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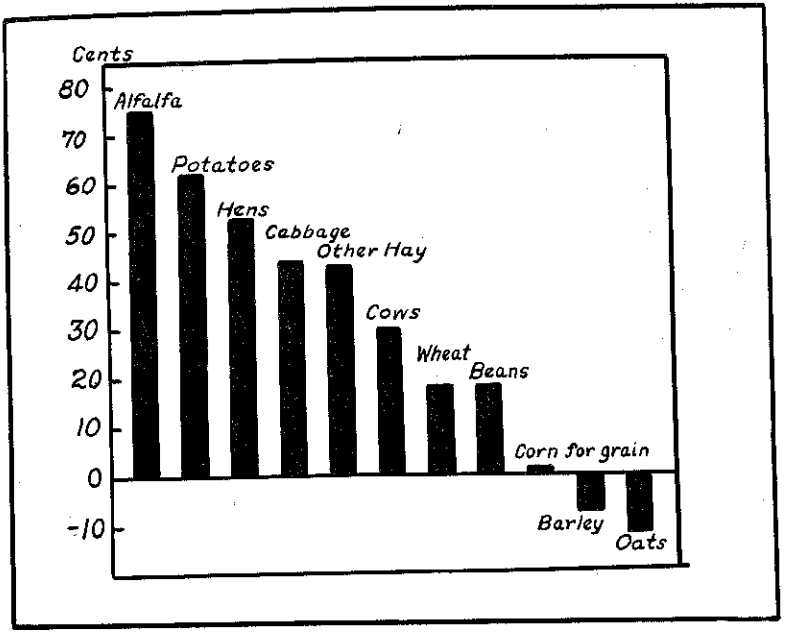
Cost Accounts on New York Farms

J. F. Harriott and L. M. Vaughan



AVERAGE RETURN PER HOUR OF LABOR, 1914 TO 1931

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COST ACCOUNTS ON NEW YORK FARMS

J. F. HARRIOTT AND L. M. VAUGHAN

Results of cost accounts on New York farms have been published in bulletins of the Cornell University Agricultural Experiment Station,[1] and in Farm Economics.[2] The development of farm cost accounting on New York farms, and the methods of obtaining the data and closing the accounts are described in bulletins 377 and 414. In this bulletin results are given from cost accounts for the years 1927 to 1930[3]. Some data from the earlier publications and studies are included to show changes in costs, returns, and labor requirements for some of the more important enterprises on New York farms.

COST-ACCOUNT FARMS COMPARED WITH ALL NEW YORK FARMS

In 1930, the average size of the farms with cost accounts was 187 acres. This is two-thirds larger than the average for the State. Farm values averaged $20,946 per farm, or $112 per acre, compared with $8247 per farm, or $73 per acre, for all New York farms. The acres of cropland averaged 113 per farm on cost-account farms and 51 acres per farm for all New York farms.

The value of the buildings averaged $13,557 per farm, or 45 per cent of the farm value. For all New York farms, the value of the buildings averaged $6767 per farm, or 44 per cent of the total farm value.

Farmers with cost accounts had an average of 4 horses and an investment in machinery and tools of $2485 per farm. The average for all New York farms was 2 horses per farm and $1086 worth of machinery and tools.

In general, farmers who keep cost accounts have a larger capital investment; they grow more crops, keep more livestock, and hire more labor than the average New York farmer. The moderate size of farm and volume of business, the good soils, the conveniently arranged buildings, and many other factors all contribute to make these farms much better than the average.

The averages for the different enterprises reported in this bulletin are not typical for the average farms in the State. They probably reflect the relative costs and returns on good farms.

AUTHORS' ACKNOWLEDGMENT. The writers wish to acknowledge their appreciation of the fine cooperation of the many farmers who kept the records, and of the assistance given by a number of graduate students in closing the accounts and preparing the yearly summaries.

[1] Cost Accounts on Some New York Farms, by C. E. Ladd, Cornell Univ. Agr. Exp. Sta. Bul. 377. 1916.
Cost Accounts for Six Years on Some Successful New York Farms, by G. F. Warren, and others, Cornell Univ. Agr. Exp. Sta. Bul. 414. 1923.

[2] New York State Farm Cost Accounting Results, by C. V. Noble, Farm Economics, No. 20, p. 208–15. December, 1924.
Labor Requirements for Plowing, by R. D. Reid, and J. F. Harriott, Farm Economics, No. 47, p. 766–7, September, 1927.
Capital and Income on Cost Account Farms, by J. F. Harriott. Farm Economics, No. 48, p. 782–3, October, 1927.
Labor Costs and Returns, by J. F. Harriott and L. E. Cruikshank. Farm Economics, No. 55, p. 984–8, November, 1928.
Labor Cost on 36 New York Farms, 1928, by J. F. Harriott, Farm Economics, No. 60, p. 1146–7, August, 1929.

[3] Figures for 1931 have been inserted in some of the tables but not in the text.

TABLE 1. COMPARISON OF FARMS ON WHICH COST ACCOUNTS WERE KEPT IN 1930 WITH ALL NEW YORK FARMS

	Average of all New York farms (1930 census)	Average of 68 cost-account farms, 1930
Acres per farm	113	187
Value per farm	$8,247	$20,946
Value per acre (land and buildings)	$73	$112
Acres of cropland per farm	51	113
Value of dwellings per farm	$2,294	$4,087
Value of all other buildings per farm	$4,473	$9,470
Per cent of farm valuation in buildings	44	45
Value of all equipment per farm	$1,086	$2,485
Number of horses per farm	2	4

OVERHEAD COSTS

On 68 farms with cost accounts for 1930, the total of overhead expense averaged $3191 per farm. Of this total, interest at 5 per cent on the average value of land and buildings accounted for 33 per cent; depreciation, repairs, and interest on equipment were 25 per cent; the costs of keeping the work horses were 18 per cent; depreciation and repairs on buildings were 13 per cent; and taxes were 8 per cent.

The average number of men for the year was 3. The overhead cost per man was $1064. With 2 men per farm, the overhead cost per man was $1148, and 32.2 per cent of the receipts was needed to pay the overhead charges. With 4.3 men per farm, the overhead cost per man was $983, and 26.2 per cent of the receipts would pay the overhead charges (table 2).

TABLE 2. OVERHEAD COSTS ON 68 FARMS, 1930

Items of cost	All farms		Average annual cost per man with		
	Average annual cost per farm	Per cent of total cost	Less than 2.5 men per farm	2.5 to 3.0 men per farm	More than 3.0 men per farm
Interest on value of farm	$1,047	32.8	$ 326	$ 352	$355
Taxes	262	8.2	93	91	81
Depreciation, interest, and repairs on equipment	800	25.1	290	287	240
Cost to keep work horses	591	18.5	258	207	159
Depreciation and repairs on buildings	414	13.0	156	148	122
Insurance	77	2.4	25	25	26
Total	$3,191	100.0	$1,148	$1,110	$983
Average number of men	3.0	.....	2.0	2.8	4.3
Per cent of receipts to pay overhead	29.0	.....	32.2	31.1	26.2

COST TO MAINTAIN BUILDINGS

The average value of 75 dwellings on 66 farms was $2816. The annual maintenance cost was $333 per dwelling, or 11.8 per cent of the value. Of the net maintenance cost for the year, interest accounted for 42 per cent, depreciation and repairs 36 per cent, taxes 11 per cent, and insurance 4 per cent (table 3).

TABLE 3. COST OF MAINTAINING FARM DWELLINGS, 1930*
(75 dwellings on 66 farms; value per dwelling, $2816)

Items of cost	Cost per dwelling	Per cent of total cost	Cost in per cent of value
Interest at 5 per cent	$140.81	42.3	5.0
Taxes	35.50	10.6	1.3
Insurance	14.84	4.4	0.5
Share of general farm expense	22.37	6.7	0.8
Repairs and depreciation	119.76†	36.0	4.2
Total	$333.28	100.0	11.8

* Does not include tenant houses.
† The total expense for materials, labor, and equipment, for repairs and improvements was $202.36 per dwelling. An allowance of $82.60 for increased value made the net cost of repairs and depreciation $119.76.

The value of all buildings except houses averaged $5373 per farm. The annual maintenance cost of these buildings averaged $669 per farm, or 12.4 per cent of their value. Of the annual maintenance cost, interest accounted for 40 per cent, depreciation and repairs 39 per cent, taxes 10 per cent, and insurance 4 per cent (table 4).

TABLE 4. COST OF MAINTAINING FARM BUILDINGS, 67 ACCOUNTS, 1930*
(Value of all buildings, except houses, per farm $5373)

Items of cost	Cost per farm	Per cent of total cost	Cost in per cent of value
Interest at 5 per cent	$268.66	40.1	5.0
Taxes	68.62	10.3	1.3
Insurance	30.25	4.5	0.6
Share of general farm expense	42.60	6.4	0.7
Repairs and depreciation	258.77†	38.7	4.8
Total	$668.90	100.0	12.4

* All buildings except dwellings and tenant houses.
† The total expense for repairs and improvements to buildings averaged $419.29 per farm. An allowance of $160.52 for increased value made the net cost of repairs and depreciation $258.77.

COST TO MAINTAIN CROPLAND

The average acreage of cropland per farm in 1930 was 113 acres, and the average value per acre was $67. The annual cost of maintaining this cropland was $6.10 an acre, or 9.1 per cent of the value of the land. Interest accounted for 55 per cent, and taxes for 14 per cent of the cost (table 5).

TABLE 5. COST OF MAINTAINING CROPLAND, 68 ACCOUNTS, 1930
(Acres of cropland per farm, 113; value per acre $67)

Items of cost	Cost per acre	Per cent of total cost	Cost in per cent of value
Interest at 5 per cent	$3.38	55.4	5.0
Taxes	0.84	13.8	1.3
Share of general farm expense	0.52	8.5	0.8
Materials, labor, and use of farm equipment	1.36*	22.3	2.0
Total	$6.10	100.0	9.1

* The total expense per acre for tile and dynamite and for farm labor and equipment was $1.72 per acre. An allowance of 36 cents per acre for increased value of the cropland made the net maintenance cost $1.36 per acre.

Some averages from accounts with land and buildings for the years 1914 to 1931 are shown in table 6.

TABLE 6. AVERAGES FROM ACCOUNTS WITH REAL ESTATE, 1914–1931

Year	Number of accounts	Acres per farm	Value per farm	Value per acre	Annual cost of buildings in per cent of value of other buildings	Crop acres per farm	Value of cropland per acre	Annual cost of cropland in per cent of value
1914	17	166	$13,873	$ 84	10.0	109	$74	6.6
1915	45	151	12,227	81	10.4	94	68	6.3
1916	30	176	15,013	85	8.3	110	74	6.6
1917	31	168	14,513	86	9.2	104	74	7.1
1918	28	165	15,249	92	9.3	103	82	6.7
1919	35	165	15,186	92	10.1	102	80	7.2
1920	33	167	17,148	103	10.6	104	90	7.4
1921	34	175	18,727	107	11.7	101	93	7.8
1922	30	177	19,438	110	11.2	103	92	7.3
1923	26	186	20,380	110	10.2	111	86	7.2
1924	34	193	20,573	107	11.3	110	82	7.6
1925	32	198	19,687	99	10.8	109	78	7.5
1926	32	200	19,136	96	11.2	114	72	7.9
1927	85	176	19,337	110	11.4	124	71	7.5
1928	70	186	19,831	107	12.2	115	71	7.6
1929	33	185	22,258	120	12.5	129	69	8.1
1930	68	187	20,946	112	12.7	114	66	8.6
1931	70	203	21,298	105	11.1	120	63	8.0

HORSE-LABOR COSTS

With 4.2 horses per farm, the average cost to keep a horse for the years 1927 to 1930 was $164.96. Of this total, 50.3 per cent was for feed and bedding, 26.5 per cent was for man labor, 9 per cent was for depreciation, 4.1 per cent was for interest, and 10.1 per cent was for all other costs. Allowing a credit for manure of $11.66, the net cost of horse labor was $153.30 per horse, or 20.6 cents per hour worked (table 7).

TABLE 7. COSTS OF KEEPING FARM HORSES, 1927–1930

	1927		1928		1929		1930		1927–1930		
Year											
Number of accounts	70		61		60		64		255		
Horses per farm	4.4		4.2		4.0		4.0		4.2		
Hours worked per horse	763		759		722		743		747		
Value per horse	$109		$110		$120		$118		$114		
	Quantity per horse	Value per horse	Quantity per horse	Value per horse	Quantity per horse	Value per horse	Quantity per horse	Value per horse	Quantity per horse	Value per horse	Per cent
Cost:											
Grain (pounds)	2,187	$36.01	2,088	$41.32	2,110	$40.17	1,770	$31.04	2,039	$37.14	22.3
Hay (tons)	3.4	34.67	3.3	33.34	3.3	36.92	2.7	34.68	3.2	34.90	21.2
Other feed and bedding	.....	9.08	.....	10.67	.....	11.34	.....	13.52	.....	11.15	6.8
Total	.....	$79.76	.....	$85.33	.....	$88.43	.....	$79.24	.....	$83.19	50.3
Man labor (hours)	100.4	$ 41.76	106.5	$ 46.19	102.0	$ 44.73	99.3	$ 42.13	102.0	$ 43.70	26.5
Depreciation	.....	$ 16.40	.....	$ 14.17	.....	$ 15.24	.....	$ 13.62	.....	$ 14.86	9.0
Interest	.....	6.40	.....	6.39	.....	7.18	.....	6.99	.....	6.74	4.1
Use of buildings	.....	7.48	.....	9.72	.....	11.49	.....	9.38	.....	9.52	5.8
Shoeing	.....	2.82	.....	2.83	.....	2.72	.....	2.55	.....	2.73	1.7
Veterinary and medicine	.....	.69	.....	1.19	.....	1.51	.....	1.09	.....	1.12	0.7
Other costs	.....	1.53	.....	5.13	.....	3.79	.....	1.95	.....	3.10	1.9
Total cost	.....	$156.84	.....	$170.95	.....	$175.09	.....	$156.95	.....	$164.96	100.0
Credits for manure	.....	$ 11.31	.....	$ 12.08	.....	$ 11.19	.....	$ 12.06	.....	$ 11.66	.....
Net cost of horse labor	.....	$145.53	.....	$158.87	.....	$163.90	.....	$144.89	.....	$153.30	.....
Cost per hour of work (cents)	19.1		20.9		22.7		19.5		20.6		

Tractors, trucks, and other machinery now furnish the power for much of the work formerly done by horses. On farms with cost accounts, most of the plowing and fitting is done with tractors, and most of the hauling from the farm is done with trucks. This substitution of machine power for horse power has resulted in decreases in the number of horses per farm and in total hours of horse labor per farm.

Most farmers feed grain to horses in proportion to the hours they work, and the severity of the work. With fewer hours and less strenuous work, less grain is fed. For the years 1914 to 1919, horses were fed an average of 3080 pounds of grain and worked an average of 974 hours per horse per year. For the years 1925 to 1929, horses were fed an average of 2227 pounds of grain and worked 793 hours.

Averages from accounts with farm work horses for the years 1914 to 1931 are shown in table 8.

TABLE 8. AVERAGES FROM ACCOUNTS WITH FARM WORK HORSES, 1914–1931

Year	Number of accounts	Number of horses per farm	Value per horse	Hours horses worked per farm	Hours worked per horse per year	Pounds of grain per horse	Pounds of dry forage per horse	Man hours to care for a horse	Cost of feed and bedding per horse	Total cost of keeping a horse	Cost per hour of horse labor (cents)
1914	18	5.1	$156	5,138	1,040	3,357	7,376	144	$104	$172	15.8
1915	46	4.9	154	4,988	1,016	3,074	6,094	143	97	169	15.5
1916	31	5.3	155	5,024	933	3,210	7,289	116	101	170	16.7
1917	31	5.1	148	4,813	922	2,736	7,755	116	123	203	19.7
1918	32	4.5	152	4,767	1,041	3,295	7,499	124	167	255	22.6
1919	37	4.5	147	4,085	895	2,810	6,858	117	146	237	24.4
1920	33	4.3	146	3,935	901	2,395	6,078	111	125	215	21.9
1921	34	4.3	132	3,880	906	2,405	6,059	108	96	189	19.1
1922	30	4.3	127	3,758	876	2,512	5,952	105	85	163	16.8
1923	26	4.3	117	3,842	885	2,681	6,616	110	100	179	18.6
1924	34	4.4	109	3,759	852	2,483	6,567	111	94	168	18.0
1925	32	4.1	105	3,447	838	2,327	6,326	112	91	160	17.3
1926	32	3.8	109	3,361	881	2,420	6,185	116	88	175	18.2
1927	70	4.4	109	3,394	763	2,188	6,808	100	80	157	19.1
1928	61	4.2	110	3,176	759	2,088	6,583	106	85	171	20.9
1929	60	4.0	120	2,870	722	2,110	6,560	102	88	175	22.7
1930	64	4.0	118	2,974	743	1,770	5,480	99	79	157	19.5
1931	69	3.8	113	2,960	783	2,188	6,232	96	69	151	19.3
Average: 1914–1919	195	4.9	$152	4,802	974	3,080	7,145	127	$123	$201	19.1
Average 1920–1924	157	4.3	126	3,835	884	2,495	6,254	109	100	183	18.9
Average 1925–1929	255	4.1	111	3,250	793	2,227	6,492	107	86	168	19.6

COST TO MAINTAIN FARM EQUIPMENT

The average inventory value of all farm equipment was $2458 per farm. The annual cost for depreciation, repairs, and interest on this equipment was $800, or about one-third of its value. The depreciation cost was 18 per cent of the value, repairs 8 per cent, and interest 6 per cent (table 9). If charges for housing, farm labor for repairs, and a share of the fire insurance costs, were added, it would bring the annual cost for all farm machinery to more than 40 per cent of its average value.

TABLE 9. DEPRECIATION, REPAIRS, AND INTEREST ON FARM EQUIPMENT, 68 FARMS, 1930*

Value of all equipment at beginning of year	$2,363
Purchases during the year	746
Value of all equipment at end of year	2,552
Sales and trade-in allowances	105

Items of cost	Cost per farm	Per cent of total cost	Cost in per cent of value
Depreciation	$453	56.6	18.4
Repairs	200	25.0	8.1
Interest at 6 per cent	147	18.4	6.0
Total for depreciation, repairs, and interest	$800	100.0	32.5

* Includes tractors, trucks, general farm machinery, and special equipment.

The average value of 68 tractors on 59 farms was $413. Each tractor was used an average of 406 hours at a cost of $310 for the year, or 76 cents per hour of tractor use. Of the total cost, fuel and oil represented about two-fifths, and depreciation about one-third (table 10).

TABLE 10. COST OF OPERATING TRACTORS, 1930*

(59 accounts with 69 tractors; average value per tractor $413; hours of use per tractor 406; cost per hour of use $0.76)

Items of cost	Cost per tractor	Cost per hour	Per cent of total
Fuel and oil	$126	$0.31	40.6
Depreciation	101	0.25	32.6
Repairs	27	0.07	8.7
Interest at 6 per cent	25	0.06	8.1
Farm labor for care and repairs	16	0.04	5.2
Housing	9	0.02	2.9
All other costs	6	0.01	1.9
Total	$310	$0.76	100.0

* Does not include charge for tractor operator or tools used with the tractor.

MAN-LABOR COSTS

Hired men are usually given board, or have the use of a house together with wood, milk, potatoes, garden, and other privileges. All of these items and the cash wages paid were included in the cost of man labor. Farm-labor costs also included an allowance for the operator's management as well as for the actual work which he did. In estimating the operator's wage allowance, the value of farm privileges received by the operator and his family was considered. The value of unpaid family labor was included as a cost, based on what it would cost to hire this same amount of work.

On 68 farms in 1930, the total cost of all man labor averaged $3766 per farm. Of this total cost, 47 per cent was for hired labor, 45 per cent for the operator, and 8 per cent for unpaid family labor (table 11).

There was an average of 36 months of labor per farm. This is equivalent to 3 men per farm for the year. Each worker put in an average of 2923 hours for the year. The average cost of an hour of man labor was 43 cents.

TABLE 11. COST OF MAN LABOR ON 68 FARMS, 1930

Items of cost	Cost per farm	Per cent of total
Operator:		
Wage (11.2 months)	$1,135	30.1
Privileges:		
House rent	270	7.3
Milk	76	2.0
Wood	62	1.6
Eggs	35	0.9
Meat	30	0.8
Potatoes	20	0.5
Garden	18	0.5
Fruit	9	0.2
All else	48	1.3
Total privileges of operator	$ 568	15.1
Unpaid family labor	$292	7.8
Hired labor:		
Wage	$1,459	38.7
Board	151	4.0
Privileges:		
House rent	87	2.3
Milk	26	0.7
Wood	22	0.6
Potatoes	8	0.2
All else	16	0.5
Total privileges of hired labor	$161	4.3
Total	$3,766	100.0

Hours of work per person 2,923; Cost of man labor per hour $0.43

Averages from accounts with man labor for the years 1914 to 1931 are shown in table 12.

TABLE 12. AVERAGES FROM ACCOUNTS WITH MAN LABOR, 1914–1931

Year	Number of accounts	Average number of workers	Hours of man labor per farm*	Hours worked per person per year	Cost per hour (cents)
1914	18	3.0	8,956	2,975	25.1
1915	46	2.7	8,424	3,164	26.0
1916	31	2.8	8,501	3,066	30.3
1917	31	2.8	8,285	2,948	35.6
1918	32	2.9	8,870	3,089	39.6
1919	38	2.7	8,339	3,086	41.4
1920	33	2.7	8,143	3,058	43.7
1921	34	2.8	8,618	2,076	39.0
1922	30	3.0	9,327	3,080	37.7
1923	26	3.0	9,648	3,184	37.8
1924	34	2.8	8,857	3,130	39.0
1925	32	2.8	8,912	3,218	39.5
1926	32	2.7	8,260	3,063	42.8
1927	81	2.6	7,622	2,970	41.4
1928	72	2.8	8,140	2,932	43.4
1929	73	2.8	8,539	3,056	42.6
1930	68	3.0	8,812	2,923	42.8
1931	71	3.5	10,609	2,992	36.5
Averages:					
1914–1919	196	2.8	8,562	3,055	33.0
1920–1924	157	2.9	8,919	3,015	39.4
1925–1929	290	2.7	8,295	3,048	41.9

* Includes some time for piece workers for picking up potatoes and picking apples, charges for which were made direct to the enterprise accounts concerned and not in the man-labor account.

BEANS, CABBAGE, POTATOES, AND CANNING CROPS

According to the United States Census, the total acreage of beans, cabbage, potatoes, canning crops, and all vegetable crops harvested on New York farms in 1929 was approximately 494,000 acres. This was about 7 per cent of the total acreage of all crops. The total acreage of these cash crops on New York farms in 1909 exceeded the acreage in 1929 by nearly 200,000 acres. However, the total acreage of all crops was also much higher in 1909. These cash crops accounted for about the same proportion of all crops in 1929 and in 1909. Between 1909 and 1929, the acreage of potatoes was reduced nearly one-half, the dry-bean acreage decreased about 14 per cent, the cabbage acreage remained about the same, and the acreage of canning crops and truck crops increased slightly (table 13).

TABLE 13. ACREAGE OF BEANS, CABBAGE, POTATOES, AND OTHER VEGETABLE CROPS ON NEW YORK FARMS*

Crop	1909	1919	1929
	Acres	*Acres*	*Acres*
Dry beans	115,698	45,897	100,000†
Cabbage	35,269	30,555	34,300
Potatoes	394,319	310,403	212,400
Other vegetables	144,916	111,038	147,252
Total	690,202	497,893	493,952
Per cent of total crop acreage	7.8	5.6	7.1

* Data from United States Census.
† Estimated acreage reported in *Crops and Markets*, December, 1929.

In general, cash crops have paid New York farmers fairly well for the time they have spent on them. While the yields and prices of potatoes and cabbage have fluctuated widely, returns have, on the average, exceeded all costs by a good margin. For the 17 years 1914 to 1930, the average returns from potatoes paid all costs other than labor and left an average of 67 cents for each hour of man labor on the crop. For the same period, the average return per hour of man labor on cabbage was 46 cents.

For the years 1927 to 1930, the average costs and returns per acre for beans, potatoes, cabbage, and canning-factory peas varied considerably, but the average return per hour of man labor on each of these 4 crops was just about the same (table 14). Sweet corn and string beans for the factory were not so profitable as these other vegetable crops. A few accounts with market-garden, or truck crops also show good returns, but because of the limited number of accounts available, costs and returns on such crops are not included in the following tables.

TABLE 14. AVERAGE COSTS AND RETURNS FOR CASH CROPS, 1927–1930

Crop	Cost per acre	Gross return per acre	Profit or loss per acre	Man hours per acre	Return per hour of man labor
Dry beans	$ 49	$ 54	$ 5	29	$0.58
Cabbage	97	112	15	87	0.57
Potatoes	123	141	18	82	0.62
Canning-factory peas	53	55	2	20	0.57
Canning-factory corn	58	41	-17	42	0.01
String beans	59	60	1	58	0.22

DRY BEANS

For the 17 years 1914 to 1930, average yields of dry beans on farms with cost accounts varied from one bushel per acre in 1925, to 19 bushels in 1920. The average value of a bushel of beans varied from $2.13 in 1914 to $5.67 in 1916. Net returns on the bean crop varied from an average profit of $28 an acre in 1928 to a loss of $36 an acre in 1925. For the years 1914 to 1930, the average returns from the bean crop were less than the average costs. In 10 of the 17 years, costs other than for man labor exceeded the total returns from the crop. For 4 years the returns from beans paid all other costs and more than 50 cents an hour for the time spent on the crop (table 15). In recent years returns on beans have been much higher than the average for the longer period.

