Dairy Cows

Milk sold for an average of $1.92 per hundredweight (table 17). The milk price was 7 cents per hundredweight more than in 1938. The price was calculated by dividing the total quantity of milk sold at wholesale into the total amount of money received by farmers for milk delivered at the milk plant. Milk used on the farm was valued at only $1.59 per hundredweight, since it did not have to be delivered, and since some skimmed milk was fed to livestock. The average value of all milk produced was $1.89 per hundredweight. The milk produced averaged 3.7 per cent butterfat.

Prices were highest in the last 3 months of the year, or $2.40 per hundredweight, and lowest in May and June when milk sold for about one-half the fall price (table 16). Prices on cost-account farms were a few cents higher than the State average price.

Production averaged 8278 pounds of milk, or 307 pounds of butterfat per cow. High production was the general rule on cost-account farms; only 15 per cent of the dairies had less than 250 pounds of butterfat per cow. Although production was a little below that of 1938, the increased price resulted in a slightly higher income from milk sold.

Dairy cows cost 50 cents per day. The cost of feeding, caring for the cow, interest on the $110 invested, a proportionate share of the cost of maintaining the buildings, and all other costs averaged about $180 for the year.

Hay costs were high as a result of the drought. Hence the 7 tons of farm feed required to keep a cow for a year cost more than in 1938 but not so much as in 1937.

Labor, averaging $40 per cow, was a little less than one-fourth of the total cost. Although the time spent on cows has averaged about 140 hours during the past ten years, there is a great variation between farms. On farms with less than 17 cows, an average of 169 hours was spent per cow, or 40 hours more than on the larger dairies.

Table 16. Prices received for 100 pounds of milk sold at wholesale, by months

Month	Cost-account farms		State average milk prices**
	Farms	Milk prices*	
January, 1939	18	$2.19	$2.06
February	23	2.07	1.92
March	35	1.70	1.49
April	42	1.40	1.23
May	42	1.28	1.19
June	42	1.29	1.28
July	42	1.58	1.59
August	42	1.97	2.05
September	42	2.19	2.21
October	42	2.40	2.43
November	41	2.43	2.42
December	41	2.37	2.34
Average, 1939		1.92	1.85
January, 1940	24	2.26	2.32
February	19	2.19	2.26
March	7	2.20	2.08

Depreciation cost $7 per cow. Depreciation, as the term is used here, means the decrease in value as the result of increased age, loss of a quarter, disease, as well as changes in value due to changes in the price level. Heifers were valued at an average of $95 at the time they first freshened. Most of the cows sold during the year were for beef and brought an average of $64 per head. Death losses amounted to one cow for each 156 cows in the herd.

Cows paid 25 cents per hour, or the same as in the preceding five-year period. Total returns lacked between $5 and $6 of equaling the cost of keeping the cow. Although cows did not pay the full 29-cent cost per hour of labor, this enterprise did provide employment throughout the year at a wage only 4 cents less than the average cost of labor on these farms.

* The monthly average for each farm was given equal weight in the calculation of these averages.

** By R. Gillette, of the State Department of Agriculture.

Table 17. Dairy Cows

1939 (48 farms)		1938	1937
Average per cow			
Costs:			
2,624 pounds of grain at $30.39 per ton	$ 39.87	$ 41.56	$ 44.39
2.3 tons of hay at $11.29 per ton	25.96	20.45	25.43
Other dry feed	.46	.23	.29
4.4 tons of silage at $4.30 per ton	18.92	18.20	19.15
Other succulent feed	.62	.72	.64
Bedding	1.88	2.15	2.25
Pasture	5.81	7.01	7.50
Fences	1.59	1.96	2.02
Total feed and bedding	95.11	92.28	101.67
138 hours of labor at 29 cents per hour	40.48	41.11	42.20
Horse work, automobile, truck, tractor	2.50	2.77	3.68
Dairy equipment	3.90	3.56	3.87
Depreciation on animal	7.29	6.88	13.01
Interest on $110. value of cow	5.59	5.55	5.37
Buildings	4.92	5.41	5.80
Breeding costs	2.87	2.67	3.19
Veterinarian, medicine, disinfectants	1.37	1.47	1.56
Hired milk hauling	7.63	7.84	5.64
Cow-testing-association dues	1.21	1.30	1.23
Insurance	.33	.35	.31
Registration and transfer fees	.24	.17	.15
Ice	.24	.26	.34
Light, water, power	2.15	2.21	2.01
Strainer cloths and other supplies	.51	.49	.67
All other	3.26	2.70	2.82
Total other than feed, bedding, and labor	44.01	43.63	49.65
Total cost	179.60	177.02	193.52
Returns:			
7,639 pounds of milk sold at $1.92 per hundredweight	146.32	144.60	156.46
639 pounds of milk used on farm at $1.59 per hundredweight	10.19	11.39	10.48
Calves	8.99	8.79	8.04
8.5 tons of manure at $1.00 per ton	8.48	8.91	8.63
Other returns	.10	.11	.12
Total returns	174.08	173.80	183.73
Gain	-5.52	-3.22	-9.79
Cost of producing 100 pounds of milk	$1.96	$1.86	$2.15
Value per 100 pounds of milk	$1.89	$1.82	$2.03
Return per hour of labor	$.25	$.27	$.23

Table 18. Heifers, 1939
45 farms

Costs per heifer raised		
Value of calf at birth		$14.81
717 pounds of whole milk at $1.66 per hundredweight	$11.90	
402 pounds of skim milk at 46 cents per hundredweight	1.86	
0.7 pound of dry skim milk at $5.71 per hundredweight	.04	
1,444 pounds of grain at $1.59 per hundredweight	22.91	
2.2 tons of hay at $10.47 per ton	23.03	
2.6 tons of silage at $4.14 per ton	10.76	
Other feed	.93	
Pasture and fences	8.92	
Bedding	2.63	
Total feed and bedding		82.98
56 hours of labor at 30 cents per hour		16.72
Horse work and equipment	.82	
Buildings	7.20	
Breeding fees	2.93	
Veterinarian and medicine	.23	
Insurance	.30	
Registration and transfer fees	.89	
Lights, water	1.60	
Interest	6.07	
All other	.64	
Total other than calf, feed, bedding, and labor		20.68
Total cost		135.19
By-products		
9.7 tons of manure at $1.00 per ton	9.67	
Other returns	.21	
Total by-products		9.88
Net cost of raising a heifer to 27½ months of age		125.31

Records of costs of raising heifers were kept for a total of 1027 different animals, for an average of 8.1 months. Since these animals were of all ages, from birth to heifers ready to freshen, the information provides a basis for determining the cost of raising an animal to maturity.

Calves saved for the herd were valued at $15 apiece as compared with about one-half that value for veal calves. Other costs of raising the animals to the average age of freshening, or 27½ months of age, amounted to $120, making a total cost of $135 per heifer. Credits for manure and such other by-products as fair premiums reduced the cost to $125.

The fact that 17 animals died resulted in an increase of $2 in the cost per animal raised. The net cost of $125.31 per animal raised includes a charge of $2 for the money spent on the 17 animals that died. No similar corrections was made in the 1938 report. The net cost of raising a heifer to freshening age in 1938 was $122, and not $120, after correcting for mortality.

Table 19. Cost of keeping dairy bulls

Items (46 farms)	Average per bull		Per cent of total	
Costs:				
600 pounds of grain at $30.16 per ton	$ 9.05		11.2	
2.4 tons of hay at $10.51 per ton	25.23		31.1	
1.2 tons of silage at $3.75 per ton	4.50		5.6	
Other feed and bedding	3.11		3.8	
Pasture and fences	1.25		1.5	
Total feed and bedding		$43.14		53.2
74 hours of labor at 29 cents per hour		21.68		26.8
Interest on $136 at 5 per cent	6.32		7.8	
Buildings	7.61		8.8	
All other	2.77		3.4	
Total other than feed, bedding, and labor		16.25		20.0
Total cost		81.07		100.0
Less:				
8.4 tons of manure at $1.01 per ton	8.45		10.4	
Appreciation	1.73		2.1	
Total		10.18		12.5
Service fees from neighbors	1.10		1.4	
Service fees charged to cows	53.84		66.4	
Service fees charged to heifers	15.95		19.7	
Total		70.89		87.5

The rapid increase in artificial insemination has created a new interest in the cost of keeping dairy bulls. The average cost was $81 per bull, of which a little more than one-half was for feed and bedding, and one-fourth for labor. Many of the younger animals increased in value or were sold for more than the inventory value. Hence there was a net increase in value, or appreciation, of $1.73 per animal. Credits for manure reduced the cost of bull service to $71. Service fees from neighbors made a further reduction in the cost to be charged to heifers and cows to about $70, or about $3 per animal bred.

Table 20. Incubation

1939 (8 farms)		1938	1937
Average per 100 chicks hatched			
Costs:			
153 eggs at 4.0 cents per egg	$ 6.07	$ 5.44	$ 5.09
3.0 hours of labor at 34 cents per hour	1.02	.87	.79
Fuel for incubator	.52	.45	.38
Other costs of incubator	1.21	1.54	.85
Chick boxes	.17	.09	.18
Buildings	.25	.27	.12
Automobile and truck	.11	.19	.16
All other	.48	.24	.66
Total other than eggs and labor	2.74	2.78	2.35
Total cost	9.83	9.09	8.23
Returns:			
59.3 chicks sold at 12.2 cents per bird	7.21	6.38	8.63
40.7 chicks for own brooders at 12.6 cents per bird	5.12	5.77	3.41
Custom hatching	.07	.09	.05
Infertile eggs	.00	.01	.04
Total returns	12.40	12.25	12.13
Gain	2.57	3.16	3.90
Per cent hatch	65%	65%	63%
Return per hour of labor	$1.19	$1.48	$1.78

Chicks cost 10 cents each. The average percentage hatch was 65, or 100 salable chicks for 153 eggs set. Eggs used for hatching, including eggs purchased, were valued at 48 cents per dozen, making a cost for eggs of 6 cents per chick hatched. Two-thirds of the cost of producing day-old chicks is represented by the eggs set.

Chicks sold for 12 cents each. Chicks kept on the farms where they were hatched were valued at a little more than the chicks sold.

"Sexing" cost one cent per chick handled. On some farms specialists were employed for the highly technical work of distinguishing between the cockerel and pullet chicks as they were taken from the incubator. The cost of this work, which was done for only a small part of the total hatch, was included in the classification "all other". The pullet chicks were usually sold at double the price of the unsexed chicks plus 2 cents to pay the cost of sexing. The male chicks were of little value and in some instances were destroyed.

Chicks

About 58 cents was spent during the brooding and rearing season for each baby chick put under the hover (table 21). The cost of the chicks, at 13 cents each, was less than one-fourth the total cost. Feed amounted to almost one-half the total. Other important costs included fuel for the brooders and the use of the poultry equipment.

Eighteen out of 100 birds died. Money spent for buying the chicks which died before maturity amounted to an average of 6 cents for each bird put in the laying flock.

Pullets were valued at $1.04 per bird, or 2 cents less than the cost of raising them. Although most of the pullets were not sold, the value was based on estimates of the market price of pullets of equal quality.

Raising replacements for the poultry flock paid at the rate of 29 cents per hour. The returns were lower than in 1938, due to higher mortality, lower prices for meat birds, and an increase in the amount of feed used.

Expert "sexers" can distinguish between male and female chicks when they are taken from the incubator. A total of 1970 chicks, or 2.7 per cent of the total, were sexed chicks. Two farmers bought pullets at 7 or 8 weeks of age, amounting to 1.0 per cent of the total.

Table 21. Raising Chicks

1939 (40 farms)		1938	1937
Average per 100 chicks started			
Costs:			
100 chicks at 13 cents per chick	$13.21	$12.84	$11.96
859 pounds of mash at $2.07 per hundredweight	17.76	17.60	18.23
644 pounds of grain at $1.42 per hundredweight	9.15	7.96	10.65
Other feed	.16	.18	.16
Total feed	27.07	25.74	29.04
28 hours of labor at 32 cents per hour	8.99	8.30	7.77
Horse, automobile, truck	.73	.70	.72
Poultry equipment	2.68	2.61	2.18
Litter	.53	.67	.48
Interest	.89	.88	.84
Fuel or heat	1.92	1.66	1.57
Medicine and disinfectants	.07	.04	.11
Range and fences	.39	.32	.17
Buildings	.90	1.03	1.07
All other	.61	.40	.82
Costs other than chicks, feed, and labor	8.72	8.31	7.96
Total cost	57.99	55.19	56.73
Returns:			
42.3 meat birds sold or eaten at 37 cents per bird	15.65	16.76	15.81
38.5 pullets for laying flock at 99 cents per bird	37.99	41.35	35.72
.9 breeding cockerels at $1.62 per bird	1.46	1.18	1.56
18.3 birds died	----	----	----
Total value of birds	55.10	59.29	53.09
332 pounds of manure at 96 cents per ton	.16	.15	.18
Eggs laid on range and other returns	1.74	2.79	.03
Returns other than birds	1.90	2.94	.21
Total returns	57.00	62.23	53.30
Gain	-.99	7.04	-3.43
Cost of raising a bird to maturity	$1.06	$.86	$1.16
Value of mature bird	$1.04	$1.03	$1.06
Return per hour of labor	$.29	$.59	$.18

Hens

Eggs were valued at 25 cents per dozen (table 22). Market eggs, accounting for 94 per cent of the total production, sold for an average of 25 cents per dozen. Hatching eggs produced on these farms were valued at 46 cents per dozen. Eggs used on the farm were valued only 20 cents, because many were cracked or small, and these eggs were not cleaned or packaged. About 1 per cent of the total production was lost or broken in gathering or packing.

The cost of production was 25 cents per dozen. The 7 pounds of feed used in producing a dozen eggs cost 12 cents; 8 minutes of labor cost 4 cents; the decrease in the value of the birds amounted to 5 cents; and the other costs 4 cents.

Egg production averaged 164 eggs per hen, or 45 eggs for each 100 days. Production increased over 1938 by one dozen eggs per hen, but the higher cost of feed and lower egg prices resulted in a loss of 9 cents per bird as compared with a gain of 13 cents in 1938.

The range in production was from 62 to 203 eggs per hen. The third of the flocks with the highest production averaged 186 eggs per bird, as compared with 129 eggs per bird for the one-third with the lowest production.

Feed costs varied a great deal. The one-third of the farmers spending the smallest amount for feed had a feed cost of $1.46 per bird, as compared with $2.10 for the one-third spending the largest amount for feed. The latter group had an average egg production of 174 eggs per hen, or 2½ dozens more than the average for the group spending the smallest amount for feed.

Depreciation of 63 cents per bird was 18 per cent of the total cost. Death losses, which amounted to 29 per cent of the average number, or 15 per cent of the beginning number, accounted for a large part of the depreciation charge. The balance was made up of the decrease in value of the birds. Pullets added to the flock were valued at $1.02. Culls sold for 61 cents per bird.

The low third in mortality averaged 14 per cent. The high third averaged 49 per cent or almost one-half the flock. The low third produced 2 dozen eggs per hen more than the high third.

Larger flocks paid better than smaller flocks. The 13 flocks which were largest, averaging 1541 birds, made 33 cents per hour as compared with 11 cents for the 13 flocks which were smallest, averaging 223 birds. The large flocks required only about two-thirds as much labor per bird, and produced 5 more eggs per hen than the small flocks.

Table 22. Hens

1939 (39 farms)		1938	1937
Average per bird			
Costs:			
54 pounds of grain at $1.41 per hundredweight	$ .76	$ .76	$ .89
42 pounds of mash at $2.17 per hundredweight	.91	.83	1.03
Grit and shell	.03	.02	.03
Other feed	.02	.03	.03
Total feed	1.72	1.64	1.98
1.8 hours of labor at 32 cents per hour	.58	.55	.60
Depreciation	.63	.63	.53
Interest	.05	.05	.05
Power and equipment	.09	.08	.08
Buildings	.20	.21	.21
Litter	.04	.04	.05
Electricity	.04	.04	.04
Containers	.03	.03	.04
All other	.08	.08	.07
Total other than feed and labor	1.16	1.16	1.07
Total cost	3.46	3.35	3.65
Returns:			
164 eggs per hen at 25 cents per dozen	3.32	3.43	3.32
92 pounds of manure at $1.09 per ton	.05	.05	.05
Total returns	3.37	3.48	3.37
Gain	-.09	.13	-.28
Cost of producing a dozen eggs	$.25	$.26	$.29
Value per dozen eggs	$.25	$.27	$.27
Return per hour of labor	$.27	$.39	$.17

Sheep

The low-lambing percentage and high death losses on these 6 flocks explain, in large measure, the average loss of $158 per flock.