TABLE 15. AVERAGES FROM ACCOUNTS WITH DRY BEANS, 1914–1931

Year	Number of accounts	Acres per farm	Yield (bushels per acre)	Cost per acre	Return per acre	Profit or loss per acre	Cost per bushel	Value per bushel	Profit or loss per bushel	Man hours per acre	Return per hour of man labor
1914	4	10.2	14	$30	$33	$ 3	$ 1.93	$2.13	$ 0.20	33	$ 0.34
1915	9	13.4	15	36	49	13	2.16	3.02	0.86	40	0.58
1916	9	10.3	4	40	27	-13	8.62	5.67	-2.95	36	-0.07
1917	10	12.0	7	45	30	-15	6.12	4.01	-2.11	36	-0.07
1918	11	4.5	8	60	35	-24	6.87	3.86	-3.01	42	-0.19
1919	3	3.9	15	77	69	- 8	5.04	4.50	-0.54	68	0.34
1920	4	4.4	19	71	45	-26	3.61	2.22	-1.39	42	-0.12
1921	3	6.2	17	73	53	-20	3.99	2.82	-1.17	54	-0.01
1922	4	9.4	18	51	69	18	2.64	3.66	1.02	32	0.96
1923	5	15.2	10	44	33	-10	3.92	2.91	-1.01	29	-0.01
1924	7	11.9	7	45	21	-23	5.86	2.66	-3.21	29	-0.35
1925	6	6.4	1	40	3	-36	68.45	4.36	-64.09	21	-1.23
1926	7	13.7	10	55	32	-23	5.50	3.12	- 2.38	26	-0.38
1927	33	13.0	14	50	47	-3	3.38	3.18	- 0.20	30	0.34
1928	29	13.3	16	52	80	28	3.06	4.78	1.72	31	1.33
1929	33	15.4	15	51	61	10	3.25	3.91	0.66	30	0.77
1930	27	15.1	10	45	30	-15	4.13	2.68	- 1.45	26	-0.12
1931	29	16.2	19	37	25	-12	1.91	1.27	- 0.64	27	-0.09
Averages:											
1914–1919	46	9.0	10	$48	$40	$- 7	$ 5.12	$3.86	$-1.26	42	$0.16
1920–1924	23	9.4	14	57	44	-12	4.00	2.85	-1.15	37	0.09
1925–1929	108	12.4	11	50	45	- 5	16.73	3.87	-12.86	28	0.17

With an average of 14.2 acres of beans per farm, and a yield of 14 bushels, the average cost per acre for the 4 years 1927 to 1930, was $49.37. The costs to grow the crop were 74.8 per cent of the total cost, and harvesting costs were 21.7 per cent of the total. Charges for man labor were 26 per cent, and charges for horse labor and the use of equipment were 30 per cent of the total cost. Other important items were use of land, which was 11 per cent of the total, manure 11 per cent, and seed 10 per cent (table 16).

Average returns from the bean crop for the 4 years 1927 to 1930, exceeded average costs by $4.96 an acre. After all other costs were deducted from the returns, 58 cents was left for each hour of man labor on the bean crop.

TABLE 16. COSTS AND RETURNS FOR DRY BEANS, 1927–1930

	1927		1928		1929		1930		1927–1930		
Year											
Number of accounts	33		29		33		27		122*		
Acres per farm	13.0		13.3		15.4		15.1		14.2		
Yield, bushels per acre	14.0		16.1		14.8		10.4		13.8		
	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Per cent
Growing costs:											
Use of land	.....	$ 6.42	.....	$ 5.39	.....	$ 5.48	.....	$ 5.12	.....	$ 5.60	11.3
Lime and manure	.....	6.36	.....	5.83	.....	5.22	.....	4.48	.....	5.47	11.1
Fertilizer (pounds)	118	1.33	131	1.58	122	1.80	166	2.59	134	1.83	3.7
Seed (bushels)	1.0	4.38	0.9	4.57	1.0	5.93	1.0	4.34	1.0	4.81	9.8
Man labor (hours)	16.3	6.80	15.2	6.25	15.7	6.90	14.8	6.47	15.5	6.60	13.4
Horse labor (hours)	27.2	5.19	25.0	5.43	21.7	4.36	19.6	3.52	23.4	4.70	9.5
Tractor and tools (hours)	3.1	3.49	3.4	4.16	4.3	4.80	4.3	4.20	3.8	4.16	8.4
Other equipment	.....	3.39	.....	2.94	.....	2.84	.....	2.28	.....	2.86	5.8
Other growing costs	...	0.89	.....	1.21	.....	0.75	.....	0.71	.....	0.89	1.8
Total		$38.25		$37.36		$38.08		$34.01	....	$36.92	74.8
Harvesting costs:											
Man labor (hours)	13.2	$ 5.74	15.6	$ 6.85	13.8	$ 6.10	11.4	$5.19	13.5	$ 5.97	12.1
Horse labor (hours)	7.6	1.52	9.5	2.40	8.3	1.85	6.2	1.25	7.9	1.75	3.5
Tractor and tools	.....	0.00	.....	0.00	.....	0.02	.....	0.05	.....	0.02	0.1
Threshing	.....	1.82	.....	1.86	.....	1.81	.....	1.42	.....	1.73	3.5
Other equipment	.....	0.98	.....	1.36	.....	1.30	.....	0.91	.....	1.14	2.3
Other harvesting costs	.....	0.16	.....	0.09	.....	0.09	.....	0.01	.....	0.09	0.2
Total		$10.22		$12.56		$11.17		$8.83		$10.70	21.7
Storing and selling costs:†											
Use of buildings	.....	$0.96	.....	$1.46	.....	$1.03	.....	$1.21	.....	$1.16	2.3
Man labor (hours)	0.4	0.17	0.2	0.08	0.3	0.12	0.2	0.08	.....	0.11	0.2
Horses and equipment		0.14		0.46		0.25		0.34		0.30	0.6
Other storing and selling costs	.....	0.02	.....	0.01	.....	0.35	.....	0.32	.....	0.18	0.4
Total		$1.29		$2.01		$1.75		$1.95		$1.75	3.5
Total cost	.....	$49.76	.....	$51.93	.....	$51.00	.....	$44.79	.....	$49.37	100.0
Returns:											
Beans (bushels)	14.0	$44.53	16.1	$77.03	14.8	$58.06	10.4	$27.70	13.8	$51.83	.....
Roughage (tons)	0.5	2.44	0.5	2.72	0.5	2.77	0.4	2.08	0.5	2.50	.....
Total returns		$46.97		$79.75		$60.83		$29.78		$54.33	

* Of the 122 accounts, 79 were in Genesee, 12 were in Monroe, 12 in Livingston, 6 in Onondaga, 4 in Ontario, 3 in Steuben, 2 in Wyoming, 2 in Niagara, 1 in Orleans, and 1 in Wayne County.

† Includes actual charges for storing the crop and all selling costs incurred between harvesting and inventory dates. On some farms part of the crop was held for sale after the accounts were closed.

Relation of acreage and yield of beans to costs and returns

The larger acreages of beans were probably on soils better adapted to the growing of beans, as indicated by lower charges for manure and fertilizer and higher yields. Fewer man and horse hours per acre were required on the larger acreages. Doubling the acreage of beans reduced the labor and equipment cost of growing an acre about 13 per cent.

Much of the work for harvesting beans may be done nearly as rapidly on small acreages as on large acreages, so that acreage did not affect savings of man and horse time in harvesting as much as it did in growing. However, the larger acreages also had the higher yields. With the larger acreages and a slightly higher yield, the cost to harvest an acre was just about the same as for small acreages and lower yields, but the cost to harvest a bushel was much lower (table 17).

TABLE 17. RELATION OF ACREAGE OF BEANS TO COSTS AND RETURNS, 122 ACCOUNTS, 1927–1930

	Low third in acreage	Middle third in acreage	High third in acreage
Number of accounts	40	42	40
Acres per farm	5.5	12.0	25.2
Yield, bushels per acre	11.6	13.7	14.4
Cost of manure per acre	$7.13	$6.32	$4.67
Cost of fertilizer per acre	$2.31	$2.45	$1.40
Cost of seed per acre	$6.31	$4.99	$4.50
Man hours to grow an acre	20.9	16.7	13.8
Horse hours to grow an acre	30.3	25.0	20.9
Tractor hours to grow an acre	3.6	3.9	3.8
Cost of labor and equipment to grow an acre	$22.30	$19.61	$16.88
Cost to grow an acre	$44.47	$40.38	$33.69
Man hours to harvest an acre	15.0	13.5	13.2
Horse hours to harvest an acre	7.6	8.5	7.7
Cost of labor and equipment to harvest an acre	$8.72	$8.93	$8.91
Cost to harvest an acre	$10.70	$10.64	$10.72
Cost to grow a bushel	$3.83	$2.95	$2.33
Cost to harvest a bushel	$0.92	$0.78	$0.74
Profit or loss per acre	$–11.58	$–0.35	$11.18
Return per hour of man labor	$0.10	$0.40	$0.87

The average cost to grow an acre of beans with a 19-bushel yield was only 12 per cent more than the cost to grow a 7-bushel crop. Harvesting costs, except for threshing, were only 18 per cent higher with the higher yield. Threshing charges varied with yield. With only 7 bushels per acre, the cost to grow and harvest a bushel was more than twice the cost with a 19-bushel yield (table 18).

TABLE 18. RELATION OF YIELD PER ACRE OF BEANS TO COSTS AND RETURNS, 122 ACCOUNTS, 1927–1930

	Low third in yield	Middle third in yield	High third in yield
Number of accounts	41	40	41
Acres per farm	10.4	17.5	14.8
Yield, bushels per acre	7.2	13.6	18.9
Cost of manure per acre	$3.74	$5.44	$6.70
Cost of fertilizer per acre	$2.63	$1.47	$1.66
Man hours to grow an acre	15.4	14.8	16.4
Cost of labor and equipment to grow an acre	$17.56	$17.60	$19.81
Cost to grow an acre	$35.37	$35.83	$39.51
Man hours to harvest an acre	12.4	13.8	13.9
Horse hours to harvest an acre	7.9	7.6	8.3
Cost of labor and equipment to harvest an acre	$7.99	$8.96	$9.44
Cost of threshing per acre	$1.30	$1.61	$2.18
Cost to harvest an acre	$9.35	$10.64	$11.70
Cost to grow a bushel	$4.94	$2.64	$2.09
Cost to harvest a bushel	$1.31	$0.78	$0.62
Profit or loss per acre	$–18.21	$4.60	$21.65
Return per hour of man labor	$–0.22	$0.58	$1.16

With low yields of beans, increasing the acreage reduced the loss per acre but increased the total loss on the crop. For the period 1927 to 1930, a yield of about 12 bushels was necessary to pay all costs. With 12 bushels or more per acre, profits were increased as the acreage of beans increased. One-sixth of the growers, those with the highest yields

and largest acreages, were paid an average of $1.31 for each hour of man labor on the bean crop. They made a profit above all costs of $25 an acre. Another one-sixth of the growers, those with the lowest yields and smallest acreages, lost, on the average, $28 an acre on the bean crop (table 19).

TABLE 19. RELATION OF YIELD PER ACRE AND ACREAGE OF BEANS TO COSTS AND RETURNS, 122 ACCOUNTS, 1927–1930

	Low third in yield		Middle third in yield		High third in yield	
	Small acreage	Large acreage	Small acreage	Large acreage	Small acreage	Large acreage
Number of accounts	20	21	20	19	21	21
Acres per farm	5.3	15.3	9.7	24.9	7.5	22.8
Yield (bushels per acre)	7	7	14	13	20	19
Cost per acre	$56	$42	$53	$47	$61	$50
Returns per acre	$28	$27	$54	$51	$75	$75
Profit or loss per acre	$–28	$–15	$1	$4	$14	$25
Profit or loss on the enterprise	$–150	$–226	$8	$95	$109	$569
Return per hour of man labor	$–0.35	$–0.16	$0.44	$0.57	$0.88	$1.31

CABBAGE

Cabbage requires about 100 hours of man labor an acre, about half of which is for growing, and half for harvesting and disposing of the crop. The high requirement for labor and variations in yields and prices make cabbage a very speculative crop. For 3 years in the period 1914 to 1930, cabbage growers not only had no pay for their time, but returns from the crop were insufficient to pay the other costs incurred. For 4 other years the returns from cabbage paid all costs and more than $1 for each hour of man labor spent on the crop. The average return per hour of man labor on cabbage for the 17 years 1914 to 1930, was 46 cents (table 20).

TABLE 20. AVERAGES FROM ACCOUNTS WITH CABBAGE, 1914–1931

Year	Number of accounts	Acres per farm	Yield (tons per acre)	Cost per acre	Returns per acre	Profit or loss per acre	Cost per ton	Value per ton	Profit or loss per ton	Man hours per acre	Returns per hour of man labor
1914	6	5.2	6.5	$ 63	$ 48	$–15	$ 9.50	$ 7.13	$–2.37	93	$ 0.08
1915	10	7.9	7.9	51	26	–25	6.37	3.30	–3.07	76	–0.06
1916	8	5.1	3.9	64	158	94	15.93	39.93	24.00	92	1.32
1917	7	7.2	6.4	79	115	36	11.69	17.30	5.61	99	0.72
1918	8	3.7	6.8	109	92	–16	14.76	12.35	–2.41	106	0.24
1919	7	2.7	7.2	114	205	91	14.85	27.43	12.58	110	1.24
1920	12	3.4	12.5	118	73	–45	9.39	5.77	–3.62	122	0.05
1921	13	3.5	6.9	116	185	69	16.00	26.11	10.11	118	1.00
1922	8	5.0	6.3	75	39	–36	11.61	5.85	–5.76	69	–0.16
1923	4	3.7	4.4	73	55	–18	15.36	11.24	–4.12	103	0.11
1924	7	4.3	7.3	92	60	–32	12.44	7.97	–4.47	87	0.04
1925	9	5.2	6.5	104	121	17	15.36	18.03	2.66	97	0.62
1926	7	3.9	7.1	114	104	–10	15.94	14.53	–1.41	109	0.36
1927	36	5.5	10.8	99	50	–49	9.11	4.58	–4.53	90	–0.09
1928	27	7.3	8.4	106	217	111	12.47	25.66	13.19	99	1.54
1929	30	8.2	7.7	98	128	30	12.72	16.58	3.86	84	0.81
1930	30	11.0	6.2	85	53	–32	13.63	8.42	–5.21	75	0.01
1931	29	13.0	7.8	80	55	–25	10.12	7.07	–3.05	97	0.11
Averages:											
1914–1919	46	5.3	6.4	$ 80	$107	$ 28	$12.18	$17.91	$ 5.72	96	$0.59
1920–1924	44	4.0	7.5	95	82	–12	12.96	11.39	–1.57	100	0.21
1925–1929	109	6.2	8.1	104	124	20	13.12	15.88	2.75	96	0.65

With an average of 8 acres of cabbage per farm, and a yield of 8.3 tons, the cost per acre for the 4 years 1927 to 1930 was $96.97. Of this total cost 70 per cent was for growing, 19 per cent for harvesting, and 11 per cent for storage and selling. Charges for man labor accounted for 39 per cent of the total cost. Other important items of cost were: use of horses and equipment 26 per cent, manure and cover crops 9 per cent, fertilizer 8 per cent, use of land 6 per cent, and seed and plants 5 per cent (table 21).

Average returns for the years 1927 to 1930 exceeded costs by $14.81 an acre. After all other costs were deducted from the returns, there remained 57 cents for each hour of man labor spent on the crop.

TABLE 21. COSTS AND RETURNS FOR CABBAGE, 1927–1930

Year	1927		1928		1929		1930		1927–1930		
Number of accounts	36		27		30		30		123*		
Acres per farm	5.5		7.3		8.2		11.0		8.0		
Yield, tons per acre	10.8		8.4		7.7		6.2		8.3		
	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Per cent
Growing costs:											
Use of land	.....	$ 6.49	.....	$ 5.91	.....	$ 5.38	.....	$ 6.14	.....	$ 5.98	6.2
Manure and cover crops	.....	11.15	.....	8.71	.....	8.12	.....	6.98	.....	8.74	9.0
Lime	.....	0.08	.....	0.86	.....	0.43	.....	0.08	.....	0.36	0.3
Fertilizer (pounds)	473	5.97	502	7.26	435	8.24	559	9.97	492	7.86	8.1
Seed and plants	.....	2.85	.....	6.38	.....	4.92	.....	6.29	.....	5.11	5.3
Nicotine and dust	.....	0.08	.....	0.21	.....	1.01	.....	0.47	.....	0.44	0.5
Man labor (hours)	48.9	21.38	45.0	19.33	45.7	20.69	42.2	18.40	45.4	19.95	20.6
Horse labor (hours)	44.4	8.05	33.3	6.85	30.0	6.93	25.7	5.19	33.4	6.75	7.0
Tractor and tools (hours)	3.9	3.97	3.9	4.98	4.7	5.57	4.5	4.94	4.2	4.86	5.0
Other equipment	.....	5.87	.....	5.46	.....	5.99	.....	4.90	.....	5.56	5.7
Other growing costs	.....	2.05	.....	1.95	.....	2.75	.....	1.75	.....	2.13	2.2
Total	.....	$67.94	.....	$67.90	.....	$70.03	.....	$65.11	.....	$67.74	69.9
Harvesting costs:											
Man labor (hours)	31.6	$13.72	31.4	$13.30	27.5	$12.37	24.0	$10.63	28.6	$12.51	12.9
Horse labor (hours)	16.1	2.92	11.1	2.27	8.8	2.15	6.9	1.51	10.7	2.21	2.3
Truck	.....	1.38	.....	2.64	.....	1.20	.....	1.22	.....	1.61	1.7
Other equipment	.....	2.66	.....	1.79	.....	1.30	.....	0.89	.....	1.66	1.7
Other harvesting costs	.....	0.36	.....	0.12	.....	0.05	.....	0.09	.....	0.15	0.1
Total	.....	$21.04	.....	$20.12	.....	$17.07	.....	$14.34	.....	$18.14	18.7
Storing and selling costs:†											
Use of buildings	.....	$1.78	.....	$ 5.69	.....	$ 2.10	.....	$1.10	.....	$ 2.67	2.7
Man labor	.....	4.64	.....	8.64	.....	5.09	.....	4.08	11.3	5.61	5.8
Horses and equipment	.....	3.06	.....	3.15	.....	3.61	.....	0.60	.....	2.61	2.7
Other storing and selling costs	.....	$9.70	.....	$17.82	.....	$10.95	.....	$5.88	.....	$11.09	11.4
Total cost	.....	$98.68	.....	$105.84	.....	$98.05	.....	$85.33	.....	$96 97	100.0
Returns:											
Cabbage (tons)	10.8	$49.31	8.4	$215.58	7.7	$126.93	6.2	$52.23	8.3	$111.01	.....
Roughage	.....	0.63	.....	1.03	.....	0.68	.....	0.75	.....	0.77	.....
Total returns	.....	$49.94	.....	$216.61	.....	$127.61	.....	$52.99	.....	$111.78	.....

* Of the 123 accounts, 60 were in Genesee, 18 in Monroe, 17 in Livingston, 15 in Onondaga, and 13 in 6 other counties.

† Does not cover selling costs for the entire crop. Some accounts were closed before all of the crop was disposed of.

Relation of acreage and yield of cabbage to costs

Few cabbage growers plant large acreages. Of 30 cabbage accounts for 1930, only 4 were for more than 20 acres and the largest acreage on any

farm was 28 acres. Sorting the 123 cabbage accounts for the years 1927 to 1930, into 3 groups according to acreage gives a difference of only 10 acres of cabbage per farm between the groups with lowest and highest acreages (table 22). This low range in acreage necessarily limits any study of the effect of acreage on the cost of cabbage. Also, much of the work in setting and harvesting cabbage is hand labor which is done at about the same rate on large and small fields. Variations in cost and in efficiency in growing cabbage are due in part to the acreage grown, but are much more dependent on yield.

TABLE 22. RELATION OF ACREAGE OF CABBAGE TO COSTS AND RETURNS, 123 ACCOUNTS, 1927–1930

	Low third in acreage	Middle third in acreage	High third in acreage
Number of accounts	41	44	38
Acres per farm	3.6	7.1	13.5
Yield (tons per acre)	7.0	7.7	8.4
Cost of manure per acre	$10.99	$9.24	$7.25
Cost of fertilizer per acre	$6.07	$7.71	$9.06
Cost of seed and plants per acre	$3.68	$5.42	$5.63
Cost of nicotine and dust per acre	$0.74	$0.29	$0.99
Man hours to grow an acre	50.7	44.4	43.8
Horse hours to grow an acre	40.7	29.9	31.0
Tractor hours to grow an acre	4.4	5.0	3.9
Cost of labor and equipment to grow an acre	$39.22	$36.19	$36.31
Cost to grow an acre	$68.07	$66.86	$67.70
Cost to grow a ton	$9.78	$8.73	$8.06
Man hours to harvest an acre	24.9	29.3	27.9
Cost to harvest an acre	$15.07	$18.70	$17.57
Cost to harvest a ton	$2.17	$2.44	$2.09
Profit or loss per acre	$-5.00	$3.79	$16.47
Return per hour of man labor	$0.36	$0.49	$0.64

TABLE 23. RELATION OF YIELD PER ACRE OF CABBAGE TO COSTS AND RETURNS, 123 ACCOUNTS, 1927–1930

	Low third in yield	Middle third in yield	High third in yield
Number of accounts	43	43	37
Yield (tons per acre)	4.4	7.8	11.7
Acres per farm	7.3	8.0	8.5
Cost of manure per acre	$7.25	$9.00	$9.09
Cost of fertilizer per acre	$7.03	$7.63	$9.90
Cost of seed and plants per acre	$4.48	$4.32	$7.08
Cost of nicotine and dust per acre	$0.46	$0.27	$0.77
Man hours to grow an acre	42.8	44.5	47.9
Horse hours to grow an acre	28.2	33.6	34.4
Tractor hours to grow an acre	5.1	4.4	3.4
Cost of labor and equipment to grow an acre	$33.52	$37.45	$39.14
Cost to grow an acre	$60.20	$66.75	$75.62
Cost to grow a ton	$13.83	$8.56	$6.47
Man hours to harvest an acre	20.4	28.2	35.1
Cost of labor and equipment to harvest an acre	$11.88	$18.25	$22.07
Cost to harvest an acre	$11.96	$18.38	$22.29
Cost to harvest a ton	$2.75	$2.36	$1.91
Profit or loss per acre	$-30.14	$13.12	$44.16
Return per hour of man labor	$0.02	$0.60	$0.90

Cabbage growers who had high yields spent more per acre for manure, fertilizer, seed and plants, nicotine and dust, and for labor and equipment than did growers with low yields. Increasing the yield from 4.4 to 7.8 tons per acre increased the cost to grow an acre 11 per cent, but decreased the growing cost per ton 38 per cent. Increasing the yield from 7.8 to 11.7 tons per acre increased the cost of growing an acre 13 per cent, but decreased the growing cost per ton 24 per cent. With high yields, the cost to harvest an acre was also higher, but the cost to harvest a ton was lower (table 23).

POTATOES

During the 17-years period 1914 to 1930, for 3 years potato growers not only received nothing for their labor on potatoes, but also failed to get returns enough to pay for the other costs incurred. For 4 other years potatoes paid more than a dollar an hour for all the time spent on the crop. The highest average return for man labor was $2.33 an hour in 1925 (table 24). The average of 67 cents an hour for all 17 years indicates that the potato enterprise has been a profitable one for those farmers who have had good yields.

TABLE 24. AVERAGES FROM ACCOUNTS WITH POTATOES, 1914–1931

Year	Number of accounts	Acres per farm	Yield (bushels per acre)	Cost per acre	Returns per acre	Profit or loss per acre	Cost per bushel	Value per bushel	Profit or loss per bushel	Man hours per acre	Return per hour of man labor
1914	13	7.0	162	$ 75	$ 49	$ -26	$0.46	$0.31	$-0.15	98	$-0.01
1915	37	6.5	77	55	64	9	0.71	0.83	0.12	76	0.38
1916	24	5.7	88	72	153	81	0.82	1.74	0.92	78	1.34
1917	27	4.9	92	108	91	-16	1.16	0.99	-0.17	89	0.18
1918	29	2.7	138	123	139	16	0.89	1.01	0.12	114	0.54
1919	30	3.0	100	114	167	53	1.14	1.67	0.53	97	0.95
1920	24	2.4	209	168	169	1	0.81	0.81	0.01	117	0.45
1921	24	4.1	132	120	144	24	0.91	1.09	0.18	105	0.59
1922	26	4.0	122	109	76	-33	0.89	0.62	-0.27	93	-0.01
1923	18	5.4	144	100	117	17	0.70	0.81	0.12	84	0.56
1924	22	9.4	175	108	80	-28	0.62	0.51	-0.11	89	0.16
1925	20	9.3	129	106	262	156	0.83	2.03	1.21	84	2.33
1926	11	10.0	159	156	241	85	0.98	1.51	0.53	95	1.39
1927	47	9.0	118	120	138	18	1.01	1.16	0.15	77	0.63
1928	42	11.5	169	131	93	-38	0.77	0.55	-0.22	95	-0.04
1929	43	17.1	157	118	175	57	0.75	1.27	0.52	86	1.33
1930	44	22.0	175	123	132	9	0.70	0.76	0.06	71	0.56
1931	44	23.1	199	107	62	-45	0.54	0.31	-0.23	81	-0.21
Averages:											
1914-1919	160	5.0	110	$ 91	$110	$20	$0.86	$1.09	$0.23	92	$0.56
1920-1924	114	5.1	156	121	117	-4	0.79	0.77	-0.01	98	0.35
1925-1929	163	11.4	146	126	182	56	0.87	1.30	0.44	87	1.13

With 14.9 acres of potatoes per farm, and a yield of 155 bushels, the average cost per acre for the 4 years 1927 to 1930 was $122.96. Growing costs were 73 per cent of the total cost, and harvesting costs were 18 per cent. Charges for man labor accounted for 26 per cent of the total cost, horse labor and the use of equipment 21 per cent, seed 19 per cent, and fertilizer, manure, and cover crops 17 per cent (table 25).

The total returns from this crop for the 4 years 1927 to 1930 averaged $140.69 an acre and exceeded total costs by $17.73. After deducting from the total returns all costs other than for man labor, there remained 62 cents for each hour of labor on the crop.