The 6 flocks totaled 448 mature ewes and rams, or an average flock of 75 sheep. For each 100 ewes bred in the fall of 1938, eighty-four lambs were weaned in the spring of 1939. The lamb crop ranged from 70 per cent on one farm to 100 per cent on 2 other farms.

Lambs sold for $6.82 per head. Lamb sales, bringing in a revenue of $6.21 per mature animal, were 3 times as important as wool sales. Sales of ewes and rams brought an income of 60 cents per mature animal.

At the beginning of the year the ewes were valued at $9.20, the rams at $16.25, and the lambs at $5.61 each, making an average investment in the flock of $920. At the end of the year the ewes were valued at $8.90, the rams at $19, and the lambs at $3.69, making an average investment in the flock of $737. The decrease in value, amounting to $2.77 (table 23) per mature animal, was due to 3 factors: (1) death losses amounted to 13 per cent of the flock, (2) sales exceeded births and purchases, and (3) lower inventory values of the ewes and lambs at the end of the year.

The cost of maintaining an acre of pasture was about $3. The pasture charge indicates that sheep were pastured at the rate of about 2 mature animals and their lambs per acre of pasture.

Barn feed for a mature animal and its lamb cost $4.23, or 3 times as much as the pasture feed.

The wool clip was higher than in recent years, averaging 8.5 pounds per animal sheared.

The average value of the building, or part of the building, used to house the sheep was $416, or $5.57 per head. Building space used for the sheep feed is not included in this figure. The cost of maintaining these buildings, including depreciation, interest, repairs, taxes and insurance, amounted to 10.4 per cent of their value, or 58 cents per mature sheep.

Sheep manure, including bedding, contains an average of 15.8 pounds of nitrogen, 6.6 pounds of phosphoric acid, and 18.0 pounds of potash per ton.3/ At the retail prices for fertilizers in 1939, the value of the fertilizing elements in a ton of sheep manure was $2.43 per ton. Fertilizers are usually applied with a drill at the time of seeding while manure is applied as a separate application, which costs about 50 cents per ton. Thus, sheep manure in the barn would be worth 50 cents less than $2.43, or $1.93 per ton.4/ Farmers' estimates of the value of their sheep manure

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3/ Fertilizer and Crop Production, by L. L. Van Slyke, pages 225 and 228. 1932

4/ Salter and Schollenberger, after reviewing the literature in this and other countries, report that "The crop increases produced by manure are no larger and are generally less than those from the equivalent amount of nutrients supplied in chemical fertilizers". Farm Manure, by Robert M. Salter and C. J. Schollenberger, Ohio Exp. Sta. Bul. 605, page 46. 1939.

Table 23. Sheep

1939 (6 farms)		1938	1937
Average per head			
Costs:			
171 pounds of grain at $1.13 per hundredweight	$ 1.94	$ 2.10	$ 1.26
446 pounds of dry roughage at $8.12 per ton	1.81	2.34	2.04
201 pounds of silage at $2.88 per ton	.29	.22	.30
Pasture and fences	1.41	.99	.92
Other feed and bedding	.19	.47	.29
Total feed and bedding	5.64	6.12	4.81
5.8 hours of labor at 34 cents per hour	1.97	1.83	1.33
Decrease in inventory	2.77	2.27	1.73
Buildings	.58	.66	.83
Equipment	.06	.25	.18
Shearing	.19	.12	.09
Interest	.56	.62	.55
All other	.37	.39	.62
Total other than feed, bedding, and labor	4.53	4.31	4.00
Total cost	12.14	12.26	10.14
Returns:			
Animals sold and used	6.81	6.55	4.33
Wool sold at 27 cents per pound	2.40	1.32	1.89
1,411 pounds of manure at $1.12 per ton	.79	1.10	.99
Other returns	.03	.07	.31
Total returns	10.03	9.04	7.52
Gain	-2.11	-3.22	-2.62
Return per hour of labor	$-.03	$-.23	$-.32

varied between 50 cents and $3 per ton, and averaged $1.12. The lower value given by farmers may be due to the high percentage of potash which the farmers feel is of little value, to variations in chemical analysis, or in the percentage of straw, to the fact that some of the nitrogen in manure may be lost, and possibly to the fact that the farmers do not fully recognize the value of sheep manure. If the sheep manure had been valued at $1.93 per ton instead of $1.12, the loss on the sheep enterprise would have been $1.54 per sheep, instead of $2.11, and the return per hour of labor would have been plus 7 cents instead of minus 3 cents.

The income from the sale of animals and wool paid the cost of feed, depreciation of the flock, shearing, and interest. Farmers had the manure as pay for the labor, use of buildings, and miscellaneous costs.

Table 24. Feeder Lambs

1939 (6 farms)		1938	1937
Average per lamb bought			
Costs:			
1 lamb weighing 48 pounds at 10.6 cents per pound	$5.07	$4.52	$5.35
186 pounds of grain at $24.62 per ton	2.29	1.60	1.88
185 pounds of dry roughage at $11.14 per ton	1.03	.59	.49
90 pounds of succulent feed at $2.44 per ton	.11	.13	.18
Bedding	.10	.08	.08
Total feed and bedding	3.53	2.40	2.63
1.7 hours of labor at 31 cents per hour	.52	.42	.43
Equipment	.11	.15	.13
Interest	.13	.11	.13
Buildings	.20	.19	.23
Shearing	.03	.02	.02
All other	.07	.19	.13
Total other than lamb, feed, bedding and labor	.54	.66	.64
Total cost	9.66	8.00	9.05
Returns:			
0.96 lamb weighing 84 pounds per lamb sold at 9.5 cents per pound	7.98	7.73	6.35
0.04 lamb died	----	----	----
Wool sold at 25 cents per pound	.39	.38	.26
Pelts	.01	.01	.02
527 pounds of manure at $1.67 per ton	.44	.38	.47
Total returns	8.82	8.50	7.10
Gain	-.84	.50	-1.95
Return per hour of labor	$-.18	$.65	$-1.01
Increase in weight per lamb	36 lbs.	25 lbs.	27 lbs.

Feeder lambs were shipped from Wyoming, New Mexico, and Texas. The weight at point of origin was 57 pounds per lamb. The shrink in weight during shipment was 9 pounds. The lambs weighed 48 pounds on delivery. A gain of 36 pounds per lamb was made in a feeding period of 150 days.

Prices in the fall were high. The cost of the lambs and freight averaged $10.64 per 100 pounds, based on the weight at delivery. In the winter and early spring, when the lambs were sold, prices had declined to $9.87, or 77 cents less than the price paid.

The lambs that were shorn before being sold produced 6.0 pounds of wool per head.

The lamb accounts showed a loss of 84 cents per head, or a negative return for labor of 18 cents per hour.

Potatoes

Yields ranged from less than 100 bushels per acre on 5 farms to 454 bushels on one farm where an irrigation system was in use. The average yield of 207 bushels sold for 63⅛ cents per bushel (table 25). Although the yield was lower than in 1938, the price was higher, resulting in the same gross income as in 1938, or $131 per acre.

Seed and fertilizer accounted for almost one-half the cost to harvest time, or $31 per acre. Man labor cost $24 per acre, or about one-fourth of the total cost of growing, harvesting, and marketing potatoes.

Potatoes paid at the rate of 74 cents an hour, giving 1939 the rank of eighth place in the past twenty-five years.

Cabbage

Cabbage prices were relatively high in 1939, averaging $16 per ton (table 26). Yields ranged from one complete crop failure to one crop of 19 tons per acre, averaging 9 tons. The gross income was almost $150 per acre. Costs of $84 per acre left a profit of $66, which helped to make up for losses in fourteen of the preceding twenty-five years.

The cost of growing a ton of unharvested cabbage in the field was $5.83. Harvesting the crop and hauling it to the storage or to market cost $1.62 per ton. Only one of the 20 farmers put his cabbage in commercial storage. Storing and selling cost $1.69 per ton. A few farmers sold some cabbage plants, bringing in a little income which reduced the cost of producing a ton of cabbage to $9.10 per ton.

Table 25. Potatoes

1939 (28 farms)		1938	1937
Average per acre			
Growing:			
Land	$ 5.00	$ 4.96	$ 5.02
2.1 tons of manure at $1.88 per ton	3.94	3.37	4.06
712 pounds of fertilizer at $41.24 per ton	14.68	16.62	13.07
Cover crop	2.39	1.83	1.31
21.6 bushels of seed at 76 cents per bushel	16.51	10.52	22.60
Spray and dust materials	4.88	3.59	3.64
24.7 hours of labor at 30 cents per hour	7.53	8.30	9.22
11.8 hours of horse work at 19 cents per hour	2.20	2.28	2.68
6.4 hours of tractor work at 45 cents per hour	2.91	3.27	2.73
Other equipment	5.20	5.93	5.98
Interest	.63	.55	1.06
All other	.82	.69	.80
Total growing	66.69	61.91	72.17
Harvesting	17.17	18.70	17.24
Storing and selling	12.78	17.59	11.80
Total cost per acre	96.64	98.20	101.21
Returns per acre	131.30	131.24	87.31
Gain per acre	34.66	33.04	-13.90
Average per bushel			
Growing	$.322	$.267	$.356
Harvesting:			
11.8 minutes of labor	.058	.056	.057
1.2 minutes of horse work	.004	.003	.004
0.7 minute of tractor work	.004	.004	.005
Automobile and truck	.003	.004	.004
Other equipment	.013	.012	.014
All other	.001	.001	.001
Total harvesting	.083	.080	.085
Storing and selling:			
4.1 minutes of labor	.021	.026	.019
Equipment	.010	.012	.006
Buildings	.017	.015	.020
Interest	.005	.004	.003
Containers, cartage, storage, commission	.002	.012	.004
All other	.007	.007	.006
Total storing and selling	.062	.076	.058
Total cost per bushel	.467	.423	.499
Returns per bushel	.635	.566	.431
Gain per bushel	.168	.143	-.068
Return per hour of labor	$.74	$.67	$.13
Yield per acre	207 bu.	232 bu.	203 bu.

Table 26. Cabbage

	1939 (20 farms)	1938	1937
Average per acre			
Growing:			
Land	$ 4.14	$ 3.98	$ 5.11
2.5 tons of manure at $2.08 per ton	5.19	4.15	3.64
496 pounds of fertilizer at $39.56 per ton	9.81	9.56	8.54
Cover crop	1.08	.58	.72
Seed and plants	5.92	4.07	4.13
Spray and dust materials	1.67	.70	1.03
46.3 hours of labor at 28 cents per hour	13.08	12.26	13.21
17.1 hours of horse work at 20 cents per hour	3.34	3.72	4.17
6.9 hours of tractor work at 49 cents per hour	3.41	2.77	2.88
Other equipment	3.92	3.08	3.17
Interest	.47	.40	.64
All other	1.74	1.01	.42
Total growing	53.77	46.28	47.66
Less: Value of plants sold	.41	.20	.09
Net growing cost	53.36	46.08	47.57
Harvesting	14.98	11.96	11.55
Storing and selling	15.62	16.87	10.08
Total cost per acre	83.96	74.91	69.20
Returns per acre	149.75	52.81	120.18
Gain per acre	65.79	-22.10	50.98
Average per ton			
Growing	$ 5.83	$ 3.66	$ 5.32
Harvesting:			
4.4 hours of labor	1.21	.78	.86
0.4 hour of horse work	.08	.04	.05
Automobile, tractor, truck	.31	.08	.03
All other	.02	.05	.35
Total harvesting	1.62	.95	1.29
Storing and selling:			
1.8 hours of labor	.52	.47	.26
Automobile and truck	.32	.18	.28
Buildings	.06	.02	.02
Storage	.03	.18	.06
Containers	.32	.26	.31
Commission, cartage, and the like	.11	.16	.16
All other	.33	.06	.04
Total storing and selling	1.69	1.33	1.13
Total cost per ton	9.14	5.94	7.74
Less: Value of other credits	.04	.03	.00
Net cost per ton	9.10	5.91	7.74
Returns per ton	16.23	4.16	13.44
Gain per ton	7.13	-1.75	5.70
Return per hour of labor	$.92	$.06	$.92
Yield per acre	9.2 tons	12.6 tons	8.9 tons

Canning-factory Tomatoes

The 6 farmers who produced canning-factory tomatoes had an average cost of $10 per ton (table 27). Canners paid $15 for No. 1 and $7 for No. 2, or an average of $12 per ton for the crop which graded 66 per cent No. 1, thirty-two per cent No. 2, and 2 per cent culls.

Plants were set about 4 feet apart each way, or at the rate of almost 3000 per acre. Plants and fertilizer cost about $30 per acre, or about one-half the cost to harvest time.

Yields varied from 5 to 12 tons per acre, and averaged 9.1.

Tomatoes paid 41 cents per hour for labor, or the same as the average for the five preceding years.

Canning-factory Peas

Peas yielded 1406 pounds of shelled peas per acre (table 28). Canners paid an average of $48.54 per ton for the peas, or at the rate of $34 per acre. The value of pea vines increased the returns to $35 per acre.

Costs exceeded returns by $4.54 per acre. Seed was the largest cost, or 42 per cent of the total. Only 18 hours of man labor per acre was spent in growing, harvesting, and marketing peas, amounting to only 14 per cent of the total cost. Peas paid 6 cents an hour for labor.

Table 27. Canning-factory Tomatoes

	1939 (6 farms)	1938	1937
Average per acre			
Growing:			
Land	$ 3.44	$ 3.96	$ 3.89
3.7 tons of manure at $2.25 per ton	8.31	8.15	3.52
728 pounds of fertilizer at $34.30 per ton	12.49	11.02	11.16
Cover crop	1.06	.43	.42
2,772 plants at $6.18 per thousand	17.14	16.85	15.82
29.2 hours of labor at 27 cents per hour	7.82	9.06	10.92
19.4 hours of horse work at 15 cents per hour	2.99	3.12	2.90
3.6 hours of tractor work at 74 cents per hour	2.65	1.78	2.14
Other equipment	2.51	1.85	2.34
Interest	.71	.62	.84
All other	1.25	1.06	.06
Total growing	60.37	57.88	54.01
Harvesting	29.87	34.10	36.26
Selling	2.61	3.79	2.28
Total cost per acre	92.85	95.77	92.55
Returns per acre	111.06	129.44	131.98
Gain per acre	18.21	33.67	39.43
Average per ton			
Growing	$ 6.62	$ 5.74	$ 5.43
Harvesting:			
11.0 hours of labor	3.05	3.07	3.24
Automobile and truck	.19	.25	.39
Other equipment	.00	.01	.02
All other	.04	.04	.00
Total harvesting	3.28	3.37	3.65
Selling:			
Interest	.09	.05	.12
All other	.20	.33	.11
Total selling	.29	.38	.23
Total cost per ton	10.19	9.49	9.31
Returns per ton	12.18	12.83	13.27
Gain per ton	1.99	3.34	3.96
Return per hour of labor	$.41	$.52	$.57
Yield per acre	9.1 tons	10.1 tons	9.9 tons

Table 28. Canning-factory Peas

1939 (10 farms)		1938	1937
Average per acre			
Growing:			
Land	$ 3.59	$ 3.70	$ 3.84
4.1 bushels of seed at $4.06 per bushel	16.66	16.23	16.00
260 pounds of fertilizer at $23.69 per ton	3.08	1.46	2.32
1.4 tons of manure at $1.77 per ton	2.48	3.35	2.12
6.6 hours of labor at 32 cents per hour	2.14	1.95	2.16
5.2 hours of horse work at 17 cents per hour	.90	1.62	1.45
3.6 hours of tractor work at 47 cents per hour	1.70	1.04	1.27
Other equipment	1.50	.94	1.02
All other	.75	.41	.46
Total growing	32.80	30.70	30.64
Harvesting	6.16	7.42	9.48
Selling	.64	.14	.25
Total cost per acre	39.60	38.26	40.37
Returns per acre	35.06	49.43	56.93
Gain per acre	-4.54	11.17	16.56
Average per ton			
Growing	$46.62	$37.07	$34.10
Harvesting:			
15.8 hours of labor	4.90	4.42	5.27
5.6 hours of horse work	.89	1.19	1.04
1.6 hours of tractor work	.75	.30	.14
Automobile and truck	1.66	1.72	3.35
Other equipment	.24	.95	.73
All other	.12	.38	.01
Total harvesting	8.76	8.96	10.54
Selling:			
Interest	.00	.10	.24
All other	.91	.06	.04
Total selling	.91	.16	.28
Total cost per ton	56.29	46.19	44.92
Less: Value of pea silage	1.29	.27	.09
Net cost per ton	55.00	45.92	44.83
Returns per ton	48.54	59.41	63.26
Gain per ton	-6.46	13.49	18.43
Return per hour of labor	$.06	$.85	$.99
Yield per acre	.7 ton	.8 ton	.9 ton