TABLE 25. COSTS AND RETURNS FOR POTATOES, 1927–1930

	1927		1928		1929		1930		1927–1930		
Year											
Number of accounts	47		42		43		44		176*		
Acres per farm	9.0		11.5		17.1		22.0		14.9		
Yield, bushels per acre	118.5		169.4		157.2		174.9		155.0		
	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Per cent
Growing costs:											
Use of land	.....	$ 5.78	.....	$ 5.39	.....	$ 5.87	.....	$ 6.10	.....	$ 5.78	4.7
Manure and cover crops	.....	10.67	.....	8.80	.....	8.69	.....	7.47	.....	8.91	7.2
Fertilizer (pounds)	635	8.01	781	12.64	795	12.78	778	14.06	747	11.87	9.7
Seed (bushels)	17.0	23.35	17.7	27.01	20.6	16.51	18.9	28.22	18.6	23.77	19.3
Treating seed	.....	0.49	.....	0.76	.....	1.13	.....	.72	.....	0.77	0.6
Spray and dust materials	.....	4.52	.....	6.55	.....	5.59	.....	4.73	.....	5.35	4.4
Man labor (hours)	38.8	16.16	34.7	14.81	32.3	13.97	29.1	12.57	33.7	14.38	11.7
Horse labor (hours)	50.4	8.79	35.2	7.27	27.3	5.38	19.5	3.58	33.1	6.26	5.1
Tractor and tools	4.0	3.25	4.0	4.50	5.2	6.19	6.1	6.66	4.8	5.15	4.2
Other equipment	.....	6.69	.....	5.46	.....	4.69	.....	3.90	.....	5.19	4.2
Other growing costs	.....	1.83	.....	1.56	.....	3.04	.....	2.90	.....	2.33	1.9
Total	.....	$89.54	.....	$94.75	.....	$83.84	.....	$90.91	.....	$89.76	73.0
Harvesting costs:											
Man labor (hours)	30.9	$12.38	36.5	$14.78	38.8	$15.61	31.5	$12.67	34.4	$13.86	11.2
Horse labor (hours)	23.6	4.51	22.3	4.50	13.7	2.76	11.3	2.11	17.7	3.47	2.8
Tractor and tools	.....	0.23	.....	0.35	.....	1.05	.....	1.18	.....	0.70	0.6
Truck	.....	0.10	.....	0.33	.....	0.56	.....	0.36	.....	0.34	0.3
Other equipment	.....	3.64	.....	3.49	.....	1.98	.....	2.64	.....	2.94	2.4
Other harvesting costs	.....	0.64	.....	0.82	.....	0.21	.....	0.29	.....	0.49	0.4
Total	.....	$21.50	.....	$24.27	.....	$22.17	.....	$19.25	.....	$21.80	17.7
Storing and selling costs:†											
Use of buildings	.....	$2.31	.....	$ 3.39	.....	$ 4.51	.....	$ 3.73	.....	$ 3.48	2.8
Certification	.....	0.67	.....	0.84	.....	0.77	.....	1.17	.....	0.86	0.7
Man labor (hours)	7.5	2.81	24.0	4.19	14.7	3.45	10.5	4.94	14.2	3.85	3.2
Horses and equipment	.....	2.17	.....	1.78	.....	1.79	.....	2.17	.....	1.98	1.6
Other storing and selling costs	.....	0.90	.....	1.38	.....	1.92	.....	0.73	.....	1.23	1.0
Total	.....	$8.86	.....	$11.58	.....	$12.44	.....	$12.74	.....	$11.40	9.3
Total cost	.....	$119.90	.....	$130.60	.....	$118.45	.....	$122.90	.....	$122.96	100.0
Total returns	118.5	$137.60	169.4	$ 93.46	157.2	$199.29	174.9	$132.42	155.0	$140.69	.....

* Of the 176 accounts, 83 were in Genesee, 20 in Onondaga, 15 in Livingston, 14 in Monroe, 12 in Washington, 8 in Steuben, and 24 in 10 other counties.

† Does not cover selling costs for the entire crop. Some accounts were closed before all of the crop was disposed of.

Relation of acreage and yield of potatoes to costs

Growers who had large acreages of potatoes spent more per acre for seed, fertilizer, and spray materials, but less for manure than did growers with small acreages. However, greater efficiency on the large acreages so reduced the costs of labor and equipment that the total cost to grow an acre was somewhat lower than on the small acreages (table 26).

The cost of harvesting an acre was also lower on the larger acreages, although the yield was higher. With small acreages and lower yields, more labor was required to harvest a bushel than on the large acreages.

Another factor in lower harvesting costs was the machinery cost. A large share of the cost of maintaining potato diggers and other harvesting machinery is fixed. As acreage is increased and the cost spread, the cost per acre is smaller.

TABLE 26. RELATION OF ACREAGE OF POTATOES TO COSTS AND RETURNS, 176 ACCOUNTS, 1927–1930

	Low third in acreage	Middle third in acreage	High third in acreage
Number of accounts	59	55	62
Acres per farm	4.0	11.3	28.2
Yield (bushels per acre)	131	159	164
Cost of manure per acre	$12.02	$9.62	$7.74
Cost of fertilizer per acre	$8.32	$12.04	$13.16
Cost of seed per acre	$21.76	$23.33	$24.39
Cost of spray and dust materials per acre	$4.82	$5.33	$5.32
Man hours to grow an acre	41.0	33.7	31.1
Horse hours to grow an acre	43.0	31.0	27.3
Tractor hours to grow an acre	4.2	5.1	5.3
Cost of labor and equipment to grow an acre	$36.07	$32.05	$28.47
Cost to grow an acre	$91.62	$91.19	$86.75
Cost to grow a bushel	$0.70	$0.57	$0.53
Man hours to harvest an acre	30.0	35.6	34.6
Cost of labor and equipment to harvest an acre	$20.83	$23.32	$20.11
Cost to harvest an acre	$21.20	$23.72	$20.55
Cost to harvest a bushel	$0.16	$0.15	$0.13
Profit or loss per acre	$–11.23	$16.06	$29.99
Return per hour of man labor	$0.21	$0.56	$0.82

Growers who had high yields spent more for seed, fertilizer, and spray and dust materials than did growers with low yields. While the cost per acre increased as yield increased, both the cost to grow a bushel and the cost to harvest a bushel decreased (table 27).

TABLE 27. RELATION OF YIELD PER ACRE OF POTATOES TO COSTS AND RETURNS, 176 ACCOUNTS, 1927–1930

	Low third in yield	Middle third in yield	High third in yield
Number of accounts	61	54	61
Acres per farm	12.7	15.9	16.0
Yield (bushels per acre)	102	147	216
Cost of manure per acre	$8.34	$8.68	$8.67
Cost of fertilizer per acre	$10.09	$10.93	$15.67
Cost of seed per acre	$22.37	$20.99	$27.69
Cost of spray and dust materials per acre	$3.59	$4.52	$7.28
Man hours to grow an acre	29.8	32.2	35.2
Horse hours to grow an acre	23.1	30.1	34.4
Tractor hours to grow an acre	5.2	4.7	5.5
Cost of labor and equipment to grow an acre	$26.81	$28.98	$33.47
Cost to grow an acre	$79.75	$83.07	$99.59
Cost to grow a bushel	$0.78	$0.56	$0.46
Man hours to harvest an acre	27.3	36.2	38.5
Cost of labor and equipment to harvest an acre	$16.03	$21.29	$24.55
Cost to harvest an acre	$16.32	$21.69	$25.10
Cost to harvest a bushel	$0.16	$0.15	$0.12
Profit or loss per acre	$–21.83	$14.45	$66.11
Return per hour of man labor	$0.05	$0.59	$1.05

With small acreages, costs per acre were higher than with large acreages. With low yields, returns per acre were lower than with high yields. Increasing the acreage with low yields reduced the cost per acre and the loss per acre, but increased the total loss on the enterprise. With yields of less than 100 bushels per acre, it did not pay to increase acreage. With yields of 125 bushels, or more, profits increased rapidly as acreage increased (table 28).

TABLE 28. RELATION OF YIELD PER ACRE AND ACREAGE OF POTATOES TO COSTS AND RETURNS, 176 ACCOUNTS, 1927–1930

	Low third in yield		Middle third in yield		High third in yield	
	Small acreage	Large acreage	Small acreage	Large acreage	Small acreage	Large acreage
Number of accounts	26	26	29	28	33	34
Yield (bushels per acre)	63	96	119	134	194	220
Acres per farm	3.1	17.3	5.0	27.9	8.2	25.9
Cost per acre	$106	$104	$105	$108	$141	$144
Returns per acre	$52	$78	$120	$127	$172	$201
Profit or loss per acre	$–54	$–26	$15	$19	$31	$57
Profit or loss on enterprise	$–165	$–457	$72	$526	$258	$1,491
Return per hour of man labor	$–0.34	$–0.03	$0.61	$0.66	$0.51	$1.13

CANNING-FACTORY PEAS

Yearly averages from accounts with canning-factory peas for the years 1927 to 1930 show variations in yield from 1158 to 2440 pounds per acre. Total cost per acre varied from $49 to $57. In 1930, there was an average profit of $26 an acre, giving a return of $1.75 for each hour of man labor on the crop. In 1929, there was an average loss of $17 an acre. If no charge were made for man labor in 1929, the costs would have exceeded returns by about $8 an acre (table 29).

With 10.2 acres of peas per farm and an average yield of 1894 pounds of shelled peas, the average cost per acre for the 4 years 1927 to 1930 was $52.57. Of this total cost, 80 per cent was for growing and 19 per cent was for harvesting the crop. Seed was the largest item, accounting for 33 per cent of the total. The charges for man labor were 17 per cent of the total, horse labor and the use of equipment 23 per cent, use of land 12 per cent, and manure 10 per cent. Average returns for the 4 years 1927 to 1930 exceeded average costs by $2.62 an acre (table 30).

TABLE 29. AVERAGES FROM ACCOUNTS WITH CANNING-FACTORY PEAS, 1927–1931

Year	Number of accounts	Acres per farm	Yield (pounds per acre)	Cost per acre	Return per acre	Profit or loss per acre	Cost per ton	Value per ton	Profit or loss per ton	Man hours per acre	Return per hour of man labor
1927	22	10.9	1,771	$52	$49	$ -3	$58	$54	$ -4	21	$0.26
1928	19	9.1	2,205	57	63	6	51	56	5	22	0.69
1929	15	9.1	1,158	51	34	-17	88	57	-31	20	-0.43
1930	16	11.7	2,440	49	75	26	40	61	21	19	1.75
1931	12	12.4	1,715	47	47	0	52	53	1	20	0.39
Average: 1927–1930	72	10.2	1,894	$52	$55	$ 3	$59	$57	$ -2	20	$0.57

TABLE 30. COSTS AND RETURNS FOR CANNING-FACTORY PEAS, 1927–1930

Year	1927		1928		1929		1930		1927–1930		
Number of accounts	22		19		15		16		72*		
Acres per farm	10.9		9.1		9.1		11.7		10.2		
Yield, hundredweight per acre	17.7		22.0		11.6		24.4		18.9		
	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Per cent
Growing costs:											
Use of land	.....	$ 6.64	.....	$ 6.09	.....	$ 5.40	.....	$ 6.37	.....	$ 6.12	11.6
Manure	.....	5.20	.....	6.50	.....	4.25	.....	4.52	.....	5.12	9.7
Fertilizer (pounds)	232	2.32	185	2.27	193	2.32	274	2.07	221	2.24	4.3
Seed (bushels)	4.0	16.60	4.4	17.77	4.5	17.56	4.2	17.51	4.3	17.36	33.0
Man labor (hours)	9.5	3.84	7.3	3.15	9.4	4.03	6.1	2.60	8.1	3.41	6.5
Horse labor (hours)	16.4	2.61	10.0	2.16	10.7	2.01	6.6	1.05	10.9	1.96	3.7
Tractor and tools (hours)	2.8	2.75	2.8	3.53	4.4	4.03	2.9	3.26	3.2	3.39	6.5
Other equipment	.....	2.02	.....	1.28	.....	1.38	.....	1.09	.....	1.44	2.8
Other growing costs	.....	0.90	.....	0.48	.....	1.08	.....	0.69	.....	0.79	1.5
Total	.....	$42.88	.....	$43.23	.....	$42.06	.....	$39.16	.....	$41.83	79.6
Harvesting costs:											
Man labor (hours)	11.1	$4.62	14.3	$ 6.28	10.6	$4.87	13.3	$5.62	12.3	$ 5.35	10.2
Horse labor (hours)	11.9	2.10	12.8	2.72	7.3	1.55	7.6	1.29	9.9	1.92	3.7
Truck	.....	0.80	.....	2.31	.....	0.95	.....	1.18	.....	1.31	2.5
Other equipment	.....	1.54	.....	1.98	.....	1.30	.....	1.23	.....	1.51	2.9
Other harvesting costs	.....	0.10	.....	0.01	.....	0.06	.....	0.05	.....	0.05	0.0
Total	.....	$9.16	.....	$13.30	.....	$8.73	.....	$9.37	.....	$10.14	19.3
Other costs:											
Man labor	.....	$0.04	.....	$0.03	.....	$0.08	.....	$0.00	.....	$0.04	0.0
Equipment	.....	0.27	.....	0.24	.....	0.29	.....	0.79	.....	0.40	1.0
Miscellaneous	.....	0.04	.....	0.36	.....	0.09	.....	0.17	.....	0.16	0.1
Total	.....	$0.35	.....	$0.63	.....	$0.46	.....	$0.96	.....	$0.60	1.1
Total cost	.....	$52.39	.....	$57.16	.....	$51.25	.....	$49.49	.....	$52.57	100.0
Returns:											
Peas (hundredweight)	17.7	$47.93	22.0	$61.52	11.6	$33.20	24.4	$74.98	18.9	$54.41	.....
Vines (tons)	1.3	1.37	0.8	1.21	0.2	0.42	.....	0.14	.....	0.78	.....
Total returns	.....	$49.30	.....	$62.73	.....	$33.62	.....	$75.12	.....	$55.19	.....

* Of the 72 accounts, 44 were in Genesee, 6 in Orleans, 6 in Wyoming, 5 in Livingston, 4 in Ontario, and 7 in 5 other counties.

Relation of acreage and yield of peas to costs and returns

Growers with small acreages of peas spent more per acre for manure, fertilizer, labor, and equipment, and obtained higher yields than did growers with large acreages. However, the saving of time on large acreages so reduced costs that even with lower yields, profits were higher. On the farms with about 19 acres of peas, the cost of labor and equipment to grow an acre was about 33 per cent less, and the cost of labor and equipment to harvest an acre was nearly 50 per cent less than on farms with only 4 acres of peas. With the large acreages there was a profit of $4.72 an acre and with the small acreages a loss of $1.39 an acre (table 31).

With high yields, the cost to grow an acre of peas was slightly higher and the cost to harvest an acre was considerably higher than with low yields. However, costs did not increase in proportion to yields. With an average of about 2800 pounds per acre, the growing cost of a ton of peas was only about one-half, and the harvesting cost per ton of peas

was about three-fourths as much as with an average yield of only 1300 pounds per acre. With low yields the costs other than for man labor exceeded the returns. The accounts with highest yields show an average profit of $21.61 per acre and a net return of $1.35 for each hour of man labor on the crop (table 32).

TABLE 31. RELATION OF ACREAGE OF PEAS TO COSTS AND RETURNS, 72 ACCOUNTS, 1927–1930

	Low third in acreage	Middle third in acreage	High third in acreage
Acres per farm	3.7	7.5	19.3
Yield (pounds per acre)	2,147	1,980	1,868
Cost of manure per acre	$7.76	$4.94	$4.76
Cost of fertilizer per acre	$2.40	$2.09	$2.28
Cost of seed per acre	$17.43	$17.71	$17.08
Man hours to grow an acre	12.0	8.4	7.2
Horse hours to grow an acre	23.2	13.9	8.1
Tractor hours to grow an acre	2.4	3.0	3.4
Cost of labor and equipment to grow an acre	$13.71	$11.02	$9.19
Cost to grow an acre	$47.35	$42.25	$40.69
Man hours to harvest an acre	20.6	14.1	10.0
Horse hours to harvest an acre	17.6	12.9	7.7
Cost of labor and equipment to harvest an acre	$16.14	$11.18	$8.44
Cost to harvest an acre	$16.21	$11.25	$8.50
Cost to grow a ton	$44.11	$42.67	$43.57
Cost to harvest a ton	$15.10	$11.36	$9.10
Profit or loss per acre	$–1.39	$2.93	$4.72
Return per hour of man labor	$0.37	$0.54	$0.71

TABLE 32. RELATION OF YIELD OF PEAS TO COSTS AND RETURNS, 72 ACCOUNTS, 1927–1930

	Low third in yield	Middle third in yield	High third in yield
Yield (pounds per acre)	1,306	1,984	2,766
Acres per farm	12.4	9.8	8.6
Cost of manure per acre	$5.13	$4.17	$6.31
Cost of fertilizer per acre	$1.85	$2.48	$2.55
Cost of seed per acre	$17.60	$17.30	$16.80
Man hours to grow an acre	8.1	7.7	8.5
Horse hours to grow an acre	11.1	10.2	13.0
Tractor hours to grow an acre	3.3	3.0	3.1
Cost of labor and equipment to grow an acre	$9.71	$9.74	$11.37
Cost to grow an acre	$41.84	$40.31	$43.67
Man hours to harvest an acre	9.2	13.7	15.3
Horse hours to harvest an acre	7.9	10.6	13.0
Cost of labor and equipment to harvest an acre	$7.77	$10.38	$12.93
Cost to harvest an acre	$7.82	$10.43	$13.00
Cost to grow a ton	$64.08	$40.64	$31.57
Cost to harvest a ton	$11.98	$10.52	$9.40
Profit or loss per acre	$–10.78	$5.91	$21.61
Return per hour of man labor	$–0.21	$0.70	$1.35

CANNING-FACTORY SWEET CORN

With 4.8 acres per farm, and a yield of 3226 pounds of corn per acre, the average cost for sweet corn for the 4 years 1927 to 1930 was $57.67 an acre. Allowing a credit of $6.15 an acre for the stalks, the net cost of the corn harvested was $36 a ton (table 34).

The cost to grow the crop averaged $41.45 an acre and the cost to harvest the crop was $14.76 an acre. The cost of handling and storing the stalks averaged $1.46 an acre.

Average returns of $40.98 an acre paid all costs other than for man labor and left one cent an hour for the time spent on the crop. With man labor charged at cost (44 cents an hour), the total costs exceeded total returns in each of the 4 years.

TABLE 33. AVERAGES FROM ACCOUNTS WITH CANNING-FACTORY SWEET CORN, 1927–1931

Year	Number of accounts	Acres per farm	Yield (pounds per acre)	Cost per acre	Return per acre	Profit or loss per acre	Cost per ton	Value per ton	Profit or loss per ton	Man hours per acre	Return per hour of man labor
1927	12	5.4	4,421	$62	$44	$–18	$26	$18	$ –8	49	$ 0.04
1928	15	6.0	1,743	49	25	–24	55	26	–29	31	–0.34
1929	9	3.9	3,910	57	45	–12	27	21	–6	39	0.12
1930	7	4.1	2,832	62	49	–13	36	27	–9	51	0.23
1931	2	9.5	5,314	55	50	–5	18	16	–2	38	0.35
Average: 1927–1930	43	4.8	3,226	$58	$41	$–17	$36	$23	$–13	42	$0.01

TABLE 34. COSTS AND RETURNS FOR SWEET CORN, 1927–1930

Year	1927		1928		1929		1930		1927–1930 43*		
Number of accounts	12		15		9		7				
Acres per farm	5.4		6.0		3.9		4.1		4.8		
Yield (pounds per acre)	4421		1743		3910		2832		3226		
	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Per cent
Growing costs:											
Use of land	.....	$ 6.50	.....	$ 5.83	.....	$ 5.94	.....	$ 7.89	.....	$ 6.54	11.4
Lime, manure, and cover crops	.....	10.64	.....	6.66	.....	11.04	.....	5.09	.....	8.36	14.5
Fertilizer (pounds)	176	2.10	176	2.41	166	2.34	151	2.46	167	2.33	4.1
Seed (quarts)	8.3	2.01	7.2	2.11	9.8	2.42	10.9	2.28	9.0	2.20	3.8
Man labor (hours)	22.9	9.42	15.9	6.91	18.6	7.41	22.2	10.70	19.9	8.61	14.9
Horse labor (hours)	32.2	5.72	23.1	4.70	24.4	5.75	24.6	7.16	26.1	5.83	10.1
Tractor and tools (hours)	3.7	3.42	3.3	3.97	4.1	3.94	2.8	2.56	3.5	3.47	6.0
Other equipment	.....	3.73	.....	2.86	.....	3.24	.....	3.19	.....	3.25	5.6
Other growing costs	.....	0.95	.....	0.60	.....	1.10	.....	0.74	.....	0.86	1.5
Total	.....	$44.49	.....	$36.05	.....	$43.18	.....	$42.07	.....	$41.45	71.9
Harvesting costs:											
Man labor (hours)	26.1	$11.14	15.2	$ 6.54	22.9	$ 9.24	27.4	$13.19	22.9	$10.03	17.4
Horse labor (hours)	11.6	2.10	7.3	1.65	7.5	1.86	6.4	1.37	8.2	1.75	3.0
Truck	.....	0.70	.....	0.88	.....	0.68	.....	1.68	.....	0.98	1.7
Other equipment	.....	1.86	.....	2.75	.....	1.01	.....	1.02	.....	1.66	2.9
Twine	.....	0.30	.....	0.14	.....	0.20	.....	.....	.....	0.16	0.3
Other harvesting costs	.....	0.14	.....	0.13	.....	0.39	.....	0.07	.....	0.18	0.3
Total	.....	$16.24	.....	$12.09	.....	$13.38	.....	$17.33	.....	$14.76	25.6
Cost to cut and store stalks	.....	$1.60	.....	$0.98	.....	$0.26	.....	$3.02	.....	$1.46	2.5
Total cost	.....	$62.33	.....	$49.12	.....	$56.82	.....	$62.42	.....	$57.67	100.0
Returns:											
Sweet corn (pounds)	4,421	$39.77	1,743	$20.93	3,910	$40.39	2,832	$38.21	3,226	$34.83	.....
Fodder	.....	4.14	.....	4.36	.....	4.85	.....	11.26	.....	6.15	.....
Total returns	.....	$43.91	.....	$25.29	.....	$45.24	.....	$49.47	.....	$40.98	.....

* Of the 43 accounts, 22 were in Genesee, 8 in Livingston, 4 in Monroe, 3 in Ontario, 2 in Wyoming and one in each of Orleans, Wayne, Chemung, and Madison Counties.

STRING BEANS

With 10.5 acres per farm and an average yield of 2882 pounds, the average cost to grow an acre of string beans for the 4 years 1927 to 1930 was $43.69. All but 2 of the accounts were with crops grown on contract with canning factories. On these 2 farms, the crops were picked and shipped by the growers. For all other accounts, the labor for picking was furnished by the factories and the costs of such labor were not reported by the growers. Total costs to the growers averaged $59.12 an acre.

Average returns for the 4 years exceeded average costs by $1.20 an acre. After deducting from the returns all charges other than for man labor, there remained 22 cents for each hour of farm labor spent on the crop.

TABLE 35. COSTS AND RETURNS FOR STRING BEANS, 1927–1930

Year	1927		1928		1929		1930		1927–1930		
Number of accounts	7		7		3		5		22*		
Acres per farm	4.1		7.6		10.5		19.8		10.5		
Yield (pounds per acre)	3210		2234		3242		2842		2882		
	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Per cent
Growing costs:											
Use of land	.....	$ 5.35	.....	$ 5.85	.....	$ 5.48	.....	$ 8.01	.....	$ 6.17	10.4
Manure	.....	5.42	.....	6.60	.....	4.90	.....	2.51	.....	4.86	8.2
Fertilizer (pounds)	245	2.45	302	4.06	328	4.49	370	4.50	311	3.88	6.6
Seed (bushels)	1.0	9.69	1.0	9.32	1.0	9.46	0.8	9.58	1.0	9.51	16.1
Man labor (hours)	20.1	10.00	11.9	5.00	20.9	8.47	11.7	5.20	16.2	7.17	12.1
Horse labor (hours)	42.7	8.71	14.7	3.40	13.9	2.45	8.9	1.47	20.0	4.01	6.8
Tractor and tools (hours)	2.4	2.59	3.1	4.21	4.2	3.92	4.6	4.90	3.6	3.90	6.6
Other equipment	.....	5.20	.....	3.13	.....	3.22	.....	1.92	.....	3.37	5.7
Other growing costs	.....	1.50	.....	0.30	.....	0.86	.....	0.63	.....	0.82	1.4
Total	.....	$50.91	.....	$41.87	.....	$43.25	.....	$38.72	.....	$43.69	73.9
Other costs: †											
Man labor (hours)	25.3	$ 7.69	5.0	$2.52	4.9	$2.64	130.9	$37.58	41.5	$12.60	21.3
Miscellaneous	.....	3.32	.....	3.08	.....	1.21	.....	3.71	.....	2.83	4.8
Total	.....	$11.01	.....	$5.60	.....	$3.85	.....	$41.29	.....	$15.43	26.1
Total cost	.....	$61.92	.....	$47.47	.....	$47.10	.....	$80.01	.....	$59.12	100.0
Total returns	.....	$53.04	.....	$35.38	.....	$48.76	.....	$104.15	.....	$60.32	.....
Return per hour of man labor	.....	$0.19	.....	$-0.27	.....	$0.49	.....	$0.47	.....	$0.22	.....

* Of the 22 accounts, 14 were in Genesee, 4 in Ontario, 2 in Wyoming, one in Livingston, and one in Madison County.

† Includes some farm labor for picking. On 2 farms the entire crop was picked by the growers. On all other farms, the crops were picked by crews paid by the canning factory.

CUCUMBERS

With 19 accounts for cucumbers for the years 1929 and 1930, the average number of acres grown per farm was 7.8, and the average yield was 96 bushels per acre. The total cost per acre was $82.46, of which 57.7 per cent was for growing, 41.2 per cent was for harvesting and 1.1 per cent was for selling costs. Most of the cost of grading and packing was excluded from these accounts as these jobs were done by contractors. On a few farms a small part of the crop was packed by the growers.

Charges for labor and equipment accounted for 71.4 per cent of the total cost, fertilizer and manure were 17.4 per cent, the charge for use of land was 6.6 per cent, and seed was 2.4 per cent (table 36).

Average returns of $78.64 an acre, or 89 cents per bushel, paid all costs other than man labor and left 37 cents an hour for the time spent on the crop. With man labor charged at cost (40 cents an hour) total costs exceeded total returns by $3.82 an acre.