Table 29. Dry Beans

1939 (9 farms)		1938	1937
Average per acre			
Growing:			
Land	$ 3.96	$ 3.88	$ 4.52
1.1 tons of manure at $1.75 per ton	1.92	1.63	3.35
129 pounds of fertilizer at $28.22 per ton	1.82	1.78	1.87
1.1 bushels of seed at $3.09 per bushel	3.40	4.32	5.56
12.7 hours of labor at 32 cents per hour	4.10	4.48	3.95
7.6 hours of horse work at 28 cents per hour	2.12	2.15	2.83
5.4 hours of tractor work at 51 cents per hour	2.73	2.60	2.07
Other equipment	1.19	1.08	1.42
Interest	.17	.15	.32
All other	1.53	1.11	.24
Total growing	22.94	23.18	26.13
Harvesting	6.49	8.73	8.28
Storing and selling	1.67	.88	.98
Total cost per acre	31.10	32.79	35.39
Returns per acre	30.54	31.78	36.66
Gain per acre	-.56	-1.01	1.27
Average per bushel			
Growing	$ 1.52	$ 1.20	$ 1.62
Harvesting:			
0.7 hour of labor	.24	.28	.27
0.2 hour of horse work	.05	.06	.11
Equipment	.08	.04	.06
Threshing	.06	.07	.07
Total harvesting	.43	.45	.51
Storing and selling	.11	.05	.06
Total cost per bushel	2.06	1.70	2.19
Less: Value of straw	.12	.09	.07
Net cost per bushel	1.94	1.61	2.12
Returns per bushel	1.90	1.56	2.20
Gain per bushel	-.04	-.05	.08
Return per hour of labor	$.30	$.29	$.37
Yield per acre	15 bu.	19 bu.	16 bu.

Bean yields were lower than 1938 but prices were better. The average yield of 15 bushels per acre sold for $1.90 per bushel, or $29 per acre. Bean pods and straw, valued at $1.79 per acre, brought the average returns to a little more than $30 per acre, or 56 cents less than the cost.

Costs per bushel averaged $1.94, or $3.23 per hundred pounds. Beans paid at the rate of 30 cents an hour.

Fruit

Apple growers received only 40 cents per bushel in 1939 (table 30). In only two of the past twenty years have prices for apples on cost-account farms fallen below 40 cents. Costs were high, resulting in the largest loss since these accounts have been tabulated, or an average loss of 19 cents per bushel.

Prices received by farmers who sell in the fall in the buyers' containers are not comparable with prices of fruit sold out of storage. The direct cash costs for commission, hired packing, storing and carting, averaged 10 cents for each bushel of marketable fruit produced. The "net cost" is the total cost less these direct cash costs of marketing. The net cost was 59 cents per bushel and the net price received was 40 cents.

Interest and depreciation on the trees, pruning, spraying and other costs incurred before harvest time averaged $60 per acre. Most of these items are not affected by the size of the crop. Harvesting the 166 bushels of marketable apples cost about one-third as much as raising them to harvest time, or 12 cents per bushel. The average cost of storing and selling was 32 cents per bushel. The cost of producing a bushel of apples and moving it as far along the marketing process as the farmers took it averaged 79 cents per bushel after allowing for the value of by-products, such as income from the 21 bushels of cull apples, and the value of wood or pasture. The average sale price was 60 cents, of which 20 cents was used for buying the baskets, paying for hired packing, cold storage charges for the part of the crop held in commercial storage, for hirod cartage, and for commissions.

Direct labor accounts for $44 per acre, or 33 per cent of the total cost. Apples paid all costs except labor, with 9 cents an hour left as pay for labor.

Table 30. Apples

1939 (20 farms)		1938	1937
Average per acre			
Growing:			
Orchard overhead	$15.24	$15.71	$14.37
0.7 ton of manure at $2.17 per ton	1.56	1.47	2.09
119 pounds of nitrogenous fertilizer at $30.25 per ton	1.80	2.18	2.93
Other fertilizer	.40	.17	.26
Cover crop	.03	.12	.21
Spray and dust materials	12.09	12.07	12.36
44.3 hours of labor at 33 cents per hour	14.50	14.84	17.89
7.0 hours of horse work at 16 cents per hour	1.14	1.03	1.68
5.0 hours of tractor work at 46 cents per hour	2.31	3.01	2.39
Other equipment	5.46	6.07	7.48
Interest	1.11	.92	1.17
All other	4.37	4.56	4.31
Total growing	60.01	62.15	67.14
Harvesting	20.34	21.94	24.36
Storing and selling	52.94	47.84	47.29
Total cost per acre	133.29	131.93	138.79
Returns per acre	101.42	144.03	112.52
Gain per acre	-31.87	12.10	-26.27
Average per bushel			
Growing	$ .36	$ .36	$ .39
Harvesting:			
19 minutes of labor	.11	.11	.11
Automobile and truck	.00	.01	.01
Other equipment	.01	.01	.02
Total harvesting	.12	.13	.14
Storing and selling:			
Packages	.10	.10	.09
Commission, hired packing, storage, transportation	.10	.08	.08
Labor	.07	.06	.06
Equipment	.01	.01	.02
Buildings	.01	.01	.01
All other	.03	.02	.02
Total storing and selling	.32	.28	.28
Total cost per bushel	.80	.77	.81
Cost per bushel (ciders, driers, wood, pasture deducted)	.79	.75	.78
Net cost* per bushel	.59	.57	.61
Total returns per bushel	.60	.82	.63
Net returns* per bushel	.40	.64	.46
Gain per bushel	-.19	.07	-.15
Return per hour of labor	$.09	$.44	$.16
Yield per acre	166 bu.	173 bu.	173 bu.

* Net cost is the cost per bushel minus the cost of packages, commissions, hired packing, storage, and transportation; net returns are the total returns minus these same items.

Table 31. Peaches

1939 (7 farms)		1938	1937
Average per acre			
Growing:			
Orchard overhead	$ 9.60	$ 8.72	$ 9.04
0.7 ton of manure at $2.56 per ton	1.79	.67	.45
181 pounds of fertilizer at $24.20 per ton	2.19	1.43	1.47
Spray and dust materials	5.89	3.35	3.48
48.2 hours of labor at 32 cents per hour	15.33	8.55	10.19
5.1 hours of horse work at 15 cents per hour	.75	.52	.53
5.0 hours of tractor work at 37 cents per hour	1.87	1.69	1.50
Other equipment	2.72	2.02	1.88
Interest	.69	.40	.47
All other	.61	1.00	.21
Total growing	41.44	28.35	29.22
Harvesting	17.31	13.71	10.26
Storing and selling	31.57	17.13	10.88
Total cost per acre	90.32	59.19	50.36
Returns per acre	101.36	130.38	50.64
Gain per acre	11.04	71.19	.28
Average per bushel			
Total cost per bushel	$.69	$.38	$.95
Total returns per bushel	.78	.85	.95
Net cost* per bushel	.52	.29	.80
Net returns* per bushel	.61	.76	.80
Gain per bushel	.09	.47	.00
Return per hour of labor	$.41	$1.26	$.32
Yield per acre	129 bu.	153 bu.	53 bu.

* Net cost if the total cost per bushel minus the cost of packages, commissions, hired packing, storage, and transportation; net returns are the total returns minus these same items.

Table 32. Pears

1939 (8 farms)		1938	1937
Average per acre			
Growing:			
Orchard overhead	$10.56	$ 7.95	$ 9.65
184 pounds of fertilizer at $28.37 per ton	2.61	2.54	2.95
Spray and dust materials	2.46	3.46	3.58
15.8 hours of labor at 28 cents per hour	4.35	4.51	6.26
3.7 hours of horse work at 14 cents per hour	.52	.49	.53
1.5 hours of tractor work at 40 cents per hour	.60	1.14	.86
Other equipment	3.17	2.75	2.05
Interest	.24	.22	.40
All other	.30	.92	1.77
Total growing	24.81	23.98	28.05
Harvesting	14.85	16.93	8.58
Storing and selling	10.56	13.58	9.88
Total cost per acre	50.22	54.49	46.51
Returns per acre	60.10	56.60	55.17
Gain per acre	9.88	2.11	8.66
Average per bushel			
Total cost per bushel	$.60	$.55	$ .89
Total returns per bushel	.72	.57	1.05
Net cost* per bushel	.50	.45	.76
Net returns* per bushel	.62	.47	.92
Gain per bushel	.12	.02	.16
Return per hour of labor	$.46	$.33	$.50
Yield per acre	83 bu.	100 bu.	52 bu.

* Net cost is the cost per bushel minus the cost of packages, commissions, hired packing, storage and transportation; net returns are the total returns minus these same items.

Pear growers spent about $50 an acre and got $60 for the fruit. Pears paid for the 60 hours of labor spent on an acre at the rate of 46 cents per hour. The pear orchards were not cared for as intensively as the apples, as indicated by the $2.46 per acre for spray materials as compared with $12.09 for apples. Pears probably would not have paid for intensive care.

Table 33. Cherries

1939 (5 farms)		1938	1937
Average per acre			
Growing:			
Orchard overhead	$12.61	$ 9.20	$12.80
0.3 ton of manure at $1.93 per ton	.58	4.78	2.93
314 pounds of fertilizer at $27.32 per ton	4.29	4.10	4.24
Spray and dust materials	5.37	8.70	6.56
20.6 hours of labor at 30 cents per hour	6.16	9.10	10.64
2.7 hours of horse work at 14 cents per hour	.39	1.45	1.11
4.4 hours of tractor work at 40 cents per hour	1.74	2.22	3.03
Other equipment	5.95	3.80	6.15
Interest	.42	.62	.76
All other	.70	1.15	1.46
Total growing	38.21	45.12	49.68
Harvesting	74.40	55.56	77.68
Storing and selling	10.68	10.34	29.36
Total cost per acre	123.29	111.02	156.72
Returns per acre	108.13	168.46	343.22
Gain per acre	-15.16	57.44	186.50
Average per pound			
Total cost per pound	$.023	$.022	$.026
Total returns per pound	.020	.033	.057
Net cost* per pound	.022	.020	.025
Net returns* per pound	.019	.031	.056
Gain per pound	-.003	.011	.031
Return per hour of labor	$.25	$.46	$.85
Yield per acre	5506 lbs.	5173 lbs.	6037 lbs.

* Net cost is the total cost per pound minus the cost of packages, commissions, hired packing, storage, and transportation; net returns are the total returns minus these same items.

More than one-half the cost of producing cherries was in harvesting the fruit. The cost of picking and hauling to the processing plant was 1.4 cents per pound, or $74 per acre. Cherry prices were lower than in recent years, averaging only 1.9 cents per pound. The cost of production averaged 0.3 cent per pound more than the price received, resulting in a loss of $15 per acre.

Sour cherries accounted for about 95 per cent of the production, and sweet cherries about 5 per cent.

Hay, Silage and Grain

Cost records were kept on 1661 acres of small grains of which 991 acres, or 60 per cent, was seeded to hay or pasture mixtures. Costs on 1189 acres of new seedings were calculated, of which 1002 acres were with the small grains mentioned above, 91 acres with other nurse crops, and 97 acres were seeded without nurse crops. The cost of the new seedings, when seeded with a nurse crop, was considered to be the cost of the seed, inoculant, use of special equipment, lime, about two-thirds of the fertilizer, and any special labor directly connected with the seeding. The preparation of the seed-bed, interest and taxes on the land, and all other costs that would have been incurred had the grain been grown alone, were charged to the grain crop. The allocation of these costs is discussed in detail in a mimeographed report.

The cost of hay to harvest time averaged about $9 per acre (tables 34 and 35). The cost of establishing the seeding chargeable to one year was about $3 per acre on the alfalfa fields, and about $2 on the fields of hay other than alfalfa. Interest and taxes on the land was a little more than $3 per acre. Manure chargeable to the current year accounted for a $2-per-acre charge on the alfalfa fields and about $4 on the other fields.

Harvesting charges were higher per acre for the alfalfa fields because a large proportion of the acreage was mowed more than once. The total cost per acre of alfalfa in 1939 was $19, or about $2 higher than for hay other than alfalfa. However, since the alfalfa yield was 31 per cent above the average yield of other hay, the cost of alfalfa was $10.48 per ton, or $2.22 less than the cost of other hay. Alfalfa is a low-cost crop when grown under conditions that will result in good yields.

Hay prices were high in the short crop year of 1939. Alfalfa raised on these farms was valued at an average of $13.75 per ton, making a return for the 1.7 tons raised on an acre of about $24.

The cost of raising an acre of corn silage and getting it in the silo was about twice the cost of raising an acre of alfalfa hay and getting it in the barn. The feeding value of the silage from one acre was equivalent to the alfalfa hay produced on about 1.5 acres.

About one-third of the cost of raising silage to harvest time was for manure (table 36). Manure is charged to the 4 crops following the application. It is assumed that the first crop receives 40 per cent of the benefit of the manure, the second crop 30 per cent, the third crop 20 per cent, and the fourth crop 10 per cent. On this basis, corn silage was charged for 4.8 tons of manure in 1939.

Binding the corn, hauling it to the silo, cutting and blowing it into the silo cost an average of $1.37 per ton. About one-half the cost of harvesting was for labor and the other half for power and equipment. It required 2.2 hours of man labor to get a ton of standing corn from the field into the silo.

The average cost of growing, harvesting, and storing a ton of silage was $4.33. Good-quality hay at $13 per ton would have provided digestible nutrients at about the same cost as the silage raised by these farmers, assuming that 3 tons of silage is equal to 1 ton of good hay.

Seven farmers made some silage from crops other than corn. The crop from 65 acres of grass, 5 acres of oats, 6 acres of millet, and 3 acres of soybeans was cut green and ensiled. The time required to harvest a ton andput it in the silo was the same as for corn silage, or 2.3 man hours. The total cost was $1.19 more than for corn silage, or $5.52 per ton.

Five farmers used molasses, one used phosphoric acid, and 3 used no preservative. The cost of preservative was 62 cents per ton for the 6 farms using it.

Corn which was allowed to mature for grain cost about the same amount per acre as corn silage. Yields of 42 bushels of shelled corn per acre and prices of 93 cents per bushel, together with the stover, produced an income of almost $42 per acre (table 37). The high value of the corn, compared with market prices of feed corn, is due to the fact that part of the acreage was hybrid corn raised under contract for seed purposes.

The average cost of raising an acre of small grains to harvest time was between $15 and $17 for each of the 4 grains (tables 38, 39, 40, and 41). Combines were used to harvest part of the acreage, and binders for the other part. The average cost of getting an acre of standing grain from the field to the granary, and the straw to the straw stack, was between $5 and $6. Storing costs, consisting principally of interest on the market value of the grain, and any commission or cartage in selling, were between $1.50 and $2.50 per acre for the grain for an acre. The total cost of growing, harvesting, and storing an acre of small grain and straw was about $25, or about $6 more than an acre of alfalfa hay. This includes all the cost of preparing the seed-bed on fields of small grain seeded to hay.

Yields of small grains were relatively good in 1939, averaging better than 30 bushels for each of the 4 grains.

Wheat was the only small grain which showed a substantial profit, averaging 18 cents per bushel. Wheat was produced at a lower cost per pound than any of the other 3 small grains.