TABLE 36. COSTS AND RETURNS FOR CUCUMBERS, 1929–1930

Year	1929		1930		1929–1930		
Number of accounts	8		11		19*		
Acres per farm	5.7		10.0		7.8		
Yield (bushels per acre)	76.6		115.0		95.8		
	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Per cent
Growing costs:							
Use of land	.....	$5.03	.....	$5.92	.....	$5.48	6.6
Lime, manure and cover crops	.....	10.11	.....	5.92	.....	8.02	9.7
Fertilizer (pounds)	351	6.11	541	6.62	446	6.36	7.7
Seed	.....	2.60	.....	1.33	.....	1.96	2.4
Nicotine and dust	.....	0.57	.....	0.45	.....	0.51	0.6
Man labor (hours)	37.4	15.94	29.5	11.78	33.4	13.86	16.8
Horse labor (hours)	21.1	4.30	19.6	3.31	20.4	3.80	4.6
Tractor and tools (hours)	3.9	3.69	4.2	3.77	4.0	3.73	4.5
Other equipment	.....	3.56	.....	2.52	.....	3.04	3.7
Other growing costs	.....	1.03	.....	0.73	.....	0.88	1.1
Total	.....	$52.94	.....	$42.35	.....	$47.64	57.7
Harvesting costs:							
Man labor (hours)	68.5	$30.13	81.1	$29.17	74.8	$29.65	36.0
Horse labor (hours)	0.1	0.04	0.7	0.10	0.4	0.07	0.1
Truck	.....	2.74	.....	3.85	.....	3.30	4.0
Other equipment	.....	0.42	.....	0.65	.....	0.54	0.7
Other harvesting costs	.....	0.36	.....	0.36	.....	0.36	0.4
Total	.....	$33.69	.....	$34.13	.....	$33.92	41.2
Selling costs:							
Man labor (hours)	0.3	$0.15	0.4	$0.17	0.4	$0.16	0.2
Horses and equipment	.....	0.40	.....	0.85	.....	0.62	0.8
Other selling costs	.....	0.13	.....	0.10	.....	0.12	0.1
Total	.....	$0.68	.....	$1.12	.....	$0.90	1.1
Total cost	.....	$87.31	.....	$77.60	.....	$82.46	100.0
Total return	.....	$93.97	.....	$63.30	.....	$78.64	.....
Total return per acre	$93.97		$63.30		$78.64		
Cost per bushel	$1.14		$0.67		$0.90		
Value per bushel	$1.23		$0.55		$0.89		
Return per hour of man labor	$0.50		$0.24		$0.37		

* Of the 19 accounts, 13 were in Genesee, 4 in Orleans, and 2 in Monroe County.

TOMATOES

With 6.2 acres per farm and a yield of 5.4 tons, the average cost of tomatoes on 9 farms in 1930 was $115.68 per acre, or $21.47 per ton. Of this total, 67.7 per cent comprised growing costs, 28.6 per cent harvesting costs, and 3.7 per cent selling costs. Selling costs were incurred on a few farms where a small part of the crop was sold in handle baskets. The bulk of the crop was sold to canning factories. Charges for labor and equipment accounted for 56 per cent of the total cost, the cost of plants was 15 per cent, and fertilizer was 14 per cent (table 37).

Average returns of $82.45 an acre, or $15.30 a ton, paid all costs other than labor, and left 11 cents an hour for the time spent on the crop. With labor charged at cost (40 cents an hour), total costs exceeded total returns by $33.23 an acre, or $6.17 a ton.

TABLE 37. COSTS AND RETURNS FOR TOMATOES, 9 ACCOUNTS, 1930*
(Acres per farm 6.2; yield per acre 5.4 tons)

	Quantity per acre	Cost per acre	Per cent
Growing costs:			
Use of land	.....	$ 5.93	5.1
Manure	.....	7.93	6.9
Fertilizer	867 pounds	15.93	13.8
Plants	.....	16.88	14.6
Man labor	37.9 hours	15.10	13.1
Horse labor	24.2 hours	5.37	4.6
Tractor and tools	4.5 hours	4.76	4.1
Other equipment	.....	5.03	4.3
Other growing costs	.....	1.38	1.2
Total	.....	$78.31	67.7
Harvesting costs:			
Man labor	72.8 hours	$29.57	25.6
Horse labor	0.7 hours	0.02	.....
Truck	.....	3.08	2.7
Other equipment	.....	0.13	0.1
Other harvesting costs	.....	0.25	0.2
Total	.....	$33.05	28.6
Selling costs:			
Labor and equipment	.....	$1.91	1.7
Other costs	.....	2.41	2.0
Total	.....	$4.32	3.7
Total cost	.....	$115.68	100.0

Total return per acre	$82.45	Net cost per ton	$21.47
Return per hour of man labor	$ 0.11	Value per ton	$15.30

* Of the 9 accounts, 4 were in Monroe, 2 in Orleans, 2 in Genesee, and one in Orange county.

FRUIT

APPLES

According to the United States Census, there were 282,542 acres of bearing apple orchards on New York farms in 1929. This was about 70,000 acres less than in 1909. However, the total acreage of all crops was also much higher in 1909. Apples accounted for about 4 per cent of the acreage of all crops in 1929 and in 1909.

Averages from accounts with apples indicate that this crop has been one of the most profitable of all crops grown by New York farmers. Profit per acre and net returns for man labor on apples for the 11 years 1920 to 1930, have been higher than on any other crop for which cost accounting data are available. On the average, for these 11 years, apples have paid 75 cents for each of the 90 hours of man labor spent on an acre. However, during two years, 1923 and again in 1926, the returns from apples were less than total costs. In these two years, the average returns per hour of man labor were 25 and 37 cents respectively (table 38).

With an average of 25.2 acres of apples per farm, and with a yield of 140 bushels, the average cost per acre for the 4 years 1927 to 1930 was $101.56. All costs up to picking averaged $50.12 an acre, or 49 per cent of the total cost. Harvesting costs averaged $19.11 an acre, or 19 per cent of the total cost. The picked fruit was handled in various ways, so that averages on packing, storing, and selling costs have little significance. Such of these costs as were included in these accounts averaged $32.33 an acre, or 32 per cent of the total cost (table 39). If all

apples had been graded and packed at the growers' expense, both costs and selling prices would have been higher.

TABLE 38. AVERAGES FROM ACCOUNTS WITH APPLES, 1920–1931

Year	Number of accounts	Acres per farm	Yield (bushels per acre)	Cost per acre	Return per acre	Profit or loss per acre	Cost per bushel	Value per bushel	Profit or loss per bushel	Man hours per acre	Return per hour of man labor
1920	11	16.5	278	$190	$207	$ 17	$0.67	$0.73	$ 0.06	115	$0.69
1921	9	19.3	111	98	121	23	0.83	1.04	0.21	75	0.79
1922	10	20.3	241	114	167	53	0.46	0.68	0.22	93	1.06
1923	4	37.8	151	125	101	-24	0.80	0.64	-0.16	107	0.25
1924	7	27.6	108	79	104	25	0.71	0.94	0.23	71	0.82
1925	5	17.4	138	85	106	21	0.60	0.75	0.15	77	0.73
1926	8	22.2	213	147	136	-11	0.65	0.60	-0.05	119	0.37
1927	13	22.0	97	81	116	35	0.83	1.20	0.37	70	0.95
1928	11	26.0	176	117	179	62	0.66	1.02	0.36	96	1.09
1929	16	24.0	120	92	122	30	0.76	1.02	0.26	73	0.88
1930	19	28.7	169	117	134	17	0.69	0.80	0.10	90	0.64
1931	22	28.2	172	.....	.....	.....	.....	.....	.....	95	0.11
Averages:											
1920–1924	41	24.3	178	$121	$140	$19	$0.69	$0.81	$0.11	92	$0.72
1925–1929	53	22.3	149	104	132	27	0.70	0.92	0.23	87	0.80

TABLE 39. COSTS AND RETURNS FOR APPLES, 1927–1930

Year	1927		1928		1929		1930		1927–1930 59*		
Number of accounts	13		11		16		19				
Acres per farm	22.0		26.0		24.0		28.7		25.2		
Yield (bushels per acre)	97		176		120		169		140		
	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Per cent
Growing costs:											
Use of land	.....	$12.44	.....	$14.26	.....	$13.42	.....	$14.85	.....	$13.75	13.7
Lime, manure, and cover crops	.....	2.29	.....	4.69	.....	6.24	.....	3.91	.....	4.28	4.2
Fertilizer (pounds)	3	0.12	37	1.16	67	1.82	84	2.36	48	1.36	1.3
Trees (replacements)	.....	0.06	.....	0.38	.....	0.20	.....	0.23	.....	0.22	0.2
Spray and dust	.....	6.34	.....	8.01	.....	9.86	.....	9.02	.....	8.31	8.2
Man labor (hours)	28.9	13.28	29.9	13.64	25.0	11.53	31.0	14.13	28.7	13.14	12.9
Horse labor (hours)	12.9	2.08	13.8	2.56	12.7	2.90	11.5	2.89	12.7	2.61	2.6
Tractor and tools (hours)	1.5	1.30	0.9	1.02	0.7	0.61	0.8	0.85	1.0	0.94	0.9
Other equipment	.....	2.43	.....	2.19	.....	2.65	.....	3.85	.....	2.78	2.7
Other growing costs	.....	1.12	.....	3.43	.....	3.10	.....	3.26	.....	2.73	2.7
Total	.....	$41.46	.....	$51.34	.....	$52.33	.....	$55.35	.....	$50.12	49.4
Harvesting costs:											
Man labor (hours)	23.5	$10.54	47.6	$20.72	33.9	$16.14	38.6	$16.55	35.9	$15.99	15.7
Horse labor (hours)	5.9	0.95	5.0	0.87	2.9	0.61	5.2	0.94	4.8	0.84	0.8
Truck	.....	0.24	.....	1.84	.....	0.50	.....	1.02	.....	0.90	0.9
Other equipment	.....	1.06	.....	1.36	.....	1.00	.....	1.28	.....	1.18	1.2
Other harvesting costs	.....	0.20	.....	0.18	.....	0.24	.....	0.19	.....	0.20	0.2
Total	.....	$12.99	.....	$24.97	.....	$18.49	.....	$19.98	.....	$19.11	18.8
Storing and selling costs: †											
Use of buildings	.....	$ 0.63	.....	$ 1.75	.....	$ 1.40	.....	$ 1.06	.....	$ 1.21	1.2
Containers and packing	.....	24.26	.....	37.12	.....	16.48	.....	38.10	.....	29.00	28.5
Other selling costs	.....	1.25	.....	1.65	.....	2.91	.....	2.71	.....	2.12	2.1
Total	.....	$26.14	.....	$40.52	.....	$20.79	.....	$41.87	.....	$32.33	31.8
Total cost	.....	$80.59	.....	$116.83	.....	$91.61	.....	$117.20	.....	$101.56	100.0
Total returns	.....	$116.08	.....	$179.23	.....	$122.29	.....	$134.49	.....	$138.02	.....

* Of the 59 accounts, 16 were in Monroe, 7 in Orleans, 6 in Wyoming, 6 in Orange, and 24 in 10 other counties.

† Does not cover the selling costs for the entire crop. Some of the accounts were closed before all of the crop was disposed of.

Relation of yield and acreage of apples to costs and returns

As the yield per acre of apples increased, the hours of man and horse labor, and the total cost to harvest an acre increased, but the cost to harvest a bushel decreased. With an average yield of 88 bushels of apples per acre, about 28 man hours was required to harvest 100 bushels. With a yield of 210 bushels per acre, about 24 man hours was required per 100 bushels. With the 88-bushel yield, the cost to harvest a bushel was 3 cents more than with the 210-bushel yield (table 40).

High yields paid better than moderate yields whether on small or large acreages (table 41). The largest total profits on apples were made on the large acreages with moderate yields. If yields as good as those obtained on most of these farms could be maintained on a larger acreage, total profits could probably be increased more by adding acreage than by further increasing yield per acre.

TABLE 40. RELATION OF YIELD PER ACRE OF APPLES TO HARVESTING COST, 59 ACCOUNTS, 1927–1930

	Low third in yield	Middle third in yield	High third in yield
Number of accounts	20	20	19
Acres per farm	25.5	28.4	22.3
Yield (bushels per acre)	88	145	210
Man hours to harvest an acre	24.5	37.2	49.2
Horse hours to harvest an acre	2.5	5.2	6.6
Cost to harvest an acre	$12.83	$20.29	$25.50
Cost to harvest a bushel	$0.15	$0.14	$0.12

TABLE 41. RELATION OF ACREAGE AND YIELD PER ACRE OF APPLES TO COSTS AND RETURNS, 59 ACCOUNTS, 1927–1930

	Acreage less than average of all accounts			Acreage larger than average of all accounts		
	Low third in yield	Middle third in yield	High third in yield	Low third in yield	Middle third in yield	High third in yield
Number of accounts	9	12	10	7	11	10
Acres per farm	12.2	17.1	10.7	34.6	46.2	32.9
Yield (bushels per acre)	87	132	203	78	136	211
Cost per acre	$75	$92	$114	$94	$99	$130
Returns per acre	$62	$111	$225	$96	$136	$179
Profit or loss on enterprise	$-159	$333	$1,183	$72	$1,676	$1,589
Labor return per acre	$18	$57	$156	$31	$70	$91
Man hours per acre	68	78	107	54	79	97
Return per hour of man labor	$0.27	$0.73	$1.47	$0.56	$0.88	$0.94

CHERRIES

With 4.8 acres of cherries per farm, and a yield of 6071 pounds, the average cost per acre on 5 farms in 1930 was $136.93. Of this total cost, 37 per cent was for care of the trees and growing the crop, and 60.9 per cent was for harvesting the crop. The cost of man labor for growing and harvesting the crop was 67 per cent of the total cost. Other important items of cost were use of land, which was 8 per cent, and spray and dust materials, 6 per cent. Returns of $329.12 an acre in 1930 paid all other costs and gave $1.06 for each hour of man labor on the enterprise (table 42).

TABLE 42. COSTS AND RETURNS FOR CHERRIES, 5 ACCOUNTS, 1930*
(Acres per farm 4.8; yield per acre 6,071 pounds)

	Quantity per acre	Value per acre	Per cent
Growing costs:			
Use of land	.....	$11.00	8.0
Manure	.....	2.37	1.7
Fertilizer (pounds)	195	2.74	2.0
Trees (replacements)	.....	5.52	4.0
Spray and dust	.....	7.80	5.7
Man labor (hours)	21.9	9.25	6.8
Horse labor (hours)	7.5	3.07	2.3
Tractor tools (hours)	4.9	3.36	2.5
Other equipment	.....	2.78	2.0
Other growing costs	.....	2.90	2.1
Total	.....	$50.79	37.1
Harvesting costs:			
Man labor (hours)	243	$82.45	60.2
Horse labor (hours)	0.7	0.21	0.2
Truck labor	.....	0.04	0.0
Other equipment	.....	0.25	0.2
Other harvesting costs	.....	0.41	0.3
Total	.....	$83.36	60.9
Storing and selling costs:			
Use of buildings	.....	$0.21	0.1
Labor and equipment	.....	1.49	1.1
Other storing and selling costs	.....	1.08	0.8
Total	.....	$2.78	2.0
Total cost	.....	$136.93	100.0

Returns per acre	$329.12	Cost per hundredweight	$2.26
Return per hour of labor	$1.06	Value per hundredweight	$5.42

* Of the 5 accounts, 3 were in Monroe, 1 in Orleans, and 1 in Wayne County.

PEACHES

With an average of 10.8 acres of peaches per farm, and a yield of 122 bushels, the average cost per acre on 6 farms in 1930 was $94.77. Of this total cost, 42 per cent was for care of the trees and growing the crop, 19 per cent was for harvesting the crop, and 39 per cent was for packing, storing, and selling the fruit. The cost of containers plus the charges for packing averaged $34.50 an acre, or more than 36 per cent of the total cost. Man labor for growing and harvesting the crop accounted for more than 27 per cent of the total cost. Other important items of cost were use of land, which was 12 per cent of the total, fertilizer 5 per cent, and spray and dust materials 4 per cent. Returns of $130.39 per acre in 1930 paid all other costs and gave a return of 94 cents for each hour of man labor on the enterprise (table 43).

PEARS

With 3.6 acres of pears per farm, and a yield of 99 bushels per acre, the average cost per acre on 4 farms in 1930 was $61.04. Growing costs accounted for 40.6 per cent of the total costs, harvesting costs for 36.6 per cent, and storing and selling costs 22.8 per cent. The cost of man labor to grow and harvest the crop accounted for 38 per cent of the total cost, and the containers plus the cost of packing were 22 per cent of the total. Other important items were use of land 12 per cent, manure 9 per cent, and spray and dust materials 6 per cent. Returns of $65.07 per acre in 1930 paid all other costs and gave 42 cents for each hour of man labor on the enterprise (table 44).

TABLE 43. COSTS AND RETURNS FOR PEACHES, 6 ACCOUNTS, 1930*
(Acres per farm 10.8; yield per acre 122 bushels)

	Quantity per acre	Value per acre	Per cent
Growing costs:			
Use of land	.....	$11.02	11.6
Manure	.....	0.76	0.8
Fertilizer (pounds)	164	4.43	4.7
Trees (replacements)	.....	0.49	0.5
Spray and dust	.....	4.20	4.4
Man labor, hours	24.2	10.20	10.8
Horse labor, hours	12.3	2.42	2.6
Tractor tools, hours	2.0	1.84	1.9
Other equipment	.....	1.56	1.7
Other growing costs	.....	2.79	2.9
Total	.....	$39.71	41.9
Harvesting costs:			
Man labor (hours)	37.5	$15.60	16.5
Horse labor (hours)	4.4	0.74	0.8
Truck	.....	0.26	0.3
Other equipment	.....	0.70	0.7
Other harvesting costs	.....	0.28	0.3
Total	.....	$17.58	18.6
Storing and selling costs:			
Use of buildings	.....	$1.51	1.6
Labor and equipment	.....	0.35	0.4
Packing and containers	.....	34.50	36.4
Other storing and selling costs	.....	1.12	1.1
Total	.....	$37.48	39.5
Total cost	.....	$94.77	100.0

Returns per acre	$130.39	Cost per bushel	$0.78
Returns per hour of labor	$0.94	Value per bushel	$1.07

* Three of these accounts were in Monroe, 2 in Orange, and 1 in Orleans County.

TABLE 44. COSTS AND RETURNS FOR PEARS, 4 ACCOUNTS, 1930*
(Acres per farm 3.6; yield per acre 99 bushels)

	Quantity per acre	Value per acre	Per cent
Growing costs:			
Use of land	.....	$ 7.15	11.7
Manure	.....	5.63	9.2
Fertilizer (pounds)	7.	0.21	0.4
Spray or dust	.....	3.68	6.0
Man labor (hours)	10.2	3.68	6.0
Horse labor (hours)	6.8	1.32	2.2
Tractor and tools (hours)	0.6	0.49	0.8
Other equipment	.....	1.94	3.2
Other growing costs	.....	0.69	1.1
Total	.....	$24.79	40.6
Harvesting costs:			
Man labor (hours)	52.9	$19.73	32.3
Horse labor (hours)	5.3	0.97	1.5
Truck	.....	0.83	1.4
Other equipment	.....	0.83	1.4
Total	.....	$22.36	36.6
Storing and selling costs:			
Use of buildings	.....	$ 0.07	0.1
Packing and containers	.....	13.68	22.5
Other storing and selling costs	.....	0.14	0.2
Total	.....	$13.89	22.8
Total cost	.....	$61.04	100.0

Return per acre	$65.07	Cost per bushel	$0.62
Return per hour of man labor	$ 0.42	Value per bushel	$0.66

* Two accounts were in Monroe, 1 in Orleans, and 1 in Orange County.

GRAIN

The United States Census for 1929 reported approximately 1,500,000 acres of grain crops harvested on New York farms. This was about 20 per cent of the total acreage of all crops. Grain crops are decreasing in relative importance on New York farms, as indicated by the fact that in 1919 they accounted for 26 per cent of the acreage of all crops, and in 1909 for 29 per cent (table 45).

In 1929, the acreages of barley and wheat were less than in 1909, but each represented a slightly larger proportion of the total acreage of all crops. The largest decreases in the proportion of crop land utilized by the various grains were in corn and oats. In 1909, corn for grain represented 5.8 per cent of the total crop acreage, and in 1929 only 1.6 per cent. The acreage figures for oats are not exactly comparable because some mixed grains were included in the data for 1909 and 1919. However, the combined acreage of oats, barley, and other grain not reported separately, would represent a smaller proportion of the total crop acreage in 1929 than in 1909 or 1919.

TABLE 45. ACREAGE OF GRAIN CROPS ON NEW YORK FARMS*

Crop	1909		1919		1929	
	Acres	Per cent of total crop acreage	Acres	Per cent of total crop acreage	Acres	Per cent of total crop acreage
Barley	79,956	0.9	116,109	1.3	75,934	1.2
Buckwheat	286,276	3.2	217,946	2.5	171,044	2.5
Corn	512,442	5.8	320,325	3.7	110,694	1.6
Oats	1,302,508	14.6	1,066,030	12.2	635,744	9.1
Wheat (total)	289,130	3.3	463,461	5.2	238,874	3.4
Other grain	130,557	1.5	115,661	1.3	.....	†
Total	2,600,869	29.3	2,299,532	26.2	.....	†

* Data from United States Census.
† Mixtures of spring grains not reported separately, and other grains would probably make the total acreage of grain crops about 20 per cent of the acreage of all crops.

RETURN PER HOUR OF MAN LABOR

The average cost of producing grain on New York farms for the years 1914 to 1930 has been higher than the value of the grain. Even during the period of rapidly rising prices from 1914 to 1919, the returns for the time spent on grain crops were low. For the next 10 years, 1920 to 1929, all of the grain crops with the exception of wheat, failed to pay any wage for the time spent on them. From 1914 to 1919, the average return per hour of man labor on wheat was 54 cents. Since 1920, wheat has been about as unprofitable as the other grain crops.

TABLE 46. AVERAGE RETURN PER HOUR OF MAN LABOR ON GRAIN CROPS

Crop	1914 to 1919	1920 to 1924	1925 to 1929	1930
Barley	$0.02	$-0.20	$-0.05	$-0.23
Buckwheat	0.13	-0.07	-0.35	-0.67
Corn	0.15	-0.08	-0.13	0.10
Oats	0.04	-0.25	-0.11	-0.09
Oats and barley	.....	.....	-0.16	0.16
Oats, barley, and peas	.....	.....	-0.03	0.20
Wheat	0.54	-0.09	0.19	-0.11

On New York farms, the acreage of grain crops which might be justified by actual profits would be small. However, grain is grown in New York not only as a cash crop, but also as a nurse crop for hay seedings, and for feed and bedding to be used on the farm.

In recent years, grain has been grown profitably by some farmers who had unusually high yields, or who have been very efficient in producing and handling the crop, or who have been able to sell their grain for seed at exceptionally high prices. The few growers who have been able to combine high yields, efficient methods, and good prices have made excellent returns on grain.

RELATION OF YIELD AND ACREAGE TO COSTS AND RETURNS

For the years 1927 to 1930, grain crops with high yields showed a fair return for the time spent on them. In order to pay all other costs, and to pay a wage of 40 cents an hour, yields of about 30 bushels of wheat, 45 bushels of barley, 50 bushels of mixed spring grains, or 60 bushels of oats were necessary (table 47).

As the yield per acre of grain increased, the cost to harvest an acre also increased, but the harvesting cost did not increase at the same rate as the yield. Consequently, higher yields resulted in lower harvesting costs per bushel. In general, doubling the yield per acre reduced the cost to harvest a bushel of grain about one-third (table 48).

TABLE 47. RELATION OF YIELD PER ACRE OF GRAIN TO RETURN PER HOUR OF MAN LABOR, 1927–1930

Crop	Low third in yield		Middle third in yield		High third in yield	
	Bushels per acre	Return per hour	Bushels per acre	Return per hour	Bushels per acre	Return per hour
Barley	17	$-0.53	29	$-0.09	42	$0.30
Oats	29	-0.40	39	-0.12	57	0.23
Oats and barley	22	-0.74	39	-0.04	46	0.29
Oats, barley, and peas	26	-0.44	38	0.10	49	0.34
Wheat	12	-0.62	20	-0.21	30	0.44

TABLE 48. RELATION OF YIELD PER ACRE OF GRAIN TO COST OF HARVESTING, 1927–1930

Crop	Low third in yield			Middle third in yield			High third in yield		
	Bushels per acre	Cost of harvesting an acre	Cost of harvesting a bushel	Bushels per acre	Cost of harvesting an acre	Cost of harvesting a bushel	Bushels per acre	Cost of harvesting an acre	Cost of harvesting a bushel
Barley	17	$6.08	$0.36	29	$7.37	$0.26	42	$ 9.81	$0.24
Oats	29	7.63	0.27	39	8.30	0.21	57	10.59	0.19
Oats and barley	22	6.32	0.29	39	8.69	0.22	46	9.73	0.21
Oats, barley, and peas	26	7.45	0.28	38	9.10	0.24	49	10.58	0.22
Wheat	12	5.65	0.45	20	6.76	0.35	30	8.99	0.30

Another important factor in reducing the cost of grain is the acreage grown. Larger acreages usually result in lower costs per acre because of the increase in efficiency with which the work is done. In general, doubling the acreage of grain reduces the growing cost per acre about

12 per cent. Doubling a small acreage reduces the cost of harvesting an acre only 5 per cent, while doubling a moderate acreage reduced the cost of harvesting an acre about 15 per cent (table 49). Combines were used on some of the larger acreages.

With large acreages of grain the cost per acre and the loss per acre were less than with small acreages. However, when a smaller loss per acre is multiplied by a much larger number of acres, the total loss on the crop may be greater. With high yields, large acreages, and efficient methods, it is possible to reduce costs to a point where grain may be grown with a good profit (tables 50 and 51).

TABLE 49. RELATION OF ACREAGE OF GRAIN TO COST PER ACRE, 1927–1930

Crop	Low third in acreage			Middle third in acreage			High third in acreage		
	Acres per farm	Cost to grow an acre	Cost to harvest an acre	Acres per farm	Cost to grow an acre	Cost to harvest an acre	Acres per farm	Cost to grow an acre	Cost to harvest an acre
Barley	4.1	$25.84	$9.21	9.6	$24.66	$8.42	21.4	$22.68	$7.04
Oats	4.7	31.09	9.78	10.8	25.35	9.16	24.1	20.60	8.29
Oats and barley	6.7	27.97	9.69	12.8	26.20	8.74	26.5	23.00	7.64
Oats, barley, and peas	6.8	30.78	9.54	11.2	27.35	10.66	26.9	24.50	8.17
Wheat	7.9	31.99	8.87	16.5	28.66	7.78	36.6	22.94	6.22

TABLE 50. RELATION OF ACREAGE AND YIELD OF OATS TO COSTS AND RETURNS, 106 ACCOUNTS, 1927–1930

	Low third in yield		Middle third in yield		High third in yield	
	Small acreage	Large acreage	Small acreage	Large acreage	Small acreage	Large acreage
Yield (bushels per acre)	25	30	41	34	51	52
Acres per farm	7.1	21.2	5.9	18.0	5.4	20.8
Cost per acre	$34.48	$31.07	$41.87	$33.61	$43.04	$36.71
Return per acre	$18.24	$19.27	$29.19	$22.40	$34.37	$33.70
Loss per acre	$-16.24	$-11.80	$-12.68	$-11.21	$-8.67	$-3.01
Loss for the enterprise	$-116	$-250	$-74	$-202	$-47	$-63
Returns per hour of man labor	$-0.63	$-0.32	$-0.14	$-0.30	$0.00	$0.27

TABLE 51. RELATION OF ACREAGE AND YIELD OF WHEAT TO COSTS AND RETURNS, 153 ACCOUNTS, 1927–1930

	Low third in yield		Middle third in yield		High third in yield	
	Small acreage	Large acreage	Small acreage	Large acreage	Small acreage	Large acreage
Yield (bushels per acre)	14	12	20	20	27	30
Acres per farm	10.0	30.9	9.9	29.0	8.3	31.2
Cost per acre	$37.40	$29.00	$41.57	$32.65	$49.05	$36.33
Return per acre	$17.81	$16.27	$30.00	$24.19	$38.71	$38.39
Profit or loss per acre	$-19.59	$-12.73	$-11.57	$-8.46	$-10.34	$2.06
Profit or loss for the enterprise	$-196	$-393	$-115	$-245	$-86	$64
Return per hour of man labor	$-0.77	$-0.56	$-0.21	$-0.20	$-0.04	$0.61

GRAIN FOR FEED AND BEDDING

Some kind of livestock is kept on most New York farms. This means that feed and bedding are necessary farm expenses, whether purchased or grown on the farms where needed. Some farmers, who have soil adapted to more intensive crops, find it profitable to grow these other crops for sale and to purchase what grain and bedding they need. Others, who do not have soil adapted to the more profitable crops, may make more money by growing grain than by not growing it. To some farmers, a grain crop is worth the selling price, less the cost of making the sale; to others, the grain crop is worth what it would cost to buy the grain and straw and bring them to the farm. This difference in value may explain why a 25-bushel wheat yield may be profitable on a poultry farm and unprofitable on a crop farm.

There is not much difference between the cost of growing and harvesting an acre of the various grain crops, except for corn. The cost per acre for corn is about double the cost of other grains, because corn is a cultivated crop and requires considerable hand labor in harvesting. There is a great deal of difference between the pounds of grain obtained from an acre of the different grain crops and the cost of the grain. For the 4 years 1927 to 1930, the average yield of buckwheat was 926 pounds per acre and the cost was $2.99 per 100 pounds. The yield of oats, barley and peas was 1668 pounds per acre, and the cost was $1.84 per 100 pounds (table 52).

TABLE 52. COST TO GROW AND HARVEST GRAINS, 1927–1930

	Oats, barley, and peas	Oats and barley	Barley	Oats	Wheat	Buckwheat	Corn
Cost to grow an acre	$25.78	$24.38	$23.60	$23.53	$26.14	$20.66	$43.58
Cost to harvest an acre	$ 8.95	$ 8.36	$ 7.72	$ 8.84	$ 7.28	$ 7.76	$19.30
Total	$34.73	$32.74	$31.32	$32.37	$33.42	$28.42	$62.88
Value of straw and fodder per acre	$ 3.96	$ 3.62	$ 2.26	$ 3.14	$ 3.06	$ 0.71	$ 6.30
Cost of grain per acre	$30.77	$29.12	$29.06	$29.23	$30.36	$27.71	$56.58
Yield (bushels per acre)	37.9	36.5	28.8	40.6	21.4	19.3	29.5
Pounds per bushel	44	40	48	32	60	48	56
Yield (pounds per acre)	1,668	1,460	1,382	1,299	1,284	926	1,652
Cost to grow and harvest 100 pounds of grain	$1.84	$1.99	$2.10	$2.25	$2.36	$2.99	$3.42

GRAIN AS A NURSE CROP

The growing of grain as a nurse crop for hay seedings is not necessary on many farms. Some farmers are now getting good seedings with peas, with other nurse crops, or with no nurse crop. However, in many areas grain and grass seed grow well together. This combination offers the only opportunity on many farms of getting some crop from the land the same year that the grass seed is sown. With this combination it is much more important that a good seeding be obtained than a high yield of grain. An increase of 10 bushels an acre in the yield of barley might give an added return that year of $8. If this increased yield should result in a 10-per-cent decrease in the stand of the alfalfa seeding, the loss on the seeding would be much greater than the gain in barley, because the grain is a one-year crop, while the alfalfa may be harvested for several years. The kind of grain and the amount of seed used should depend upon its effect on the hay seeding. This will vary with localities, with farms, and with different fields on the same farm.

BARLEY

Accounts with barley were for small acreages, averaging about 9 acres per farm. Yields varied from an average of 17 bushels in 1916, to 36 bushels in 1930, with an average of 26 bushels per acre for the entire period. The cost per acre varied from $28 to $45, with an average of about $35. The lower cost per bushel in recent years was due chiefly to higher yields, larger acreages, and fewer man hours per acre. In only 3 of the 17 years have returns from the barley crop been high enough to pay all costs including labor (table 53).

TABLE 53. AVERAGES FROM ACCOUNTS WITH BARLEY, 1914–1931

Year	Number of accounts	Acres per farm	Yield (bushels per acre)	Cost per acre	Return per acre	Profit or loss per acre	Cost per bushel	Value per bushel	Profit or loss per bushel	Man hours per acre	Return per hour of man labor
1914	2	5.4	18	$31	$18	$-13	$1.55	$0.86	$-0.69	20	$-0.37
1915	10	6.2	35	28	28	0	0.64	0.65	0.01	25	0.26
1916	5	8.5	17	31	18	-13	1.74	0.98	-0.76	23	-0.26
1917	7	6.6	26	41	43	2	1.40	1.48	0.08	26	0.43
1918	11	10.3	32	41	35	- 6	1.15	0.97	-0.18	20	0.10
1919	5	12.9	23	45	37	- 8	1.78	1.43	-0.35	19	-0.03
1920	5	7.2	24	39	25	-14	1.51	0.90	-0.61	19	-0.34
1921	8	5.5	19	39	17	-22	1.84	0.72	-1.12	21	-0.64
1922	4	5.2	18	39	18	-21	2.06	0.84	-1.22	22	-0.56
1923	6	4.9	28	29	26	- 3	0.88	0.76	-0.12	18	0.15
1924	8	9.1	31	35	36	1	0.96	0.98	0.02	18	0.40
1925	7	7.2	33	36	32	- 4	0.98	0.86	-0.12	20	0.20
1926	9	13.7	22	33	20	-13	1.39	0.80	-0.58	17	-0.40
1927	26	9.5	34	33	31	- 2	0.91	0.84	-0.07	14	0.23
1928	23	12.3	25	33	26	- 7	1.21	0.93	-0.28	15	-0.07
1929	22	13.1	22	34	24	-10	1.46	1.02	-0.44	15	-0.22
1930	20	12.7	36	36	25	-11	0.93	0.61	-0.32	17	-0.23
1931	14	19.0	23	25	12	-13	1.05	0.49	-0.56	13	-0.69
Averages:											
1914–1919	40	8.3	25	$36	$30	$-6	$1.38	$1.06	$-0.32	22	$0.02
1920–1924	31	6.2	24	36	24	-12	1.45	0.84	-0.61	20	-0.20
1925–1929	87	11.2	27	34	27	- 7	1.19	0.89	-0.30	16	-0.05

With an average of about 12 acres per farm, and a yield of 29 bushels per acre, the average cost per acre of barley, for the 4 years 1927 to 1930, was $33.82. Of this total cost, 70 per cent was for growing, 23 per cent was for harvesting, and 7 per cent was for storing and selling. Of the total cost, 43 per cent was for labor and equipment, and 36 per cent was for the use of land and the nutrients which were applied to it in the form of lime, manure, and fertilizer (table 54).

The average cost of the barley crop for the 4 years 1927 to 1930, exceeded average returns by $7.55 an acre. If no charge were made for man labor, the costs would still exceed returns by $1.23 an acre.

TABLE 54. COSTS AND RETURNS FOR BARLEY, 1927–1930

	1927		1928		1929		1930		1927–1930		
Year											
Number of accounts	26		23		22		20		91*		
Acres per farm	9.5		12.3		13.1		12.7		11.8		
Yield (bushels per acre)	34.1		25.4		21.5		35.8		28.8		
	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Per cent
Growing costs:											
Use of land	.....	$ 5.96	.....	$ 5.00	.....	$ 5.30	.....	$ 5.53	.....	$ 5.45	16.1
Lime and manure	.....	5.26	.....	4.14	.....	5.52	.....	5.62	.....	5.14	15.2
Fertilizer (pounds)	146	1.38	166	1.61	157	1.53	145	1.46	154	1.50	4.5
Seed (bushels)	2.0	1.83	2.1	2.57	2.0	2.81	1.8	2.18	2.0	2.34	6.9
Man labor (hours)	6.3	2.60	6.4	2.59	6.4	2.71	6.8	2.93	6.5	2.71	8.0
Horse labor (hours)	8.1	1.66	9.3	1.56	8.3	1.66	9.4	1.49	8.8	1.59	4.7
Tractor and tools (hours)	2.8	3.42	2.8	3.61	3.0	3.04	2.8	3.05	2.8	3.28	9.7
Other equipment	.....	1.18	.....	0.90	.....	1.12	.....	1.05	.....	1.06	3.1
Other growing costs	.....	0.48	.....	0.71	.....	0.52	.....	0.42	.....	0.53	1.6
Total	.....	$23.77	.....	$22.69	.....	$24.21	.....	$23.73	.....	$23.60	69.8
Harvesting costs:											
Man labor (hours)	7.4	$2.96	7.2	$2.94	7.0	$2.89	10.1	$4.25	7.9	$3.26	9.6
Horse labor (hours)	5.9	1.16	5.0	0.92	4.8	0.96	6.3	1.11	5.4	1.04	3.1
Tractor and tools	.....	0.36	.....	0.64	.....	0.43	.....	0.43	.....	0.46	1.4
Threshing and combining	.....	1.96	.....	1.89	.....	1.51	.....	2.29	.....	1.91	5.6
Other equipment	.....	0.81	.....	0.73	.....	0.59	.....	0.69	.....	0.71	2.1
Twine	.....	0.35	.....	0.23	.....	0.22	.....	0.44	.....	0.31	0.9
Other harvesting costs	.....	0.06	.....	0.03	.....	0.02	.....	0.01	.....	0.03	0.1
Total	.....	$7.66	.....	$7.38	.....	$6.62	.....	$9.22	.....	$7.72	22.8
Storing and selling costs: †											
Use of buildings	.....	$1.39	.....	$1.21	.....	$1.30	.....	$1.77	.....	$1.42	4.2
Certification	.....	0.11	.....	0.34	.....	0.25	.....	0.30	.....	0.25	0.7
Man labor (hours)	0.4	0.17	1.0	0.43	1.5	0.65	0.4	0.14	0.8	0.35	1.0
Horses and equipment	.....	0.05	.....	0.12	.....	0.22	.....	0.10	.....	0.12	0.4
Other storing and selling costs	.....	0.14	.....	0.34	.....	0.25	.....	0.70	.....	0.36	1.1
Total	.....	$1.86	.....	$2.44	.....	$2.67	.....	$3.01	.....	$2.50	7.4
Total cost	.....	$33.29	.....	$32.51	.....	$33.50	.....	$35.96	.....	$33.82	100.0
Returns:											
Grain (bushels)	34.1	$28.48	25.4	$23.69	21.5	$21.90	35.8	$21.99	28.8	$24.01	.....
Straw (tons)	0.5	2.41	0.4	1.83	0.4	2.04	0.6	2.74	0.5	2.26	.....
Total returns	.....	$30.89	.....	$25.52	.....	$23.94	.....	$24.73	.....	$26.27	.....

* Of the 91 barley accounts, 43 were in Genesee, 12 in Onondaga, 12 in Livingston, 10 in Monroe, and 14 in 9 other counties.

† Does not cover the selling cost for the entire crop. A large share of the crop was used on the farm, and some accounts were closed before all of the crop was disposed of.

BUCKWHEAT

Buckwheat was formerly grown as a cash crop in various parts of New York. It has largely been displaced on the better soils by more profitable crops. The few accounts with buckwheat are not typical for areas where this crop is included in the regular cropping system. They represent, largely, an attempt to get something in return for what had been done in plowing and fitting land intended for other uses. Averages from accounts with buckwheat for 17 years, 1914 to 1930, are shown in table 55.

With an average of about 7 acres per farm, and a yield of 19 bushels, the average cost per acre for buckwheat for the years 1927 to 1930 was $29.98. Of this total cost, 69 per cent was for growing, 26 per cent was for harvesting, and 5 per cent was for storing and selling. Of the total cost, 53 per cent was for labor and equipment, and 31 per cent was for the use of land and the lime, manure, and fertilizers applied on it (table 56).

The average cost of the buckwheat crop for the 4 years 1927 to 1930, exceeded average returns by $14.03 an acre. If no charge were made for man labor, the costs would still exceed returns by $7.53 an acre.

TABLE 55. AVERAGES FROM ACCOUNTS WITH BUCKWHEAT, 1914–1931

Year	Number of accounts	Acres per farm	Yield (bushels per acre)	Cost per acre	Return per acre	Profit or loss per acre	Cost per bushel	Value per bushel	Profit or loss per bushel	Man hours per acre	Return per hour of man labor
1914	6	6.0	19	$20	$15	$- 5	$1.03	$0.73	$-0.30	24	$0.02
1915	12	8.8	17	19	15	- 4	1.04	0.79	-0.25	22	0.05
1916	10	6.4	9	21	13	- 8	2.20	1.27	-0.93	21	-0.11
1917	10	3.5	17	26	33	6	1.47	1.84	0.37	20	0.68
1918	12	4.9	12	33	16	-17	2.65	1.22	-1.43	22	-0.42
1919	7	8.2	22	32	34	2	1.34	1.45	0.11	20	0.57
1920	7	6.8	14	28	16	-12	1.82	0.96	-0.85	17	-0.28
1921	2	3.0	27	39	27	-12	1.17	0.73	-0.44	31	-0.03
1922	2	13.6	19	23	16	- 7	1.10	0.75	-0.36	20	-0.01
1923	4	11.6	14	27	14	-13	1.76	0.85	-0.90	20	-0.30
1924	6	9.2	21	26	24	- 2	1.10	1.02	-0.07	18	0.27
1925	4	9.5	18	25	16	- 9	1.19	0.71	-0.48	19	-0.10
1926	6	10.8	14	28	13	-14	1.81	0.82	-0.99	17	-0.45
1927	10	7.4	20	33	15	-18	1.61	0.72	-0.89	21	-0.47
1928	8	4.6	19	33	16	-17	1.74	0.83	-0.91	16	-0.62
1929	7	5.0	17	25	18	- 7	1.41	1.02	-0.39	13	-0.10
1930	4	11.8	22	29	15	-14	1.32	0.64	-0.68	13	-0.67
1931	2	7.0	32	24	18	- 6	0.67	0.49	-0.18	16	0.03
Averages:											
1914–1919	57	6.3	16	$25	$21	$- 4	$1.62	$1.22	$-0.40	22	$0.13
1920–1924	21	8.8	19	29	19	- 9	1.39	0.86	-0.52	21	-0.07
1925–1929	35	7.5	18	29	16	-13	1.55	0.82	-0.73	17	-0.35

CORN

New York farmers can grow corn and get fairly good yields, but they cannot as a rule make any money on this crop. Averages for the 17 years 1914 to 1930 show losses on this crop every year. During this period the best average wage earned on corn was 29 cents an hour in 1919 (table 57). The difference in the average cost of a bushel and the average value of a bushel of corn, for the 10-years period 1920 to 1929, was about $1. With corn at $1 a bushel, it would require about twice the yield actually obtained to make a profit on this crop.

With an average of about 4 acres per farm, and a yield of 30 bushels, the average cost per acre for corn for the 4 years 1927 to 1930, was $68.28. Of this total cost, 64 per cent was for growing, 28 per cent was for harvesting, and 8 per cent was for storing and selling. Man labor was the most important item of cost, accounting for 39 per cent of the total. Charges for horse labor and use of equipment were 28 per cent of the total cost, manure 13 per cent, use of land 8 per cent, and fertilizer 3 per cent (table 58).

The average cost of the corn crop for the 4 years 1927 to 1930, exceeded average returns by $27.78 an acre. If no charge were made for man labor, the costs would still exceed the returns by $1.49 an acre.

TABLE 56. COSTS AND RETURNS FOR BUCKWHEAT, 1927–1930

	1927		1928		1929		1930		1927–1930		
Year											
Number of accounts	10		8		7		4		29*		
Acres per farm	7.4		4.6		5.0		11.8		7.2		
Yield (bushels per acre)	20.0		18.6		16.7		21.8		19.3		
	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Per cent
Growing costs:											
Use of land	.....	$ 3.39	.....	$ 4.49	.....	$ 4.87	.....	$ 5.02	.....	$ 4.45	14.9
Lime and manure	.....	3.39	.....	9.18	.....	1.41	.....	4.00	....	4.50	15.1
Fertilizer (pounds)	98	1.12	14	0.14	40	0.35	38	0.25	48	0.46	1.5
Seed (bushels)	1.5	1.45	1.2	1.49	1.3	1.49	1.1	1.59	1.3	1.50	5.0
Man labor (hours)	11.3	4.35	7.4	2.87	5.9	2.59	5.7	2.61	7.6	3.10	10.4
Horse labor (hours)	18.4	2.68	9.5	1.46	5.1	1.27	1.8	0.28	8.7	1.42	4.7
Tractor and tools (hours)	2.5	3.66	3.5	2.73	3.6	3.11	4.6	4.70	3.6	3.55	11.8
Other equipment	.....	2.10	.....	1.78	.....	0.75	.....	0.51	.....	1.28	4.3
Other growing costs	.....	0.47	.....	0.35	.....	0.44	.....	0.34	.....	0.40	1.3
Total	.....	$22.61	.....	$24.49	.....	$16.28	.....	$19.30	.....	$20.66	69.0
Harvesting costs:											
Man labor (hours)	9.6	$3.68	8.8	$3.62	6.3	$2.56	6.4	$2.84	7.8	$3.18	10.6
Horse labor (hours)	9.7	1.63	6.8	1.49	4.6	1.10	2.9	0.57	6.0	1.20	4.0
Tractor and tools	.....	0.55	.....	0.35	.....	0.43	.....	0.91	.....	0.56	1.9
Threshing and combining	.....	1.36	.....	1.27	.....	2.22	.....	1.63	.....	1.62	5.4
Other equipment	.....	1.18	.....	1.05	.....	0.89	.....	0.68	.....	0.95	3.2
Twine	.....	0.23	.....	0.19	.....	0.09	.....	0.30	.....	0.20	0.7
Other harvesting costs	.....	.....	.....	.....	.....	0.20	.....	.....	.....	0.05	.....
Total	.....	$8.63	.....	$7.97	.....	$7.49	.....	$6.93	.....	$7.76	25.8
Storing and selling costs: †											
Use of buildings	.....	$1.17	.....	$0.38	.....	$0.52	.....	$0.98	.....	$0.76	2.6
Man labor (hours)	.....	.....	0.3	0.19	0.6	0.20	1.1	0.49	0.5	0.22	0.7
Horses and equipment	.....	.....	.....	.....	.....	0.02	.....	1.33	.....	0.34	1.1
Other storing and selling costs	.....	0.30	.....	0.27	.....	0.07	.....	0.32	.....	0.24	0.8
Total	.....	$1.47	.....	$0.84	.....	$0.81	.....	$3.12	.....	$1.56	5.2
Total cost	.....	$32.71	.....	$33.30	.....	$24.58	.....	$29.35	.....	$29.98	100.0
Returns:											
Grain (bushels)	20.0	$14.35	18.6	$15.54	16.7	$17.06	21.8	$14.03	19.3	$15.24	.....
Straw (tons)	0.3	0.51	0.4	0.86	0.4	0.89	0.3	0.59	0.4	0.71	.....
Total returns	.....	$14.86	.....	$16.40	.....	$17.95	.....	$14.62	.....	$15.95	.....

* Of the 29 buckwheat accounts, 9 were in Genesee, 5 in Steuben, 4 in Onondaga, 3 in Cayuga, and 8 in 7 other counties. † Does not cover the selling cost for the entire crop. Some of the crop was used on the farm, and some accounts were closed before all of the crop was disposed of.

TABLE 57. AVERAGES FROM ACCOUNTS WITH CORN FOR GRAIN, 1914–1931

Year	Number of accounts	Acres per farm	Yield (bushels per acre)	Cost per acre	Return per acre	Loss per acre	Cost per bushel	Value per bushel	Loss per bushel	Man hours per acre	Return per hour of man labor
1914	6	8.2	37	$42	$34	$- 8	$0.88	$0.66	$-0.22	70	$0.14
1915	25	5.5	27	41	29	-12	1.19	0.75	-0.44	64	0.08
1916	10	7.2	21	45	29	-16	1.77	1.01	-0.76	53	0.00
1917	13	6.4	23	53	47	- 6	1.79	1.51	-0.28	60	0.25
1918	11	5.3	31	73	53	-20	2.07	1.44	-0.63	83	0.16
1919	8	8.7	42	82	70	-12	1.74	1.46	-0.28	76	0.29
1920	15	4.7	31	67	41	-26	1.88	1.06	-0.82	60	0.03
1921	14	5.7	44	77	41	-36	1.53	0.72	-0.81	76	-0.05
1922	9	7.1	33	70	38	-32	1.94	0.96	-0.97	63	-0.09
1923	4	10.7	29	69	33	-36	2.22	0.98	-1.24	54	-0.25
1924	9	8.7	36	72	50	-24	1.86	1.18	-0.68	59	-0.02
1925	11	7.7	38	70	40	-30	1.64	0.85	-0.79	65	-0.08
1926	7	9.1	24	54	20	-33	2.04	0.66	-1.38	43	-0.36
1927	15	3.3	26	71	35	-36	2.37	1.02	-1.35	61	-0.16
1928	12	3.7	34	64	40	-24	1.78	1.06	-0.72	56	-0.03
1929	10	4.3	31	66	40	-26	1.91	1.07	-0.84	59	-0.03
1930	8	3.4	27	72	47	-25	2.45	1.54	-0.91	72	0.10
1931	14	5.5	35	57	46	-11	1.51	1.18	-0.33	63	0.15
Averages:											
1914–1919	73	6.9	30	$56	$44	$-12	$1.57	$1.14	$-0.44	68	$0.15
1920–1924	51	7.4	35	71	41	-31	1.89	0.98	-0.90	62	-0.08
1925–1929	55	5.6	30	65	35	-30	1.95	0.93	-1.02	57	-0.13

TABLE 58. COSTS AND RETURNS FOR CORN FOR GRAIN, 1927–1930

	1927		1928		1929		1930		1927–1930		
Year											
Number of accounts	15		12		10		8		45*		
Acres per farm	3.3		3.7		4.3		3.4		3.7		
Yield (bushels per acre)	26.5		33.5		31.1		26.8		29.5		
	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Per cent
Growing costs:											
Use of land	.....	$ 6.38	.....	$ 5.86	.....	$ 5.52	.....	$ 5.29	.....	$ 5.76	8.4
Lime and manure	.....	10.47	.....	8.69	.....	8.02	.....	7.93	.....	8.78	12.9
Fertilizer (pounds)	91	1.06	140	1.45	125	1.20	221	4.09	144	1.95	2.9
Seed (quarts)	10.6	1.16	11.7	1.18	9.2	0.85	10.2	1.34	10.4	1.13	1.6
Man labor (hours)	24.4	10.61	24.7	10.00	26.0	11.25	25.8	11.74	25.2	10.91	16.0
Horse labor (hours)	38.7	8.43	35.0	6.06	40.8	7.14	26.5	4.93	35.2	6.64	9.7
Tractor and tools (hours)	2.1	2.36	2.2	2.67	2.5	2.26	4.2	3.91	2.8	2.80	4.1
Other equipment	.....	5.63	.....	4.39	.....	4.32	.....	3.30	.....	4.41	6.4
Other growing costs	.....	1.20	.....	1.08	.....	1.48	.....	1.06	.....	1.20	1.8
Total	.....	$47.30	.....	$41.38	.....	$42.04	.....	$43.59	.....	$43.58	63.8
Harvesting costs:											
Man labor (hours)	37.4	$15.76	30.6	$12.76	28.5	$11.87	37.2	$16.34	33.4	$14.18	21.0
Horse labor (hours)	11.0	2.36	13.9	2.41	16.0	2.96	7.6	1.27	12.0	2.25	3.3
Tractor and tools	.....	.....	.....	0.02	.....	.....	.....	0.98	.....	0.25	0.3
Husker	.....	0.60	.....	0.04	.....	1.22	.....	.....	.....	0.46	0.6
Other equipment	.....	1.57	.....	1.96	.....	2.22	.....	1.09	.....	1.71	2.5
Twine	.....	0.24	.....	0.20	.....	0.32	.....	0.07	.....	0.21	0.3
Other harvesting costs	.....	0.34	.....	0.43	.....	0.12	.....	0.07	.....	0.24	0.3
Total	.....	$20.87	.....	$17.82	.....	$18.71	.....	$19.82	.....	$19.30	28.3
Storing and selling costs: †											
Use of buildings	.....	$1.97	.....	$2.61	.....	$1.76	.....	$3.37	.....	$2.43	3.6
Certification	.....	0.24	.....	0.53	.....	0.25	.....	0.33	.....	0.34	0.4
Man labor (hours)	.....	.....	1.1	0.44	4.5	1.84	8.8	3.51	3.6	1.20	1.8
Horses and equipment	.....	.....	.....	0.67	.....	0.86	.....	0.09	.....	0.80	1.2
Other storing and selling costs	.....	0.58	.....	0.89	.....	0.49	.....	0.57	.....	0.63	0.9
Total	.....	$2.79	.....	$5.14	.....	$5.20	.....	$8.47	.....	$5.40	7.9
Total cost	.....	$70.96	.....	$64.34	.....	$65.95	.....	$71.88	.....	$68.28	100.0
Returns:											
Grain (bushels)	26.5	$26.97	33.5	$35.39	31.1	$33.26	26.8	$41.16	29.5	$34.20	.....
Stalks (tons)	1.6	8.03	0.9	4.63	1.3	6.38	1.2	6.16	1.2	6.30	.....
Total returns	.....	$35.00	.....	$40.02	.....	$39.64	.....	$47.32	.....	$40.50	.....