Table 34. Alfalfa

1939 (40 farms)		1938	1937
Average per acre			
Growing:			
Land	$ 3.20	$ 3.37	$ 3.59
1.2 tons of manure at $1.72 per ton	2.06	2.22	2.17
4 pounds of fertilizer at $20.00 per ton	.04	.13	.67
Share of seeding cost	2.97	2.80	2.68
Interest	.25	.26	.27
All other	.17	.10	.12
Total growing	8.69	8.88	9.50
Harvesting	6.08	7.56	7.77
Storing and selling	3.89	3.99	4.14
Total cost per acre	18.66	20.43	21.41
Returns per acre for hay	23.97	19.28	22.54
Value of aftermath	.39	.62	.00
Gain per acre	5.70	-.53	1.13
Average per ton			
Growing	$ 4.99	$ 3.97	$ 4.23
Harvesting:			
5.0 hours of labor at 30 cents per hour	1.49	1.59	1.64
3.8 hours of horse work at 19 cents per hour	.73	.67	.80
0.5 hour of tractor work at 54 cents per hour	.27	.19	.21
Equipment	.98	.91	.78
All other	.01	.01	.03
Total harvesting	3.48	3.37	3.46
Storing and selling:			
Buildings	1.75	1.41	1.42
Interest	.29	.20	.26
All other	.19	.17	.16
Total storing and selling	2.23	1.78	1.84
Total cost per ton	10.70	9.12	9.53
Cost per ton (value of pasture deducted)	10.48	8.85	9.21
Returns per ton	13.75	8.61	9.71
Gain per ton	3.27	-.24	.50
Return per hour of labor	$.93	$.26	$.38
Yield per acre	1.7 tons	2.2 tons	2.2 tons

Table 35. Hay Other Than Alfalfa

	1939 (66 farms)	1938	1937
Average per acre			
Growing:			
Land	$ 3.29	$ 3.42	$ 3.40
2.2 tons of manure at $1.78 per ton	3.92	3.68	3.96
9 pounds of fertilizer at $22.22 per ton	.10	.02	.12
Share of seeding cost	2.12	1.71	1.07
Interest	.27	.26	.26
All other	.15	.05	.12
Total growing	9.85	9.14	8.93
Harvesting	4.28	4.91	5.33
Storing and selling	2.66	2.83	3.34
Total cost per acre	16.79	16.88	17.60
Returns per acre for hay	15.59	12.17	14.22
Value of aftermath	.33	.70	.57
Gain per acre	-.87	-4.01	-2.81
Average per ton			
Growing	$ 7.60	$ 5.51	$ 5.12
Harvesting:			
4.8 hours of labor at 30 cents per hour	1.46	1.45	1.46
3.7 hours of horse work at 20 cents per hour	.73	.57	.69
0.4 hour of tractor work at 52 cents per hour	.21	.25	.20
Equipment	.87	.68	.69
All other	.03	.01	.01
Total harvesting	3.30	2.96	3.05
Storing and selling:			
Buildings	1.65	1.43	1.58
Interest	.28	.17	.24
All other	.12	.11	.09
Total storing and selling	2.05	1.71	1.91
Total cost per ton	12.95	10.18	10.08
Cost per ton (value of pasture deducted)	12.70	9.76	9.77
Returns per ton	12.02	7.34	8.16
Gain per ton	-.68	-2.42	-1.61
Return per hour of labor	$.16	$-.19	$-.02
Yield per acre	1.3 tons	1.7 tons	1.7 tons

Table 36. Corn Silage

	1939 (46 farms)	1938	1937
Average per acre			
Growing:			
Land	$ 3.19	$ 3.54	$ 3.62
4.8 tons of manure at $1.73 per ton	8.30	7.87	9.31
85 pounds of fertilizer at $28.47 per ton	1.21	1.31	1.27
9.9 quarts of seed at $2.81 per bushel	.87	.98	1.04
11.8 hours of labor at 28 cents per hour	3.33	4.04	3.66
14.2 hours of horse work at 17 cents per hour	2.44	2.83	2.81
3.7 hours of tractor work at 54 cents per hour	2.00	2.00	2.05
Other equipment	1.55	1.61	1.90
Interest	.18	.18	.48
All other	.49	.39	.47
Total growing	23.56	24.80	26.31
Harvesting	11.18	14.93	13.15
Storing	3.00	3.32	3.51
Total cost per acre	37.74	43.05	43.07
Average per ton			
Growing	$ 2.89	$ 2.41	$ 3.02
Harvesting:			
2.2 hours of labor	.61	.73	.69
1.5 hours of horse work	.28	.25	.25
0.2 hour of tractor work	.13	.10	.12
Equipment	.27	.34	.38
All other	.08	.03	.05
Total harvesting	1.37	1.45	1.49
Storing:			
Silo	.32	.27	.36
All other	.07	.06	.02
Total storing	.39	.33	.38
Total cost per ton	4.65	4.19	4.89
Net cost per ton (value of ear corn deducted)	4.33	3.98	4.66
Yield per acre	8.1 tons	10.2 tons	8.8 tons

Table 37. Corn for Grain

1939 (23 farms)		1938	1937
Average per acre			
Growing:			
Land	$ 4.18	$ 4.15	$ 4.45
2.6 tons of manure at $1.91 per ton	4.96	5.65	5.12
123 pounds of fertilizer at $27.64 per ton	1.70	1.52	1.21
7 quarts of seed at $9.46 per bushel	2.07	1.20	.75
16.2 hours of labor at 29 cents per hour	4.66	4.50	5.25
12.8 hours of horse work at 20 cents per hour	2.55	3.55	3.64
3.8 hours of tractor work at 43 cents per hour	1.63	1.83	1.99
Other equipment	1.81	1.44	1.82
Interest	.17	.15	.25
All other	1.40	.63	.80
Total growing	25.13	24.62	25.28
Harvesting	12.56	13.80	15.31
Storing and selling	2.60	1.62	2.23
Total cost per acre	40.29	40.04	42.82
Returns per acre	41.76	36.84	38.46
Gain per acre	1.47	-3.20	-4.36
Average per bushel			
Growing	$ .60	$ .60	$ .65
Harvesting	.30	.34	.39
Storing and selling	.06	.04	.06
Total cost per bushel	.96	.98	1.10
Cost per bushel (stover deducted)	.89	.92	.95
Returns per bushel	.93	.84	.84
Gain per bushel	.04	-.08	-.11
Return per hour of labor	$.32	$.23	$.25
Yield per acre	42 bu.	41 bu.	39 bu.

Table 38. Mixed Spring Grain

1939 (31 farms)		1938	1937
Average per acre			
Growing:			
Land	$ 3.14	$ 3.13	$ 3.68
2.4 tons of manure at $1.85 per ton	4.45	4.12	3.98
135 pounds of fertilizer at $22.81 per ton	1.54	1.68	2.06
2.3 bushels of seed at 70 cents per bushel	1.60	1.50	2.27
6.5 hours of labor at 30 cents per hour	1.93	2.09	2.02
6.7 hours of horse work at 19 cents per hour	1.26	1.39	1.38
3.0 hours of tractor work at 54 cents per hour	1.61	1.72	1.58
Other equipment	1.18	1.12	1.09
Interest	.17	.17	.22
All other	.10	.04	.05
Total growing	16.98	16.96	18.33
Harvesting:			
7.7 hours of labor	2.21	2.49	2.45
3.5 hours of horse work	.71	.81	.76
0.6 hour of tractor work	.31	.33	.31
Threshing and combining	1.42	1.77	1.07
2.1 pounds of twine	.17	.19	.22
All other	.84	.86	1.26
Total harvesting	5.66	6.45	6.07
Storing and selling	1.50	1.29	1.44
Total cost per acre	24.14	24.70	25.84
Returns from grain	20.27	16.61	14.20
Returns from straw	4.58	3.37	3.05
Gain per acre	.71	-4.72	-8.59
Average per bushel			
Growing	$ .47	$ .50	$ .71
Harvesting	.16	.19	.23
Storing and selling	.04	.04	.06
Total cost per bushel	.67	.73	1.00
Cost per bushel (straw deducted)	.54	.63	.88
Returns per bushel	.56	.49	.55
Gain per bushel	.02	-.14	-.33
Return per hour of labor	$.34	$-.01	$-.28
Yield per acre	36 bu.	34 bu.	26 bu.

Table 39. Oats

1939 (29 farms)		1938	1937
Average per acre			
Growing:			
Land	$ 3.51	$ 3.75	$ 4.17
1.9 tons of manure at $1.93 per ton	3.67	3.89	2.96
113 pounds of fertilizer at $22.12 per ton	1.25	1.34	1.99
2.3 bushels of seed at 53 cents per bushel	1.23	1.46	1.92
5.9 hours of labor at 28 cents per hour	1.67	1.90	1.85
6.2 hours of horse work at 19 cents per hour	1.15	1.58	1.65
2.6 hours of tractor work at 50 cents per hour	1.29	1.17	1.19
Other equipment	.89	1.09	1.36
Interest	.15	.16	.19
All other	.25	.24	.18
Total growing	15.06	16.58	17.46
Harvesting:			
7.5 hours of labor	2.16	2.64	2.76
2.6 hours of horse work	.48	.57	.71
0.9 hour of tractor work	.53	.37	.68
Threshing and combining	1.60	1.37	1.22
2.3 pounds of twine	.17	.20	.22
All other	.71	1.03	.91
Total harvesting	5.65	6.18	6.50
Storing and selling	2.24	1.98	1.84
Total cost per acre	22.95	24.74	25.80
Returns from grain	18.14	14.59	13.82
Returns from straw	2.83	2.61	2.90
Gain per acre	-1.98	-7.54	-9.08
Average per bushel			
Growing	$ .40	$ .42	$ .61
Harvesting	.15	.16	.22
Storing and selling	.06	.05	.06
Total cost per bushel	.61	.63	.89
Cost per bushel (straw deducted)	.53	.56	.80
Returns per bushel	.48	.37	.48
Gain per bushel	-.05	-.19	-.32
Return per hour of labor	$.14	$-.18	$-.26
Yield per acre	38 bu.	39 bu.	29 bu.

Table 40. Barley

1939 (14 farms)		1938	1937
Average per acre			
Growing:			
Land	$ 3.68	$ 3.96	$ 4.22
2.4 tons of manure at $1.79 per ton	4.30	4.58	4.31
115 pounds of fertilizer at $21.74 per ton	1.25	1.17	3.76
2.1 bushels of seed at 79 cents per bushel	1.65	1.96	2.45
5.8 hours of labor at 30 cents per hour	1.75	1.45	1.44
3.5 hours of horse work at 23 cents per hour	.79	.78	.87
3.5 hours of tractor work at 49 cents per hour	1.71	1.32	1.65
Other equipment	1.54	.99	1.03
Interest	.18	.15	.25
All other	.05	.23	.23
Total growing	16.90	16.59	20.21
Harvesting:			
6.3 hours of labor	1.96	1.90	2.30
1.2 hours of horse work	.23	.42	.44
1.0 hour of tractor work	.46	.43	.62
Threshing and combining	1.28	1.26	.95
1.1 pounds of twine	.08	.15	.19
All other	1.07	.54	.81
Total harvesting	5.08	4.70	5.31
Storing and selling	1.93	1.61	2.07
Total cost per acre	23.91	22.90	27.59
Returns from grain	20.67	16.61	21.12
Returns from straw	2.09	2.11	2.43
Gain per acre	-1.15	-4.18	-4.04
Average per bushel			
Growing	$ .55	$ .61	$ .76
Harvesting	.16	.17	.20
Storing and selling	.07	.06	.08
Total cost per bushel	.78	.84	1.04
Cost per bushel (straw deducted)	.71	.76	.95
Returns per bushel	.67	.61	.80
Gain per bushel	-.04	-.15	-.15
Return per hour of labor	$.21	$-.06	$-.01
Yield per acre	31 bu.	27 bu.	26 bu.

Table 41. Wheat

1939 (32 farms)		1938	1937
Average per acre			
Growing:			
Land	$ 4.48	$ 4.69	$ 4.69
1.2 tons of manure at $1.92 per ton	2.31	2.83	3.16
146 pounds of fertilizer at $27.95 per ton	2.04	2.64	2.67
2.0 bushels of seed at 87 cents per bushel	1.74	2.68	2.73
5.5 hours of labor at 32 cents per hour	1.78	1.82	1.87
4.0 hours of horse work at 16 cents per hour	.66	1.02	.96
3.2 hours of tractor work at 50 cents per hour	1.60	1.36	1.53
Other equipment	1.02	.94	.83
Interest	.45	.52	.59
All other	.27	.15	.00
Total growing	16.35	18.67	19.03
Harvesting:			
6.4 hours of labor	1.91	2.33	2.74
2.2 hours of horse work	.43	.33	.80
0.7 hour of tractor work	.36	.44	.32
Threshing and combining	1.49	1.54	1.79
1.5 pounds of twine	.11	.15	.22
All other	1.16	1.33	.86
Total harvesting	5.46	6.12	6.73
Storing and selling	2.41	2.99	2.87
Total cost per acre	24.22	27.78	28.63
Returns from grain	26.22	23.18	30.06
Returns from straw	3.38	3.02	3.55
Gain per acre	5.38	-1.58	4.98
Average per bushel			
Growing	$ .53	$ .57	$ .65
Harvesting	.18	.19	.23
Storing and selling	.07	.09	.10
Total cost per bushel	.78	.85	.98
Cost per bushel (straw deducted)	.67	.76	.85
Returns per bushel	.85	.71	1.02
Gain per bushel	.18	-.05	.17
Return per hour of labor	$.73	$.21	$.62
Yield per acre	31 bu.	33 bu.	29 bu.

The crop year 1939 is the twenty-sixth consecutive year in which data on costs and returns on a group of New York farms have been tabulated on a comparable basis. Of the 24 income-producing enterprises reported on in this report, 10 have been studied for the full twenty-six-year period, and most of them, except the fruit accounts, have been studied for at least ten years.

Poultry enterprises have paid relatively well during these years. Returns per hour both in raising pullets and in producing eggs were much lower in 1939 than the average of the longer period (table 42). Dairy cows have been the most important outlet for a large amount of family labor at wages which have not been high enough to justify employing help but to enable the farm family to turn time into money and thus made a living and pay off the mortgage. Potatoes, cabbage, and tomatoes have been among the better-paying annual crops. Alfalfa has paid better tham any of the other hay or grain crops. Apples have paid well, although in 1939 apple prices were disastrously low. Sheep, hogs, and grain production have been among the less-profitable enterprises.

In general, the New York producers of such bulky and perishable products as milk, eggs, cabbage, and apples have had an advantage over the producers of staples which can be shipped economically for long distances, such as grains and meats.

This report gives results for 1939 in detail, and some comparisons for 1938 and 1937. Changes and trends over a longer period are given in Cornell Extension Bulletin 439, "Twenty-five Years of Farm Cost Accounts".

Table 42. Summary of returns per hour of labor

Farm enterprises	Averages by five-year periods					
	1914 to 1918	1919 to 1923	1924 to 1928	1929 to 1933	1934 to 1938	1939
Livestock						
Dairy cows	$.30	$.25	$.40	$.14	$.25	$.25
Hens	.28*	.84	.47	.31	.29	.27
Raising chicks	-	-	-	.46	.33	.29
Incubation	-	-	-	-	1.91	1.19
Sheep	-	-	-	-.73	.06	-.03
Feeder lambs	-	-	-	.04	.18	-.18
Hogs	-	-	-	-.03	.24	.00
Fruit						
Apples	-	.79	.79	.45	.45	.09
Cherries	-	-	-	-	.64	.25
Peaches	-	-	-	-	.54	.41
Pears	-	-	-	-	.36	.46
Grain						
Barley	.03	-.28	.07	-.34	.07	.21
Corn	.13	-.01	-.13	.03	.22	.32
Oats	.11	-.31	.03	-.34	-.02	.14
Mixed spring grains	-	-	-	-.30	-.03	.34
Wheat	.58	-.03	.20	-.03	.47	.73
Hay						
Alfalfa	.82	.94	.78	.31	.53	.93
All other hay	.73	.66	.08	-.01	.18	.16
Vegetables						
Beans, dry	.12	.23	-.06	.05	.30	.30
Cabbage	.46	.45	.49	.34	.48	.92
Corn, sweet	-	-	-	-	.42	.47
Peas, canning-factory	-	-	-	.21	.16	.06
Potatoes	.49	.51	.89	.52	.50	.74
Tomatoes, canning-factory	-	-	-	.24*	.41	.41

* Less than five years.