* Of the 45 accounts, 17 were in Genesee, 6 in Livingston, 5 in Monroe, 5 in Dutchess, 4 in Cayuga, 4 in Onondaga, and 4 in 3 other counties.

† Does not cover the selling cost for the entire crop. A large share of the crop was used on the farm and some accounts were closed before all of the crop was disposed of.

OATS

Averages from accounts with oats for the 17 years 1914 to 1930, show small increases in yield and cost per acre, and small decreases in acreage per farm and man hours per acre (table 59). Net returns from this crop varied from a profit of 3 cents a bushel in 1917, to a loss of 78 cents a bushel in 1921. An average yield of 54 bushels per acre in 1930 was the highest yield during this 17-years period, but was accompanied by the lowest value of 45 cents a bushel, resulting in a loss of 17 cents a bushel. In 10 of the 17 years, the costs other than man labor exceeded the total returns from oats. In only 2 years were returns high enough to cover all costs.

With an average of 13 acres per farm, and a yield of 41 bushels per acre, the average cost per acre of oats for the 4 years 1927 to 1930 was $35.65. Of this total cost, 66 per cent was for growing, 25 per cent was for harvesting, and 9 per cent was for storing and selling. The largest item of cost was for man labor, which accounted for 21 per cent of the total. Equipment charges were 15 per cent of the total, and horse-labor charges were 9 per cent. The charges for the use of land and for manure and fertilizer applied on it were 34 per cent of the total (table 60).

The average cost of the oat crop for the 4 years 1927 to 1930, exceeded average returns by $8.81 an acre. If no charge were made for man labor, the costs would still exceed the returns by $1.32 per acre.

TABLE 59. AVERAGES FROM ACCOUNTS WITH OATS, 1914–1931

Year	Number of accounts	Acres per farm	Yield (bushels per acre)	Cost per acre	Return per acre	Profit or loss per acre	Cost per bushel	Value per bushel	Profit or loss per bushel	Man hours per acre	Return per hour of man labor
1914	13	15.0	27	$26	$17	$- 9	$0.84	$0.52	$-0.32	19	$-0.20
1915	41	13.8	44	28	26	- 2	0.53	0.48	-0.05	28	0.18
1916	23	14.2	24	28	18	-10	1.03	0.61	-0.42	20	-0.24
1917	24	15.2	35	33	34	1	0.81	0.84	0.03	22	0.40
1918	28	14.9	48	41	41	0	0.74	0.74	0.00	26	0.39
1919	30	12.1	26	41	27	-14	1.45	0.90	-0.55	21	-0.29
1920	29	12.5	42	42	29	-13	0.88	0.57	-0.31	21	-0.20
1921	21	13.9	25	36	17	-19	1.28	0.51	-0.78	20	-0.59
1922	20	13.1	27	37	18	-19	1.21	0.51	-0.70	22	-0.50
1923	19	13.2	35	30	24	- 6	0.72	0.54	-0.18	19	0.02
1924	22	12.7	41	36	27	- 7	0.76	0.59	-0.17	19	0.02
1925	15	11.3	47	36	28	- 9	0.69	0.50	-0.19	20	-0.05
1926	12	11.5	41	39	29	-10	0.86	0.61	-0.25	19	-0.12
1927	24	9.6	48	38	33	- 5	0.71	0.60	-0.11	21	0.19
1928	32	13.2	39	35	30	- 5	0.80	0.66	-0.14	16	0.10
1929	25	13.8	22	33	18	-15	1.44	0.73	-0.71	14	-0.68
1930	25	15.5	54	37	27	-10	0.62	0.45	-0.17	18	-0.09
1931	24	16.2	31	26	13	-13	0.77	0.34	-0.43	15	-0.58
Averages:											
1914–1919	159	14.2	34	$33	$27	$- 6	$0.90	$0.68	$-0.22	23	$0.04
1920–1924	111	13.1	34	36	23	-13	0.97	0.54	-0.43	20	-0.25
1925–1929	108	11.9	39	36	28	- 9	0.90	0.62	-0.28	18	-0.11

MIXED SPRING GRAINS

As shown in table 52, there was little difference in the cost per acre for most of the spring grains, whether grown separately or in combination. Averages for the 6 years 1925 to 1930, show larger losses on oats and barley than on oats, barley, and peas. This was owing chiefly to a lower value per bushel for the oats and barley (tables 61 and 62).

The average cost of the oats-and-barley crop for the 4 years 1927 to 1930 exceeded average returns by $7.60 an acre. If no charge were made for man labor, the costs would still exceed the returns by $1.27 an acre (table 63).

The average cost of the oats-barley-and-pea crop for the 4 years 1927 to 1930 exceeded average returns by $6.45 an acre. If no charge were made for man labor, the returns would have exceeded other costs by 57 cents an acre. This amounts to a return of 3 cents an hour for the time spent on the crop.

TABLE 60. COSTS AND RETURNS FOR OATS, 1927–1930

	1927		1928		1929		1930		1927–1930		
Year											
Number of accounts	24		32		25		25		106*		
Acres per farm	9.6		13.2		13.8		15.5		13.0		
Yield (bushels per acre)	47.9		39.4		21.6		53.7		40.6		
	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Per cent
Growing costs:											
Use of land	.....	$ 5.47	.....	$ 4.90	.....	$ 5.32	.....	$ 4.90	.....	$ 5.12	14.4
Lime and manure	.....	4.55	.....	4.71	.....	5.51	.....	5.45	.....	5.06	14.2
Fertilizer (pounds)	136	1.64	167	1.90	154	2.23	158	1.89	154	1.92	5.4
Seed (bushels)	2.3	1.59	2.3	2.21	2.3	1.95	2.3	2.18	2.3	1.98	5.6
Man labor (hours)	9.2	3.87	6.1	2.64	7.0	3.15	6.7	2.93	7.2	3.15	8.8
Horse labor (hours)	16.2	2.76	10.2	1.87	8.4	1.78	9.3	1.67	11.0	2.02	5.7
Tractor and tools (hours)	2.2	2.27	2.0	2.29	3.0	2.90	2.1	2.44	2.3	2.48	7.0
Other equipment	.....	1.95	.....	1.15	.....	1.17	.....	1.16	.....	1.36	3.8
Other growing costs	.....	0.47	.....	0.45	.....	0.46	.....	0.37	.....	0.44	1.1
Total	.....	$24.57	.....	$22.12	.....	$24.47	.....	$22.99	.....	$23.53	66.0
Harvesting costs:											
Man labor (hours)	10.6	$ 4.57	8.5	$3.61	5.5	$2.37	10.7	$ 4.66	8.8	$3.80	10.8
Horse labor (hours)	6.7	1.28	5.9	1.19	3.7	0.79	7.0	1.28	5.8	1.14	3.2
Tractor and tools	.....	0.45	.....	0.41	.....	0.29	.....	0.53	.....	0.42	1.2
Threshing and combining	.....	2.19	.....	2.44	.....	1.53	.....	2.86	.....	2.25	6.3
Other equipment	.....	1.09	.....	0.87	.....	0.51	.....	1.01	.....	0.87	2.4
Twine	.....	0.40	.....	0.30	.....	0.19	.....	0.38	.....	0.32	0.9
Other harvesting costs	.....	0.03	.....	0.06	.....	0.01	.....	0.04	.....	0.04	.....
Total	.....	$10.01	.....	$8.88	.....	$5.69	.....	$10.76	.....	$8.84	24.8
Storing and selling costs:†											
Use of buildings	.....	$1.38	.....	$1.87	.....	$1.64	.....	$1.65	.....	$1.63	4.5
Certification	.....	0.25	.....	0.14	.....	0.12	.....	0.22	.....	0.18	0.5
Man labor (hours)	1.2	0.69	1.1	0.69	1.2	0.51	0.6	0.25	1.0	0.54	1.5
Horses and equipment	.....	0.30	.....	0.43	.....	0.39	.....	0.23	.....	0.34	1.0
Other storing and selling costs	.....	0.79	.....	0.78	.....	0.13	.....	0.65	.....	0.59	1.7
Total	.....	$3.41	.....	$3.91	.....	$2.79	.....	$3.00	.....	$3.28	9.2
Total cost	.....	$37.99	.....	$34.91	.....	$32.95	.....	$36.75	.....	$35.65	100.0
Return:											
Grain (bushels)	47.9	$28.88	39.4	$26.03	21.6	$15.81	53.7	$24.06	40.6	$23.70	.....
Straw (tons)	0.6	3.91	0.6	3.50	0.3	1.84	0.7	3.29	0.6	3.14	.....
Total returns	.....	$32.79	.....	$29.53	.....	$17.65	.....	$27.35	.....	$26.84	.....

* Of the 106 accounts, 37 were in Genesee, 11 in Monroe, 10 in Livingston, 9 in Washington, 8 in Onondaga, 7 in Steuben, and 24 in 12 other counties.

† Does not cover the selling cost for the entire crop. A large share of the crop was used on the farm, and some accounts were closed before all of the crop was disposed of.

TABLE 61. AVERAGES FROM ACCOUNTS WITH OATS AND BARLEY, 1925–1931

Year	Number of accounts	Acres per farm	Bushels per acre	Cost per acre	Return per acre	Loss per acre	Cost per bushel	Value per bushel	Loss per bushel	Man hours per acre	Return per hour of man labor
1925	8	14.9	33	$31	$26	$- 5	$0.80	$0.63	$-0.16	20	$ 0.11
1926	7	13.7	33	35	23	-12	0.96	0.58	-0.38	17	-0.35
1927	26	15.7	43	37	31	- 6	0.77	0.62	-0.15	16	0.03
1928	21	14.4	32	34	27	- 7	0.96	0.74	-0.22	16	-0.03
1929	26	16.9	24	34	21	-13	1.29	0.74	-0.55	13	-0.57
1930	22	13.7	47	33	30	- 3	0.62	0.53	-0.09	15	0.16
1931	19	17.4	32	29	16	-13	0.79	0.39	-0.40	16	-0.47
Average:											
1925–1930	110	14.9	35	$34	$26	$ -8	$0.90	$0.64	$-0.26	16	$-0.11

TABLE 62. AVERAGES FROM ACCOUNTS WITH OATS, BARLEY, AND PEAS, 1925–1931

Year	Number of accounts	Acres per farm	Yield (bushels per acre)	Cost per acre	Return per acre	Profit or loss per acre	Cost per bushel	Value per bushel	Profit or loss per bushel	Man hours per acre	Return per hour of man labor
1925	7	19.8	39	$37	$37	$ 0	$0.77	$0.78	$ 0.01	19	$ 0.38
1926	8	17.5	27	33	19	−14	1.10	0.58	−0.51	17	−0.47
1927	28	13.3	40	36	32	− 4	0.81	0.69	−0.12	17	0.12
1928	18	14.8	39	40	36	− 4	0.92	0.80	−0.12	17	0.16
1929	15	15.6	24	33	20	−13	1.24	0.73	−0.51	16	−0.36
1930	10	18.1	49	36	32	− 4	0.65	0.57	−0.08	16	0.20
1931	11	20.5	32	32	16	−16	0.91	0.41	−0.50	17	−0.64
Average: 1925–1930	86	16.5	36	$36	$29	$− 7	$0.91	$0.69	$−0.22	17	$ 0.01

TABLE 63. COSTS AND RETURNS FOR OATS AND BARLEY, 1927–1930

Year	1927		1928		1929		1930		1927–1930 95*		
Number of accounts	26		21		26		22				
Acres per farm	15.7		14.4		16.9		13.7		15.2		
Yield (bushels per acre)	43.3		32.2		23.5		47.1		36.5		
	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Per cent
Growing costs:											
Use of land	.....	$ 6.95	.....	$ 4.93	.....	$ 5.18	.....	$ 5.00	.....	$ 5.52	16.0
Lime and manure	.....	6.46	.....	6.15	.....	5.64	.....	5.08	.....	5.82	16.9
Fertilizer (pounds)	135	1.44	126	1.50	189	2.10	150	1.52	150	1.64	4.7
Seed (bushels)	2.4	1.72	2.2	1.96	2.3	2.32	2.5	2.21	2.4	2.05	5.9
Man labor (hours)	6.6	2.83	7.6	3.20	6.9	2.89	6.3	2.57	6.8	2.87	8.3
Horse labor (hours)	11.1	2.12	12.7	2.62	9.5	2.06	7.8	1.54	10.3	2.08	6.0
Tractor and tools (hours)	2.1	2.24	2.0	2.22	2.4	2.91	2.5	2.43	2.2	2.45	7.1
Other equipment	.....	1.30	.....	1.41	.....	1.11	.....	0.87	.....	1.17	3.4
Other growing costs	.....	0.52	.....	0.49	.....	1.78	.....	0.33	.....	0.78	2.3
Total	.....	$25.58	.....	$24.48	.....	$25.99	.....	$21.55	.....	$24.38	70.6
Harvesting costs:											
Man labor (hours)	9.4	$3.96	8.2	$3.50	6.2	$2.64	9.1	$3.75	8.2	$3.46	10.1
Horse labor (hours)	6.2	1.12	6.0	1.49	4.8	1.05	5.5	1.11	5.6	1.19	3.5
Tractor and tools	.....	0.47	.....	0.27	.....	0.28	.....	0.46	.....	0.37	1.1
Threshing and combining	.....	2.58	.....	1.73	.....	1.45	.....	2.60	.....	2.09	6.1
Other equipment	.....	0.79	.....	0.92	.....	0.62	.....	0.86	.....	0.80	2.3
Twine	.....	0.46	.....	0.37	.....	0.29	.....	0.40	.....	0.33	1.1
Other harvesting costs	.....	0.10	.....	0.10	.....	0.06	.....	0.01	.....	0.07	.....
Total	.....	$9.48	.....	$8.38	.....	$6.39	.....	$9.19	.....	$8.36	24.2
Storing costs:											
Use of buildings	.....	$1.70	.....	$1.35	.....	$0.98	.....	$1.75	.....	$1.45	4.2
Other storing costs	.....	0.17	.....	0.15	.....	0.25	.....	0.87	.....	0.37	1.0
Total	.....	$1.87	.....	$1.50	.....	$1.23	.....	$2.62	.....	$1.82	5.2
Total cost	.....	$36.93	.....	$34.36	.....	$33.61	.....	$33.36	.....	$34.56	100.0
Returns:											
Grain (bushels)	43.3	$27.02	32.2	$23.87	23.5	$17.33	47.1	$25.13	36.5	$23.34	.....
Straw (tons)	0.7	3.53	0.7	3.35	0.6	3.24	0.7	4.37	0.7	3.62	.....
Total returns	.....	$30.55	.....	$27.22	.....	$20.57	.....	$29.50	.....	$26.96	.....

* Of the 95 accounts, 45 were in Genesee, 14 in Monroe, 6 in Washington, 5 in Ulster, and 25 in 11 other counties.

TABLE 64. COSTS AND RETURNS FOR OATS, BARLEY, AND PEAS, 1927–1930

Year	1927		1928		1929		1930		1927–1930 71*		
Number of accounts	28		18		15		10				
Acres per farm	13.3		14.8		15.6		18.1		15.4		
Yield (bushels per acre)	40.0		39.0		24.0		48.7		37.9		
	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Per cent
Growing costs:											
Use of land	.....	$ 5.45	.....	$ 5.92	.....	$ 5.23	.....	$ 5.32	.....	$ 5.48	15.1
Lime and manure	.....	6.11	.....	7.31	.....	3.51	.....	3.71	.....	5.16	14.2
Fertilizer (pounds)	171	1.79	164	2.00	171	2.01	154	2.08	165	1.97	5.4
Seed (bushels)	2.6	2.70	2.4	3.09	2.6	2.95	2.6	3.18	2.6	2.98	8.2
Man labor (hours)	7.9	3.22	7.1	3.01	8.3	3.46	6.4	2.89	7.4	3.15	8.6
Horse labor (hours)	14.6	2.84	12.5	2.54	13.2	2.40	8.5	2.03	12.2	2.45	6.7
Tractor and tools (hours)	2.0	1.99	2.0	2.16	2.5	2.63	2.7	3.29	2.3	2.52	6.9
Other equipment	.....	1.62	.....	1.60	.....	1.73	.....	1.21	.....	1.54	4.2
Other growing costs	.....	0.58	.....	0.63	.....	0.49	.....	0.43	.....	0.53	1.5
Total	.....	$26.30	.....	$28.26	.....	$24.41	.....	$24.14	.....	$25.78	70.8
Harvesting costs:											
Man labor (hours)	8.4	$3.47	10.3	$ 4.41	7.4	$3.20	9.5	$4.39	8.9	$3.87	10.6
Horse labor (hours)	6.8	1.35	8.1	1.75	4.6	0.97	6.2	1.49	6.4	1.39	3.8
Tractor and tools	.....	0.10	.....	0.39	.....	0.45	.....	0.44	.....	0.35	1.0
Threshing and combining	.....	2.33	.....	2.21	.....	1.24	.....	2.26	.....	2.01	5.5
Other equipment	.....	0.85	.....	1.16	.....	0.72	.....	0.92	.....	0.91	2.5
Twine	.....	0.41	.....	0.32	.....	0.30	.....	0.46	.....	0.37	1.0
Other harvesting costs	.....	0.07	.....	0.09	.....	0.02	.....	0.02	.....	0.05	0.1
Total	.....	$8.58	.....	$10.33	.....	$6.90	.....	$9.98	.....	$8.95	24.5
Storing costs:											
Use of buildings	.....	$1.35	.....	$1.70	.....	$1.23	.....	$1.19	.....	$1.37	3.8
Other storing costs	.....	0.25	.....	0.20	.....	0.13	.....	0.73	.....	0.32	0.9
Total	.....	$1.60	.....	$1.90	.....	$1.36	.....	$1.92	.....	$1.69	4.7
Total cost	.....	$36.48	.....	$40.49	.....	$32.67	.....	$36.04	.....	$36.42	100.0
Returns:											
Grain (bushels)	40.0	$27.76	39.0	$31.31	24.0	$17.37	48.7	$27.60	37.9	$26.01	.....
Straw (tons)	0.7	3.93	0.8	4.50	0.6	3.03	0.9	4.39	0.8	3.96	.....
Total returns	.....	$31.69	.....	$35.81	.....	$20.40	.....	$31.99	.....	$29.97	.....

* Of the 71 accounts, 37 were in Genesee, 8 in Onondaga, 7 in Monroe, 5 in Cayuga, 4 in Livingston, and 10 in 7 other counties.

WHEAT

Averages from accounts with wheat for the 17 years 1914 to 1930 show little change in the acreage per farm and in the yield per acre. Costs and values have decreased in recent years. The most significant trend is in the man hours per acre. For the period 1914 to 1919, wheat required 25 man hours an acre, and for the period 1925 to 1929 only 17 hours (table 65). With the costs that have prevailed in recent years, about 35 bushels per acre of $1 wheat, or 50 bushels per acre of 75-cent wheat would be necessary to pay all costs on this crop.

With an average of 19 acres per farm, and a yield of 21 bushels per acre, the average cost per acre for wheat for the 4 years 1927 to 1930 was $35.55. Of this total cost, 74 per cent was for growing, 20 per cent was for harvesting, and 6 per cent was for storing and selling (table 66). The charge for man labor was the largest item of cost, accounting for 19 per cent of the total. Charges for horse labor and the use of equipment were 24 per cent of the total, use of land 16 per cent, lime and manure 12 per cent, fertilizer 8 per cent, and seed 9 per cent.

TABLE 65. AVERAGES FROM ACCOUNTS WITH WHEAT, 1914–1931

Year	Number of accounts	Acres per farm	Yield (bushels per acre)	Cost per acre	Return per acre	Profit or loss per acre	Cost per bushel	Value per bushel	Profit or loss per bushel	Man hours per acre	Return per hour of man labor
1914	10	12.4	22	$29	$30	$ 1	$1.13	$1.18	$ 0.05	22	$ 0.30
1915	30	14.2	29	29	35	6	0.81	1.01	0.20	26	0.49
1916	20	11.6	24	31	42	11	1.15	1.61	0.46	23	0.79
1917	18	15.2	23	38	52	14	1.43	2.03	0.60	26	0.91
1918	16	15.6	20	46	47	1	2.08	2.14	0.06	26	0.42
1919	24	14.9	19	49	46	- 3	2.30	2.16	-0.14	25	0.30
1920	19	14.9	26	51	59	8	1.74	2.05	0.31	23	0.89
1921	21	13.3	21	52	30	-22	2.25	1.20	-1.04	20	-0.60
1922	12	18.0	20	44	29	-15	1.98	1.21	-0.77	22	-0.34
1923	14	16.2	25	44	31	-13	1.53	1.01	-0.52	23	-0.20
1924	15	18.7	18	41	32	- 9	2.05	1.55	-0.51	20	-0.04
1925	15	16.8	24	40	43	3	1.53	1.67	0.14	18	0.59
1926	14	14.5	27	42	42	0	1.40	1.41	0.01	19	0.49
1927	18	12.2	26	39	37	- 2	1.42	1.30	-0.12	19	0.29
1928	50	19.4	16	36	24	-12	2.10	1.34	-0.76	15	-0.33
1929	44	24.2	18	34	26	-10	1.73	1.31	-0.42	14	-0.08
1930	41	19.8	26	33	26	- 7	1.14	0.87	-0.27	13	-0.11
1931	33	18.6	35	32	21	-11	0.84	0.52	-0.32	16	-0.33
Averages:											
1914–1919	118	14.0	23	$37	$42	$ 5	$1.48	$1.69	$ 0.20	25	$ 0.54
1920–1924	81	16.2	22	46	36	-10	1.91	1.40	-0.51	22	-0.09
1925–1929	141	17.4	22	38	34	- 4	1.64	1.41	-0.23	17	0.19

TABLE 66. COSTS AND RETURNS FOR WHEAT, 1927–1930

Year	1927		1928		1929		1930		1927–1930		
Number of accounts	18		50		44		41		153*		
Acres per farm	12.2		19.4		24.2		19.8		18.9		
Yield (bushels per acre)	25.6		15.7		18.0		26.1		21.4		
	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Per cent
Growing costs:											
Use of land	.....	$ 6.09	.....	$ 5.55	.....	$ 5.47	.....	$ 5.96	.....	$ 5.76	16.2
Lime and manure	.....	5.71	.....	4.69	.....	3.66	.....	3.10	.....	4.29	12.1
Fertilizer (pounds)	180	2.61	209	2.57	214	2.87	186	2.61	197	2.66	7.5
Seed (bushels)	2.1	3.04	2.2	3.02	2.0	2.98	2.1	3.21	2.1	3.06	8.6
Man labor (hours)	8.4	3.67	8.3	3.69	7.1	3.06	5.8	2.65	7.4	3.27	9.2
Horse labor (hours)	13.7	2.29	11.8	2.12	8.7	1.85	7.1	1.40	10.3	1.92	5.4
Tractor and tools (hours)	2.7	2.76	3.3	3.42	3.4	3.60	2.6	2.65	3.0	3.11	8.7
Other equipment	.....	1.53	.....	1.47	.....	1.04	.....	0.95	.....	1.25	3.5
Other growing costs	.....	0.46	.....	0.90	.....	1.02	.....	0.88	.....	0.82	2.3
Total	.....	$28.16	.....	$27.43	.....	$25.55	.....	$23.41	.....	$26.14	73.5
Harvesting costs:											
Man labor (hours)	9.3	$4.14	6.7	$2.92	6.5	$2.86	6.3	$2.83	7.2	$3.19	9.0
Horse labor (hours)	5.6	1.02	4.2	0.93	3.8	0.81	4.0	0.83	4.4	0.90	2.6
Tractor and tools	.....	0.27	.....	0.55	.....	0.44	.....	0.40	.....	0.41	1.2
Threshing and combining	.....	1.74	.....	1.37	.....	1.61	.....	2.15	.....	1.72	4.8
Other equipment	.....	0.75	.....	0.65	.....	0.68	.....	0.80	.....	0.72	2.0
Twine	.....	0.37	.....	0.28	.....	0.26	.....	0.25	.....	0.29	0.8
Other harvesting costs	.....	.....	.....	0.10	.....	0.10	.....	0.01	.....	0.05	0.1
Total	.....	$8.29	.....	$6.80	.....	$6.76	.....	$7.27	.....	$7.28	20.5
Storing and selling costs:†											
Use of buildings	.....	$1.12	.....	$0.86	.....	$0.62	.....	$0.94	.....	$0.88	2.5
Certification	.....	.....	.....	.....	.....	0.02	.....	0.12	.....	0.04	0.1
Man labor (hours)	1.1	0.50	0.5	0.23	0.7	0.34	0.8	0.39	0.8	0.36	1.0
Horses and equipment	.....	0.29	.....	0.16	.....	0.23	.....	0.44	.....	0.28	0.8
Other storing and selling costs	.....	1.06	.....	0.49	.....	0.27	.....	0.44	.....	0.57	1.6
Total	.....	$2.97	.....	$1.74	.....	$1.48	.....	$2.33	.....	$2.13	6.0
Total cost	.....	$39.42	.....	$35.97	.....	$33.79	.....	$33.01	.....	$35.55	100.0
Returns:											
Grain (bushels)	25.6	$33.33	15.7	$20.98	18.0	$23.58	26.1	$22.55	21.4	$25.11	.....
Straw (tons)	0.6	3.26	0.6	3.06	0.5	2.73	0.5	3.20	0.6	3.06	.....
Total returns	.....	$36.59	.....	$24.04	.....	$26.31	.....	$25.75	.....	$28.17	.....

* Of the 153 accounts, 58 were in Genesee, 22 in Monroe, 18 in Livingston, 18 in Onondaga, 9 in Cayuga, and 28 in 11 other counties. † Does not cover the selling cost for the entire crop. A large share of the crop was used on the farm and some accounts were closed before all of the crop was disposed of.

The increased use of combines may reduce harvesting costs on wheat but will not change the wheat enterprise from an unprofitable one to a profitable one. For the 4 years 1927 to 1930, the average cost of growing an acre of wheat was $26.14 and the total returns were $28.17. The margin of $2 an acre will not go far in covering harvesting, storing, and selling costs.

The average cost of the wheat crop for the 4 years 1927 to 1930 exceeded average returns by $7.38. If no charge were made for man labor, the costs would still exceed the returns by 56 cents an acre.

HAY

ACRES OF HAY ON NEW YORK FARMS

Since 1909, between 4 and 5 million acres of hay have been harvested annually on New York farms. This exceeds the combined acreage of all other crops. Between 1909 and 1929, there was a decrease of 1,909,000 acres of all crops, and a decrease of nearly 700,000 acres of hay. Hay accounted for 54 per cent of the total acreage of crops in 1909, and 59 per cent in 1929 (table 67). With the continued abandonment of farms, it is to be expected that the trend in the acreage of hay, as well as in the acreage of all crops, will be downward. However, in the process of farm abandonment, hay is harvested long after all other crops have disappeared. From the standpoint of acreage, hay will become relatively more important as more of the poorer farms go out of use, unless the substitution of other crops for hay on the better farms is on a scale large enough to offset this trend.

TABLE 67. ACRES OF HAY ON NEW YORK FARMS*

Crop year	1909	1919	1929
Acres of alfalfa	35,343	119,783	190,075
Acres of other hay	4,748,249	4,867,737	3,906,606
Total	4,783,592	4,987,520	4,096,681
Per cent of total crop land in hay	53.9	57.0	59.0

* Data from United States Census.

The bulk of the hay grown in New York is fed out on the farms producing it, although in some areas the receipts from the sale of hay make up a large share of the farm income. Whether hay is fed or sold, relative production costs, and the different values of the various kinds of hay, have a bearing on farm profits. Hay seedings may be of alfalfa alone, alfalfa with clover or timothy, clover alone, clover with timothy, timothy alone, timothy with various other grasses, or other hay. The costs of making these seedings, the life of the seedings, and the feeding values of the resulting crops vary. In making hay seedings, soil conditions, cropping systems, and comparative costs and returns should be considered.

RETURN PER HOUR OF MAN LABOR ON HAY

In farm cost accounting, the relative profits from the production of various feed crops are determined by using values placed on these crops

by the growers. Livestock enterprises are charged with these feed crops at these estimated values.

For the years 1914 to 1919, alfalfa was slightly more profitable than other hay. For that period, the average return per hour of man labor on alfalfa was 95 cents, and on other hay 91 cents. Net returns on alfalfa have continued favorable until 1931. Since 1920, net returns on other hay have been low. For the 3 years 1927 to 1929, the average return per hour of man labor on alfalfa was 66 cents, and on clover and timothy only 5 cents (table 68).

The outlook for timothy and other hay of low value suggests that little or nothing will be paid for the labor on these crops. Occasional years of short crops and high prices, such as 1930, should not lead to increased seedings of low-value hay with the expectation of profits. There is little demand for this type of hay, because of the decreased number of horses on farms and in cities.

TABLE 68. RETURN PER HOUR OF MAN LABOR ON HAY, 1914–1930*

Kind of hay	1914 to 1919	1920 to 1926	1927 to 1929	1930
Alfalfa	$0.95	$0.80	$ 0.66	$1.02
Alfalfa, clover, and timothy	.....	.....	−0.06	0.45
Clover	.....	.....	−0.12	0.22
Clover and timothy	0.91	0.30	0.05	0.68
Timothy and other hay	.....	.....	−0.20	0.34

* Prior to 1927, all hay accounts were classified as either *alfalfa* or *other hay*. For the years 1927–1930, the classification of hay accounts was as follows:

1. Alfalfa — seedings or clear alfalfa only.
2. Alfalfa, clover, timothy — seedings of alfalfa with clover, or with timothy, or both, and also any of these hay crops grown separately but included in a general hay account.
3. Clover — seedings of clear clover only, intended as a one-year crop.
4. Clover and timothy — seedings of clover with timothy, including only the first three years of such seedings.
5. Timothy, etc.— a few seedings of clear timothy, clover and timothy seedings after the third year and all other mixtures seeded or coming in naturally.

COST OF GROWING AND HARVESTING HAY

The average cost of growing various kinds of hay for the years 1927 to 1930 varied from $14.07 an acre for clover, to $10.15 an acre for clover and timothy. This variation in growing cost is largely due to differences in the cost of seedings, and in the charges for manure. Harvesting costs varied from $6.24 an acre for timothy and other hay, with a yield of 1.4 tons, to $10.21 an acre for alfalfa, with a yield of 2.1 tons (table 69).

The average cost of growing and harvesting a ton of hay varied from $9.74 for alfalfa to $12.40 for clover. Clover with timothy and timothy with other grasses were produced at a lower cost per ton than was clover, but they were also of lower value. Differences in production costs of leguminous and non-leguminous hays are small. Differences in yields, feeding values, and in soil-building qualities make leguminous hays preferable to other hays. If alfalfa can be grown and harvested for less than $10 a ton, it should displace a considerable acreage of other hay which costs $11 or $12 a ton, and might be added as a cash crop on some farms where it has not been grown to any extent.

TABLE 69. COST TO GROW AND HARVEST HAY, 1927–1930

	Alfalfa	Alfalfa, clover, and timothy	Clover	Clover and timothy	Timothy and other hay
Cost of manure per acre	$2.48	$4.27	$3.58	$4.05	$5.43
Cost of seeding per acre	$2.05	$2.44	$3.56	$1.68	$0.30
Cost to grow an acre	$10.24	$12.65	$14.07	$10.15	$10.75
Cost to harvest an acre	$10.21	$8.42	$8.25	$6.43	$6.24
Total	$20.45	$21.07	$22.32	$16.58	$16.99
Yield (tons per acre)	2.1	1.8	1.8	1.6	1.4
Cost to grow and harvest a ton	$9.74	$11.71	$12.40	$10.36	$12.14

Relation of acreage of hay to costs

With large acreages of hay, both the yield and the cost per acre were lower than with small acreages. It is probable that with large acreages, seedings were left longer, because of soil and climatic conditions, or because of the expense of seeding. Also the applications of manure on large acreages of hay were probably lighter, or were made at greater intervals. Variations in the costs of seedings, and in charges for manure accounted for practically all of the differences in the growing costs with large, medium, and small acreages of hay (table 70).

TABLE 70. RELATION OF THE ACREAGE OF HAY TO COST, 1927–1930

	Alfalfa (111 accounts)			Clover and timothy (80 accounts)		
	Low third in acreage	Middle third in acreage	High third in acreage	Low third in acreage	Middle third in acreage	High third in acreage
Acres per farm	6.0	15.8	44.8	15.7	28.7	53.4
Yield per acre (tons)	2.5	2.0	2.0	1.8	1.8	1.4
Cost of manure per acre	$5.54	$2.55	$2.01	$6.98	$4.59	$2.90
Cost of seeding per acre	$3.98	$2.57	$1.58	$2.40	$1.68	$1.48
Cost to grow an acre	$15.37	$11.12	$9.18	$15.91	$11.14	$8.06
Cost to harvest an acre	$12.02	$11.02	$9.57	$7.94	$6.79	$5.94
Man hours to harvest an acre	13.4	12.6	11.7	9.5	8.3	7.6

Relation of yield and acreage to costs and returns

As the yield increased, both the cost of growing and the cost of harvesting an acre of hay increased. The higher growing costs for the higher yields were due to higher seeding costs and charges for manure. Naturally the cost per acre of harvesting large crops was more than for small crops. However, growing and harvesting costs did not increase in the same ratio as yield. The cost of growing and harvesting a ton of hay decreased as the yield increased. Doubling the yield of alfalfa increased the cost of growing and harvesting an acre 55 per cent, but decreased the cost per ton 27 per cent (table 71).

Low yields of alfalfa were not profitable, moderate yields paid fairly well, and high yields resulted in returns of more than $1 an hour for all

the labor on the crop. With yields of 2 tons or more per acre, profits on alfalfa were increased as acreage increased (table 72).

For clover and timothy, low yields were decidedly unprofitable, moderate yields showed small losses, and high yields paid about one-half as much for labor as high yields of alfalfa. With low yields, an increase in the acreage of clover and timothy reduced the cost per acre and the cost per ton, but increased the loss on the enterprise (table 73).

TABLE 71. RELATION OF THE YIELD PER ACRE OF HAY TO COST, 1927–1930

	Alfalfa (111 accounts)			Clover and timothy (80 accounts)		
	Low third in yield	Middle third in yield	High third in yield	Low third in yield	Middle third in yield	High third in yield
Yield per acre	1.4	2.2	2.9	1.0	1.7	2.3
Acres per farm	21.9	30.9	13.7	39.7	29.7	30.1
Cost of manure per acre	$2.53	$ 1.88	$ 3.70	$2.68	$ 4.57	$ 5.14
Cost of seeding per acre	2.01	1.53	3.24	1.46	1.66	1.98
Cost to grow an acre	9.98	9.28	12.73	7.93	10.49	12.61
Cost to grow a ton	7.13	4.22	4.39	7.93	6.17	5.48
Cost to harvest an acre	7.41	10.69	13.28	4.94	6.83	8.11
Cost to harvest a ton	5.29	4.92	4.66	5.00	4.12	3.58

TABLE 72. RELATION OF YIELD PER ACRE AND ACREAGE OF ALFALFA TO COSTS AND RETURNS, 111 ACCOUNTS, 1927–1930

	Low third in yield		Middle third in yield		High third in yield	
	Small acreage	Large acreage	Small acreage	Large acreage	Small acreage	Large acreage
Yield (tons per acre)	1.3	1.4	2.1	2.2	3.3	2.7
Acres per farm	8.6	34.4	14.1	48.6	4.8	24.4
Cost per acre	$23.97	$20.86	$29.19	$26.98	$36.79	$32.33
Return per acre	$19.16	$20.20	$32.97	$32.42	$52.02	$43.98
Profit or loss per acre	$–4.82	$–0.65	$3.78	$5.44	$15.23	$11.65
Profit or loss for enterprise	$–41	$–22	$53	$264	$73	$284
Returns per hour of labor	$–0.13	$0.36	$0.73	$0.80	$1.36	$1.02

TABLE 73. RELATION OF YIELD PER ACRE AND ACREAGE OF CLOVER AND TIMOTHY TO COSTS AND RETURNS, 80 ACCOUNTS, 1927–1930

	Low third in yield		Middle third in yield		High third in yield	
	Small acreage	Large acreage	Small acreage	Large acreage	Small acreage	Large acreage
Yield (tons per acre)	1.0	0.9	1.6	1.6	2.7	2.1
Acres per farm	22.8	52.5	17.0	43.5	17.9	45.4
Cost per acre	$17.72	$13.95	$22.45	$20.05	$33.70	$22.75
Return per acre	$10.63	$8.90	$19.25	$17.95	$36.45	$24.58
Profit or loss per acre	$–7.09	$–5.05	$–3.20	$–2.09	$2.75	$1.83
Profit or loss for enterprise	$–162	$–265	$–54	$–91	$49	$83
Return per hour of man labor	$–0.79	$–0.43	$0.05	$0.16	$0.67	$0.57

ALFALFA

For each of the 17 years 1914 to 1930, alfalfa accounts have shown profits ranging from $35 an acre in 1919, to $1 an acre in 1929. With higher yields and higher prices, profits were much higher from 1914 to 1919 than they have been in the more recent years. With an average profit of $16 an acre, and with 27 man hours per acre, the average return per hour of man labor for the years 1914 to 1919 was 95 cents. For the years 1925 to 1929 the average profit per acre was $5, and the average return per hour of man labor was 79 cents. This relatively high rate of return for labor for the period 1925 to 1929 was due chiefly to the fact that the requirements for man labor were 40 per cent less than for the years 1914 to 1919 (table 74).

With an average of 22.4 acres per farm, and a yield of 2.1 tons, the average cost per acre of alfalfa for the period 1927 to 1930 was $26.91. Of this total cost, 38 per cent was for growing, 38 per cent was for harvesting, 24 per cent was for storing and selling (table 75). On farms with cost accounts, a large part of the alfalfa crop was fed. If all of the crop were pressed and sold, costs and returns would have been higher, and selling costs would have accounted for a larger share of the total cost.

The average returns from alfalfa for the 4 years 1927 to 1930, exceeded average costs by $4.38 an acre. If no charges were made for man labor, the returns would have exceeded other costs by $10.41 an acre. This amounts to a return of 75 cents an hour for the time spent on the crop.

TABLE 74. AVERAGES FROM ACCOUNTS WITH ALFALFA, 1914–1931

Year	Number of accounts	Acres per farm	Tons per acre	Cost per acre	Return per acre	Profit or loss	Cost per ton	Value per ton	Profit or loss per ton	Man hours per acre	Return per hour of man labor
1914	6	8.8	2.8	$26	$42	$16	$ 9.07	$14.91	$ 5.84	29	$0.82
1915	14	6.7	2.8	27	42	15	9.45	14.96	5.51	27	0.83
1916	13	8.5	2.7	27	36	9	10.14	13.20	3.06	29	0.60
1917	17	6.8	2.2	31	43	12	13.99	19.62	5.63	22	0.93
1918	9	9.7	2.3	41	53	12	17.34	22.58	5.24	24	0.94
1919	8	12.9	2.8	37	72	35	13.34	25.91	12.57	32	1.59
1920	9	10.8	2.1	36	50	14	17.22	23.97	6.75	23	1.10
1921	7	15.7	1.9	32	36	4	17.15	19.42	2.27	21	0.62
1922	7	15.3	2.6	30	36	6	11.39	13.48	2.09	27	0.62
1923	4	27.9	2.2	30	39	9	13.23	17.29	4.06	23	0.79
1924	8	9.5	2.5	39	40	1	15.61	15.87	0.26	24	0.49
1925	13	16.8	2.2	30	39	9	13.62	17.62	4.00	18	0.96
1926	13	23.0	2.4	33	41	8	13.84	17.39	3.54	17	1.01
1927	17	20.6	2.1	27	30	3	12.88	14.05	1.17	15	0.61
1928	35	21.7	2.2	27	32	5	12.30	15.02	2.72	14	0.83
1929	26	26.4	2.0	28	29	1	13.84	14.59	0.75	14	0.54
1930	33	20.7	2.0	26	34	8	13.14	17.07	3.93	13	1.02
1931	45	22.2	2.5	27	21	–6	10.70	8.51	–2.19	14	0.03
Averages:											
1914–1919	67	8.7	2.6	$32	$48	$16	$12.22	$18.53	$6.31	27	$0.95
1920–1924	35	15.8	2.3	33	40	7	14.92	18.01	3.09	24	0.72
1925–1929	21	21.7	2.2	29	34	5	13.30	15.73	2.49	16	0.79

TABLE 75. COSTS AND RETURNS FOR ALFALFA, 1927–1930

Year	1927		1928		1929		1930		1927–1930 111*		
Number of accounts	17		35		26		33				
Acres per farm	20.6		21.7		26.4		20.7		22.4		
Yield (tons per acre)	2.1		2.2		2.0		2.0		2.1		
	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Per cent
Growing costs:											
Use of land	.....	$ 5.43	.....	$5.47	.....	$ 5.65	.....	$ 5.14	.....	$ 5.42	20.3
Manure	.....	2.62	.....	2.49	.....	2.68	.....	2.11	.....	2.48	9.2
Seeding†	.....	2.07	.....	1.43	.....	2.37	.....	2.56	.....	2.11	7.7
Other growing costs	.....	0.26	.....	0.20	.....	0.21	.....	0.25	.....	0.23	0.9
Total	.....	$10.38	.....	$9.59	.....	$10.91	.....	$10.06	.....	$10.24	38.1
Harvesting costs:											
Man labor (hours)	12.8	$ 5.77	12.3	$ 5.18	12.0	$ 5.09	11.6	$4.86	12.2	$ 5.23	19.4
Horse labor (hours)	13.8	2.69	13.8	2.67	12.8	2.41	11.7	2.05	13.0	2.46	9.1
Tractor and tools	.....	0.43	.....	0.66	.....	0.60	.....	0.55	.....	0.56	2.1
Other equipment	.....	1.76	.....	1.84	.....	1.73	.....	1.80	.....	1.78	6.6
Other harvesting costs	.....	0.19	.....	0.23	.....	0.18	.....	0.14	.....	0.18	0.7
Total	.....	$10.84	.....	$10.58	.....	$10.01	.....	$9.40	.....	$10.21	37.9
Storing and selling costs:‡											
Use of buildings	.....	$3.90	.....	$4.04	.....	$4.49	.....	$4.45	.....	$4.22	15.7
Labor and equipment	.....	1.26	.....	1.30	.....	1.19	.....	0.70	.....	1.11	4.1
Baling	.....	0.57	.....	0.94	.....	1.09	.....	1.12	.....	0.93	3.5
Other storing and selling costs	.....	0.21	.....	0.15	.....	0.21	.....	0.24	.....	0.20	0.7
Total	.....	$5.94	.....	$6.43	.....	$6.98	.....	$6.51	.....	$6.46	24.0
Total cost	.....	$27.16	.....	$26.60	.....	$27.90	.....	$25.97	.....	$26.91	100.0
Returns:											
Hay (tons)	2.1	$29.54	2.2	$32.44	2.0	$29.26	2.0	$33.48	2.1	$31.18	.....
Pasturage	.....	0.07	.....	0.03	.....	0.13	.....	0.21	.....	0.11	.....
Total returns	.....	$29.61	.....	$32.47	.....	$29.39	.....	$33.69	.....	$31.29	.....

* Of the 111 accounts, 32 were in Genesee, 14 in Onondaga, 13 in Monroe, 9 in Livingston, 7 in Cayuga, and 36 in 16 other counties.
† This year's share of the cost of seed, lime, fertilizer, and labor and equipment for making the seeding.
‡ Does not cover the selling costs for the entire crop. A large share of the crop was used on the farm, and some accounts were closed before all of the crop was disposed of.

HAY OTHER THAN ALFALFA

A comparison of the results of the accounts with hay other than alfalfa for the years 1914 to 1919, with the results for the years 1920 to 1926, shows very little change in the acres of hay per farm, in yield, or in man hours per acre. However, production costs increased and prices decreased. This resulted in a decrease in the average return per hour of man labor from 91 cents for the former period to 30 cents for the latter period (table 76). In the more recent years, 1927 to 1930, separate accounts have been kept with the different kinds of hay crops.

As indicated in table 69, variations in the growing costs per acre for the different kinds of hay were small, and harvesting costs depended more on yield than on kind of hay. In general, growing costs accounted for about one-half; harvesting costs for about one-third; and storage and selling costs for about one-sixth of the total cost of these hay crops. Charges for labor and equipment accounted for about one-third of the total cost of each kind of hay. Some of the items included in growing costs varied considerably with the different kinds of hay. For timothy,

TABLE 76. AVERAGES FROM ACCOUNTS WITH HAY OTHER THAN ALFALFA, 1914–1926

Year	Number of accounts	Acres per farm	Yield (tons per acre)	Cost per acre	Return per acre	Profit or loss per acre	Cost per ton	Value per ton	Profit or loss per ton	Man hours per acre	Return per hour of man labor
1914	17	41.2	1.2	$14	$16	$ 2	$11.76	$13.30	$ 1.54	9	$0.45
1915	45	35.1	1.3	15	18	3	11.63	13.32	1.69	11	0.46
1916	31	42.9	1.9	18	20	2	9.56	10.29	0.73	12	0.42
1917	31	36.1	1.7	19	27	8	11.06	15.76	4.70	10	1.17
1918	31	40.5	1.6	23	31	8	14.50	19.29	4.79	10	1.14
1919	35	42.8	1.7	24	39	15	13.94	22.90	0.96	12	1.81
1920	32	37.9	1.4	27	30	3	18.66	20.43	1.80	10	0.73
1921	33	40.4	1.2	23	22	-1	18.59	17.53	-1.06	9	0.25
1922	30	41.9	1.5	24	21	-3	15.49	13.38	-2.12	11	0.08
1923	26	42.8	1.6	24	25	1	14.95	15.34	0.39	11	0.43
1924	34	43.4	1.7	22	21	-2	13.28	12.37	-0.91	9	0.24
1925	31	44.7	1.5	21	19	-1	13.68	12.73	-0.95	8	0.20
1926	30	40.9	1.4	21	19	-2	14.31	12.91	-1.40	9	0.17
Averages:											
1914–1919	190	39.8	1.6	$19	$25	$6	$12.08	$15.81	$ 3.74	11	$0.91
1920–1926	216	41.7	1.5	23	22	1	15.56	14.96	-0.61	10	0.30

the seeding cost was only 1.6 per cent of the total cost, while for clover seeded alone, it was 13.5 per cent. Charges for manure accounted for from one-eighth to one-quarter of the total cost, and the charge for the use of land varied from one-fifth to one-quarter of the total cost. Detailed costs and some of the more important factors from these hay accounts for the four years 1927 to 1930 are shown in tables 77 to 81, inclusive.

TABLE 77. AVERAGES FROM ACCOUNTS WITH HAY OTHER THAN ALFALFA, 1927–1930*

Year	Number of accounts	Acres per farm	Yield (tons per acre)	Cost per acre	Return per acre	Profit or loss per acre	Cost per ton	Value per ton	Profit or loss per ton	Man hours per acre	Return per hour of man labor
Clover:											
1927	2	8.4	1.7	$30	$18	$-12	$17.28	$10.55	$-6.73	8	$-0.86
1928	3	13.0	1.8	30	26	-4	16.51	14.11	-2.40	10	-0.05
1929	4	15.2	1.9	23	24	1	11.72	12.00	0.28	7	0.55
1930	7	14.1	1.7	24	21	-3	13.72	12.41	-1.31	10	0.22
Average	16	12.7	1.8	27	22	-5	14.81	12.27	-2.54	9	-0.04
Clover and timothy:											
1927	19	36.3	1.5	21	16	-5	13.19	9.82	-3.37	9	-0.17
1928	27	27.1	1.6	20	17	-3	12.37	10.54	-1.83	8	0.07
1929	19	39.6	1.6	20	19	-1	12.22	11.35	0.87	9	0.25
1930	15	31.7	1.5	19	21	2	12.20	13.52	1.32	8	0.68
Average	80	33.7	1.6	20	18	-2	12.50	11.31	-1.19	8	0.21
Timothy and other hay:											
1927	3	80.6	1.3	15	12	-3	10.94	8.75	-2.19	7	-0.04
1928	9	22.8	1.6	22	18	-4	13.44	10.89	-2.55	8	-0.09
1929	4	37.6	1.1	24	17	-7	21.22	14.47	-6.75	8	-0.47
1930	12	28.7	1.4	19	18	-1	13.82	13.43	-0.39	8	0.34
Average	28	42.4	1.4	20	16	-4	14.86	11.88	-2.98	8	-0.06
Alfalfa, clover, and timothy:											
1927	8	30.1	1.8	29	20	-9	16.02	10.77	-5.25	14	-0.22
1928	22	34.9	1.9	25	20	-5	13.00	10.44	-2.56	9	-0.11
1929	29	34.3	1.8	24	22	-2	13.19	11.75	-1.44	10	0.15
1930	21	27.5	1.7	24	24	0	13.93	14.07	0.14	9	0.45
Average	80	31.7	1.8	26	22	-4	14.04	11.76	-2.28	10	0.07

* The method of classifying these hay accounts is explained in the footnote to table 68.

TABLE 78. COSTS AND RETURNS FOR CLOVER HAY, 1927–1930

	1927		1928		1929		1930		1927–1930		
Year											
Number of accounts	2		3		4		7		16*		
Acres per farm	8.4		13.0		15.2		14.1		12.7		
Yield (tons per acre)	1.7		1.8		1.9		1.7		1.8		
	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Per cent
Growing costs:											
Use of land		$ 9.58		$ 6.46		$ 5.69		$ 4.64		$ 6.59	24.7
Manure		2.08		3.10		4.77		4.39		3.58	13.4
Seeding†		4.70		4.62		2.13		3.04		3.62	13.5
Other growing costs		0.19		0.41		0.25		0.23		0.28	1.0
Total		$16.55		$14.59		$12.84		$12.30		$14.07	52.6
Harvesting costs:											
Man labor (hours)	7.9	$4.05	10.0	$ 3.77	6.8	$3.18	9.9	$4.41	8.6	$3.85	14.5
Horse labor (hours)	7.6	1.79	10.8	3.56	6.9	1.74	9.2	1.71	8.6	2.20	8.2
Tractor and tools		0.06		0.64		1.10		0.59		0.59	2.2
Other equipment		1.55		1.92		1.05		1.40		1.48	5.5
Other harvesting costs		0.05		0.16		0.09		0.21		0.13	0.5
Total		$7.50		$10.05		$7.16		$8.29		$8.25	30.9
Storing costs:											
Use of buildings		$5.71		$5.38		$3.30		$ 3.10		$4.37	16.4
Other storing costs		0.06		0.03				0.01		0.03	0.1
Total		$5.77		$5.41		$3.30		$ 3.11		$4.40	16.5
Total cost		$29.82		$30.05		$23.30		$23.70		$26.72	100.0
Returns:											
Hay (tons)	1.7	$18.21	1.8	$25.69	1.9	$23.02	1.7	$20.78	1.8	$21.92	
Pasturage						0.82		0.71		0.39	
Total returns		$18.21		$25.69		$23.84		$21.49		$22.31	

* Of the 16 accounts, 7 were in Genesee, 4 in Livingston, and 5 in 4 other counties.
† Accounts with clover hay are for seedings of clear clover only, intended as a one-year crop.

TABLE 79. COSTS AND RETURNS FOR CLOVER AND TIMOTHY HAY, 1927–1930

	1927		1928		1929		1930		1927–1930		
Year											
Number of accounts	19		27		19		15		80*		
Acres per farm	36.3		27.1		39.6		31.7		33.7		
Yield (tons per acre)	1.5		1.6		1.6		1.5		1.6		
	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Per cent
Growing costs:											
Use of land		$ 4.29		$ 4.37		$3.92		$ 3.78		$ 4.09	20.5
Manure		4.41		3.70		3.71		4.37		4.05	20.1
Seeding†		1.56		1.90		1.80		1.72		1.74	8.5
Other growing costs		0.23		0.23		0.34		0.27		0.27	1.3
Total		$10.49		$10.20		$9.77		$10.14		$10.15	50.4
Harvesting costs:											
Man labor (hours)	8.3	$3.34	7.8	$3.23	8.6	$3.64	7.3	$3.01	8.0	$3.30	16.5
Horse labor (hours)	9.6	1.78	8.3	1.72	10.3	1.97	7.2	1.25	8.8	1.68	8.3
Tractor and tools		0.14		0.11		0.08		0.50		0.21	1.0
Other equipment		1.03		1.05		1.33		1.05		1.11	5.5
Other harvesting costs		0.13		0.11		0.14		0.13		0.13	0.6
Total		$6.42		$6.22		$7.16		$5.94		$6.43	31.9
Storing and selling costs: ‡											
Use of buildings		$2.73		$3.18		$3.16		$2.50		$2.89	14.5
Labor and equipment		0.47		0.36		0.12		0.20		0.29	1.4
Baling		0.57		0.27		0.15		0.24		0.31	1.5
Other storing and selling costs		0.12		0.05		0.04		0.08		0.07	0.3
Total		$3.89		$3.86		$3.47		$3.02		$3.56	17.7
Total cost		$20.80		$20.28		$20.40		$19.10		$20.14	100.0
Returns:											
Hay (tons)	1.5	$15.15	1.6	$17.08	1.6	$18.53	1.5	$20.48		$17.81	
Pasturage		0.44		0.24		0.46		0.62		0.44	
Total returns		$15.59		$17.32		$18.99		$21.10		$18.25	

* Of the 80 accounts, 16 were in Genesee, 10 in Washington, 7 in Steuben, 6 in Onondaga, 5 in Dutchess, 5 in Cayuga, and 31 in 16 other counties. These accounts include the first 3 crops from seedings of clover with timothy.
† This year's share of the cost of seed, lime, fertilizer, and labor and equipment for making the seeding.
‡ Does not cover the selling cost for the entire crop. A large share of the crop was used on the farm, and some accounts were closed before all of the crop was disposed of.

TABLE 80. COSTS AND RETURNS FOR TIMOTHY AND OTHER HAY, 1927–1930

Year	1927		1928		1929		1930		1927–1930		
Number of accounts	3		9		4		12		28*		
Acres per farm	80.6		22.8		37.6		28.7		42.4		
Yield (tons per acre)	1.3		1.6		1.1		1.4		1.4		
	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Per cent
Growing costs:											
Use of land	.....	$3.46	.....	$ 4.95	.....	$ 6.00	.....	$4.62	.....	$ 4.76	23.9
Manure	.....	4.17	.....	5.69	.....	7.78	.....	4.07	.....	5.43	27.3
Seeding †	.....	0.22	.....	0.60	.....	0.09	.....	0.33	.....	0.31	1.6
Other growing costs	.....	0.17	.....	0.29	.....	0.38	.....	0.19	.....	0.25	1.2
Total	.....	$8.02	.....	$11.53	.....	$14.25	.....	$9.21	.....	$10.75	54.0
Harvesting costs:											
Man labor (hours)	6.7	$2.65	7.1	$3.00	7.8	$3.47	7.1	$2.88	7.2	$3.00	15.1
Horse labor (hours)	7.6	1.30	8.9	2.34	8.3	2.44	8.5	1.88	8.3	1.99	10.0
Tractor and tools	.....	.....	.....	.....	.....	0.06	.....	0.22	.....	0.07	0.4
Other equipment	.....	0.68	.....	1.22	.....	1.10	.....	1.24	.....	1.06	5.4
Other harvesting costs	.....	0.10	.....	0.12	.....	0.14	.....	0.12	.....	0.12	0.4
Total	.....	$4.73	.....	$6.68	.....	$7.21	.....	$6.34	.....	$6.24	31.3
Storing and selling costs:‡											
Use of buildings	.....	$2.09	.....	$2.79	.....	$2.04	.....	$2.21	.....	$2.28	11.5
Labor and equipment	.....	.....	.....	0.64	.....	0.25	.....	0.31	.....	0.30	1.5
Baling	.....	.....	.....	0.14	.....	0.25	.....	0.62	.....	0.25	1.3
Other storing and selling costs	.....	0.05	.....	0.14	.....	0.06	.....	0.08	.....	0.09	0.4
Total	.....	$2.14	.....	$3.71	.....	$2.60	.....	$3.22	.....	$2.92	14.7
Total cost	.....	$14.89	.....	$21.92	.....	$24.06	.....	$18.77	.....	$19.91	100.0
Returns:											
Hay (tons)	1.3	$11.68	1.6	$17.77	1.1	$16.07	1.4	$18.13	1.4	$15.91	.....
Pasturage	.....	0.29	.....	.....	.....	0.50	.....	0.12	.....	0.23	.....
Total returns	.....	$11.97	.....	$17.77	.....	$16.57	.....	$18.25	.....	$16.14	.....

* Of the 28 accounts, 9 were in Genesee, 6 in Orange, 4 in Monroe, and 9 in 6 other counties. These accounts include a few fields of clear timothy, clover and timothy seedings after the third year, and other old meadows.
† This year's share of the cost of seed, lime, fertilizer, and labor and equipment for making the seeding.
‡ Does not cover the selling cost for the entire crop. A large share of the crop was used on the farm, and some accounts were closed before all of the crop was disposed of.

TABLE 81. COSTS AND RETURNS FOR ALFALFA WITH CLOVER AND TIMOTHY, 1927–1930

Year	1927		1928		1929		1930		1927–1930		
Number of accounts	8		22		29		21		80*		
Acres per farm	30.1		34.9		34.3		27.5		31.7		
Yield (tons per acre)	1.8		1.9		1.8		1.7		1.8		
	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Per cent
Growing costs:											
Use of land	.....	$ 5.17	.....	$ 5.62	.....	$ 5.43	.....	$ 6.13	.....	$ 5.59	22.0
Manure	.....	5.38	.....	4.20	.....	3.70	.....	3.80	.....	4.27	16.7
Seeding †	.....	2.63	.....	2.07	.....	2.46	.....	2.75	.....	2.47	9.5
Other growing costs	.....	0.41	.....	0.30	.....	0.27	.....	0.27	.....	0.32	1.2
Total	.....	$13.59	.....	$12.19	.....	$11.86	.....	$12.95	.....	$12.65	49.4
Harvesting costs:											
Man labor (hours)	12.9	$ 5.95	8.5	$3.60	9.5	$3.92	8.8	$3.70	9.9	$4.29	16.8
Horse labor (hours)	14.2	2.24	9.9	2.20	9.9	2.44	9.3	2.02	10.8	2.22	8.7
Tractor and tools	.....	0.42	.....	0.37	.....	0.55	.....	0.28	.....	0.40	1.6
Other equipment	.....	1.44	.....	1.26	.....	1.34	.....	1.25	.....	1.32	5.1
Other harvesting costs	.....	0.21	.....	0.19	.....	0.15	.....	0.14	.....	0.19	0.7
Total	.....	$10.26	.....	$7.62	.....	$8.40	.....	$7.39	.....	$8.42	32.9
Storing and selling costs:‡											
Use of buildings	.....	$2.97	.....	$4.06	.....	$3.53	.....	$3.37	.....	$3.48	13.7
Labor and equipment	.....	0.42	.....	0.20	.....	0.27	.....	0.05	.....	0.24	0.9
Baling	.....	0.58	.....	0.18	.....	0.10	.....	0.11	.....	0.24	0.9
Other storing and selling costs	.....	1.59	.....	0.35	.....	0.20	.....	0.10	.....	0.56	2.2
Total	.....	$5.56	.....	$4.79	.....	$4.10	.....	$3.63	.....	$4.52	17.7
Total cost	.....	$29.41	.....	$24.60	.....	$24.36	.....	$23.97	.....	$25.59	100.0
Returns:											
Hay (tons)	1.8	$19.49	1.9	$19.69	1.8	$21.44	1.7	$24.11	1.8	$21.18	.....
Pasturage	.....	0.44	.....	0.09	.....	0.31	.....	0.10	.....	0.24	.....
Total returns	.....	$19.93	.....	$19.78	.....	$21.75	.....	$24.21	.....	$21.42	.....

* Of the 80 accounts, 37 were in Genesee, 11 in Monroe, 10 in Livingston, and 22 in 10 other counties. These accounts are for seedings of alfalfa with clover or timothy, and fields of these crops grown separately but included in a general hay account.
† This year's share of the cost of seed, lime, fertilizer, and labor and equipment for making the seeding.
‡ Does not cover the selling cost for the entire crop. A large share of the crop was used on the farm, and some accounts were closed before all of the crop was disposed of.

CORN SILAGE

ACRES OF CORN ON NEW YORK FARMS

According to the United States Census for New York, the only crops showing any material increases in acreage in the past 20 years are corn silage and alfalfa. In 1909 the acreage of corn silage accounted for 2.9 per cent of the total acreage of all crops, and in 1929 it was 4.9 per cent (table 82). Many farmers who formerly husked corn now put the crop in the silo.

TABLE 82. ACRES OF CORN ON NEW YORK FARMS*

Years	Corn silage		Corn for grain	
	Acres	Per cent of total crop acreage	Acres	Per cent of total crop acreage
1909	259,118†	2.9	512,442	5.8
1919	329,314‡	3.8	320,325	3.7
1929	340,087	4.9	110,694	1.6

* Data from United States Census. † "Coarse forage," mostly corn for the silo. ‡ Includes all silage crops, but is largely corn.

COST OF CORN SILAGE

Cost accounts with corn silage for the period 1914 to 1930 show a wide range in the cost per ton. Yearly averages varied from $5.16 a ton in 1914 to $10.31 a ton in 1918. Since 1916, there has been only one year when the average cost per ton of corn silage has been less than $6, and there were 8 years when the average cost per ton exceeded $8. Significant trends concerning the corn-silage crop on farms with cost accounts are increases in yield, and decreases in the hours of man labor per acre, and in the cost per ton (table 83).

With 10.7 acres per farm and a yield of 7.6 tons per acre, the average cost of producing silage during the 4 years 1927 to 1930, was $57.64 an acre, or $7.58 a ton. Growing costs accounted for 69 per cent of the total, harvesting costs for 25 per cent, and storage costs for 6 per cent. Charges for labor and equipment made up 55 per cent of the total cost. Other important items of cost were for manure, which amounted to 22 per cent of the total, and for use of land, which was 9 per cent (table 84).

TABLE 83. AVERAGES FROM ACCOUNTS WITH CORN SILAGE, 1914–1931

Years	Number of accounts	Acres per farm	Yield (tons per acre)	Man hours per acre	Cost per acre	Cost per ton
1914	11	13.5	7.3	41	$38	$ 5.16
1915	26	12.1	7.1	45	40	5.58
1916	18	14.7	4.9	29	38	7.77
1917	18	14.6	4.8	33	45	9.38
1918	20	12.9	6.2	39	65	10.31
1919	26	11.0	8.1	43	68	8.04
1920	25	12.9	6.8	35	63	8.89
1921	24	11.4	10.1	42	69	6.61
1922	22	11.9	6.8	38	60	8.30
1923	20	12.2	7.1	38	61	8.63
1924	23	11.9	6.8	32	54	7.82
1925	19	10.6	10.1	37	62	5.97
1926	16	10.3	7.3	39	60	8.20
1927	45	8.6	8.4	35	64	7.57
1928	37	10.4	7.0	30	57	8.21
1929	35	11.9	7.6	32	58	7.65
1930	33	11.9	7.2	29	51	7.04
1931	37	12.6	10.3	36	57	5.57
Averages:						
1914–1919	119	13.1	6.4	38	$49	$7.71
1920–1924	114	12.1	7.5	37	$61	$8.05
1925–1929	152	10.4	8.1	35	$60	$7.52

Relation of acreage of corn silage to costs

The charges per acre for fertilizer, seed, twine, and other materials, and for the use of land may vary slightly with the acreage of corn silage, but are not dependent on it. Charges for labor and equipment, which make up more than half of the total cost of corn silage, vary considerably with acreage. On farms with only 5.4 acres of corn silage, 25 per cent more man labor, and 30 per cent more horse labor were used per acre, and the charges for all labor and equipment were 25 per cent higher than on farms with 17.1 acres of silage (table 85).

TABLE 84. COSTS FOR CORN SILAGE, 1927–1930

Year	1927		1928		1929		1930		1927–1930		
Number of accounts	45		37		35		33		150*		
Acres per farm	8.6		10.4		11.9		11.9		10.7		
Yield (tons per acre)	8.4		7.0		7.6		7.2		7.6		
	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Quantity per acre	Value per acre	Per cent
Growing costs:											
Use of land	.....	$ 5.40	.....	$ 5.35	.....	$ 5.03	.....	$ 4.95	.....	$ 5.18	9.0
Manure	.....	15.19	.....	12.35	.....	13.22	.....	10.33	.....	12.77	22.2
Fertilizer (pounds)	100	1.23	131	1.59	96	1.11	92	1.24	105	1.29	2.2
Seed (quarts)	12.8	1.32	14.0	1.40	11.2	1.20	10.2	1.14	12.0	1.26	2.2
Man labor (hours)	18.1	7.38	15.3	6.51	16.0	6.56	13.7	5.89	15.8	6.58	11.4
Horse labor (hours)	29.9	5.77	21.6	4.84	22.1	4.80	18.5	3.71	23.0	4.78	8.3
Tractor and tools	3.8	3.76	3.7	3.98	3.5	3.82	2.9	3.14	3.5	3.68	6.4
Other equipment	.....	3.50	.....	2.65	.....	2.60	.....	2.18	.....	2.74	4.8
Other growing costs	.....	0.94	.....	1.35	.....	1.43	.....	1.46	.....	1.30	2.2
Total	.....	$44.49	.....	$40.02	.....	$39.77	.....	$34.04	.....	$39.58	68.7
Harvesting costs:											
Man labor (hours)	16.5	$ 6.83	14.7	$ 6.32	16.0	$ 6.83	15.7	$ 6.71	15.7	$ 6.67	11.6
Horse labor (hours)	15.2	3.06	13.0	2.86	14.4	3.35	12.0	2.49	13.6	2.94	5.1
Tractor and tools	.....	1.20	.....	1.65	.....	1.45	.....	1.22	.....	1.38	2.4
Filling silo	.....	1.80	.....	0.78	.....	1.06	.....	1.05	.....	1.17	2.0
Other equipment	.....	1.94	.....	1.64	.....	1.84	.....	1.42	.....	1.71	3.0
Twine	.....	0.50	.....	0.41	.....	0.47	.....	0.43	.....	0.45	0.8
Other harvesting costs	.....	0.53	.....	0.23	.....	0.28	.....	0.26	.....	0.33	0.5
Total	.....	$15.86	.....	$13.89	.....	$15.28	.....	$13.58	.....	$14.65	25.4
Storing costs:											
Use of silo	.....	$3.19	.....	$3.49	.....	$3.14	.....	$2.90	.....	$3.18	5.5
Other storing costs	.....	0.36	.....	0.06	.....	0.03	.....	0.48	.....	0.23	0.4
Total	.....	$3.55	.....	$3.55	.....	$3.17	.....	$3.38	.....	$3.41	5.9
Total cost	.....	$63.90	.....	$57.46	.....	$58.22	.....	$51.00	.....	$57.64	100.0

* Of the 150 accounts, 58 were in Genesee, 19 in Monroe, 11 in Livingston, 12 in Washington, 7 in Onondaga, 6 in Wyoming and 37 in 19 other counties.

TABLE 85. RELATION OF ACREAGE OF CORN SILAGE TO COSTS, 150 ACCOUNTS, 1927–1930

	Low third in acreage	Middle third in acreage	High third in acreage
Acres per farm	5.4	8.7	17.1
Yield (tons per acre)	7.4	7.7	7.6
Growing:			
Man hours per acre	18.0	16.9	14.6
Horse hours per acre	27.2	24.4	21.1
Tractor hours per acre	2.8	3.1	3.9
Labor and equipment cost per acre	$19.98	$18.86	$16.58
Harvesting:			
Man hours per acre	18.6	17.5	14.1
Horse hours per acre	15.7	14.6	12.6
Labor and equipment cost per acre	$15.09	$13.90	$11.45
Total labor and equipment cost for growing and harvesting an acre	$35.07	$32.76	$28.03

Relation of yield of corn silage to costs

With high yields of corn silage, charges per acre for seed, fertilizer, manure, and labor and equipment were higher than with low yields. On farms with an average yield of 10.6 tons, the cost to grow and harvest an

acre was 30 per cent higher, but the cost per ton was 45 per cent lower than on farms with an average yield of 4.5 tons per acre. The average acreage per farm in each group was practically the same (table 86).

TABLE 86. RELATION OF YIELD PER ACRE OF CORN SILAGE TO COSTS, 150 ACCOUNTS, 1927–1930

	Low third in yield	Middle third in yield	High third in yield
Yield (tons per acre)	4.5	7.7	10.6
Acres per farm	10.6	10.7	10.4
Growing:			
Cost of seed per acre	$ 1.21	$ 1.24	$ 1.35
Cost of fertilizer per acre	$ 1.00	$ 1.50	$ 1.35
Cost of manure per acre	$10.45	$13.24	$14.89
Cost of labor and equipment per acre	$17.49	$17.44	$18.38
Cost to grow an acre	$36.35	$39.71	$42.75
Harvesting:			
Man hours per acre	11.5	15.5	20.4
Horse hours per acre	10.7	14.1	16.3
Cost of labor and equipment	$ 9.74	$12.80	$15.72
Cost of harvesting an acre	$11.26	$14.45	$18.43
Cost to grow and harvest an acre	$50.78	$57.70	$64.69
Cost to grow and harvest a ton	$11.24	$ 7.51	$ 6.08

LIVESTOCK

CHANGES IN NUMBER OF LIVESTOCK ON NEW YORK FARMS

With about one-third of all land in farms used for pasture, and with four-fifths of all cropland used for the production of hay and grain, it is apparent that livestock farming is an important part of New York agriculture. There has been a considerable shift during the past 90 years in the numbers of the different kinds of livestock on New York farms. In 1840, there were eight times as many sheep on New York farms as there were in 1930. In 1890, there were twice as many horses on farms as there were in 1930. The total number of cattle increased from slightly less than 2,000,000 in 1860 to about 2,600,000 in 1900. The number of dairy cows increased 61 per cent in that same period. Hogs are decreasing in numbers. In 1930, there were only one-fifth as many hogs on New York farms as there were in 1870. Each federal census from 1880 to 1930 reports an increase in the number of chickens on New York farms. In 1930 there were nearly twice as many as there were in 1880 (table 87).

TABLE 87. CATTLE, SHEEP, HOGS, HORSES, AND CHICKENS ON NEW YORK FARMS, 1840–1930*

Census	All cattle	Dairy cows	Sheep	Hogs	Horses and mules	Chickens
1840	1,911,244	.....	5,118,777	.....	474,543	.....
1850	1,877,639	.....	3,453,241	.....	447,977	.....
1860	1,973,174	931,324	2,617,855	.....	505,278	.....
1870	2,045,324	1,123,634	2,181,578	995,000	541,268	.....
1880	2,339,721	1,350,661	1,715,180	936,000	615,430	6,448,886
1890	2,131,392	1,437,855	1,528,979	686,321	668,816	8,421,667
1900	2,596,389	1,501,608	1,745,746	658,142	631,751	8,964,736
1910	2,423,003	1,509,594	930,300	666,000	595,060	10,232,498
1920	2,144,244	1,481,918	578,726	601,000	543,494	10,414,600
1930	2,220,139	1,172,546	618,075	220,826	326,309	11,953,862

*Data for 1840 to 1920 are from *Agricultural Statistics for New York State*, State Department of Agriculture and Markets, bul. 226. Data for 1930 are from United States Census for 1930.

RETURN PER HOUR OF MAN LABOR ON LIVESTOCK

Every farmer has some choice in the kinds of livestock he keeps. Practically all New York farmers keep some dairy cattle, horses, and hens. Some farmers raise a hog or two for home use each year, but few produce pork to sell. Only one farmer in seven keeps sheep. A very few keep beef cattle or raise colts.

Horses are necessary on most farms as a source of power. The kinds and numbers of productive livestock kept or raised depends largely on how well they pay. Some farmers will care for livestock to earn a small wage or even no wage, provided they get paid for the use of pasture, fences, and buildings, and get market prices for the hay, grain, and roughage used by the livestock.

For the four years 1927 to 1930, the dairy and poultry enterprises paid fairly well. In 1927, there was an average return of 28 cents per hour of man labor on sheep, and in 1928 the average return was 19 cents an hour. The losses on sheep in 1930 were extremely heavy owing to a drastic decline in sheep prices. Feeder lambs paid very well for the three feeding seasons of 1927–1928, 1928–1929, and 1930–1931. The loss in 1929–1930, due to a drop in prices, cancelled the profits made in the other three seasons. The return per hour of man labor on hogs was very low in all four years from 1927 to 1930 (table 88).

TABLE 88. RETURN PER HOUR OF MAN LABOR ON LIVESTOCK, 1927–1931

Kind of livestock	1927	1928	1929	1930	1931
Dairy cows	$ 0.54	$ 0.59	$ 0.42	$ 0.24	$ 0.04
Hens	0.48	0.50	0.68	0.46	0.21
Raising chicks	0.56	0.57	0.68	0.18	0.67
Sheep	0.28	0.19	−0.10	−1.59	−0.51
Feeder lambs	0.85	0.46	−1.93	0.64	0.54
Hogs	0.12	−0.07	−0.01	0.10	−0.29

DAIRY COWS

Accounts with dairy cows over the period 1914 to 1930 show that the average production per cow has increased, costs and returns have increased, and the hours of man labor required to care for a cow have decreased. For the 17 years, the average return per hour of man labor on cows was 32 cents, and there was no year in which dairymen did not get some pay for their time on cows. In 1921 they received only 10 cents an hour, while in 1928 they received an average of 59 cents an hour for their time on cows (table 89).

With an average of 18 cows per farm, and with a production of 7536 pounds of milk per cow, the average cost to keep a cow for the 4 years 1927 to 1930 was $227.40. Of this total, 50 per cent was for feed and bedding, and 26 per cent was for man labor. Other items of cost included depreciation, interest, breeding fees, veterinary fees, medicines, use of buildings, dairy supplies, and use of equipment (table 90).

Average returns for the years 1927 to 1930 were $230.37 per cow, or $2.97 above all costs. The total returns exceeded all charges except for man labor by $62.25 per cow. This means that the dairy farmer was paid on the average $62.25 for caring for a cow for a year. This was at the rate of 45 cents an hour.

The average net cost per 100 pounds of milk produced during these 4 years was $2.70, and the average value of 100 pounds of milk was $2.74.

TABLE 89. AVERAGES FROM ACCOUNTS WITH DAIRY COWS, 1914–1931

Year	Number of accounts	Number of cows	Hundredweight of milk per cow	Value per cow	Total cost per cow	Total return per cow	Profit or loss per cow	Cost per 100 pounds of milk	Value per 100 pounds of milk	Hours of man labor per cow	Return per hour of man labor
1914	9	16.6	69	$ 89	$135	$124	$-11	$1.72	$1.56	153	$0.18
1915	26	16.9	55	87	140	117	-23	1.97	1.55	161	0.12
1916	17	20.1	68	93	143	139	- 4	1.87	1.80	143	0.27
1917	17	22.6	63	99	172	191	19	2.40	2.70	129	0.50
1918	18	21.5	60	103	208	212	4	3.06	3.12	137	0.42
1919	22	19.8	65	108	228	252	24	2.90	3.27	157	0.55
1920	17	17.1	62	99	256	235	-22	3.48	3.13	150	0.27
1921	21	18.9	65	101	213	175	-37	2.79	2.21	148	0.10
1922	18	18.7	63	108	189	168	-21	2.31	1.98	157	0.21
1923	18	18.2	66	108	215	181	-33	2.64	2.13	159	0.14
1924	21	19.2	68	99	207	177	-30	2.80	2.35	152	0.15
1925	21	19.6	69	100	199	197	- 2	2.64	2.61	147	0.35
1926	19	18.2	70	102	203	203	0	2.61	2.61	147	0.38
1927	18	19.2	74	107	211	229	18	2.57	2.76	143	0.54
1928	14	18.3	76	137	223	243	20	2.66	2.84	138	0.59
1929	31	16.5	78	144	246	245	- 2	2.88	2.84	141	0.42
1930	33	17.8	73	133	229	205	-24	2.87	2.53	136	0.24
1931	35	22.3	76	125	223	176	-47	2.72	2.09	135	0.04
Averages:											
1914–1919	109	19.6	63	$ 96	$171	$172	$2	$2.32	$2.33	147	$0.34
1920–1924	95	18.4	65	103	216	187	-29	2.80	2.36	153	0.17
1925–1929	103	18.4	73	118	216	223	7	2.67	2.73	143	0.46

TABLE 90. COSTS AND RETURNS FOR DAIRY COWS, 1927–1930

Year	1927		1928		1929		1930		1927–1930		
Number of accounts	18		14		31		33		96*		
Cows per farm	19.2		18.3		16.5		17.8		18.0		
Pounds of milk produced per cow	7427		7617		7773		7327		7536		
Value per cow	$107		$137		$144		$133		$130		
	Quantity per cow	Value per cow	Quantity per cow	Value per cow	Quantity per cow	Value per cow	Quantity per cow	Value per cow	Quantity per cow	Value per cow	Per cent
Items of cost:											
Grain (pounds)	2,399	$50.93	2,246	$51.05	2,651	$58.46	2,416	$46.35	2,428	$51.70	22.7
Hay (tons)	2.0	23.65	2.1	23.07	2.0	23.09	2.0	24.67	2.0	23.62	10.4
Silage (tons)	3.2	23.03	3.4	23.93	3.7	27.54	3.3	21.87	3.4	24.09	10.6
Pasture and fences	.....	9.39	.....	9.79	.....	11.07	.....	9.57	.....	9.96	4.4
Other feed and bedding	.....	4.16	.....	5.28	.....	5.25	.....	5.59	.....	5.07	2.2
Total feed and bedding	.....	$111.16	.....	$113.12	.....	$125.41	.....	$108.05	.....	$114.44	50.3
Man labor (hours)	142.6	$59.86	137.8	$61.27	141.2	$59.65	135.6	$56.34	139.3	$59.28	26.1
Total labor and equipment	.....	71.42	.....	69.64	.....	69.50	.....	64.54	.....	68.78	30.2
Depreciation	.....	$ 5.14	.....	$ 1.49	.....	$ 13.09	.....	$ 21.39	.....	$ 10.28	4.5
Interest	.....	6.51	.....	8.65	.....	8.55	.....	7.96	.....	7.92	3.5
Use of buildings	.....	5.84	.....	5.84	.....	6.95	.....	6.13	.....	6.06	2.7
Breeding fees	.....	2.49	.....	4.27	.....	3.40	.....	3.47	.....	3.41	1.5
Veterinary and medicine	.....	1.09	.....	1.14	.....	2.07	.....	0.91	.....	1.30	0.6
Miscellaneous	.....	8.24	.....	18.97	.....	16.75	.....	16.87	.....	15.21	6.7
Total cost	.....	$211.39	.....	$223.12	.....	$245.72	.....	$229.32	.....	$227.40	100.0
Returns:											
Milk (pounds)	7,427	$204.90	7,617	$216.68	7,773	$220.75	7,327	$185.34	7,536	$206.92	.....
Manure	.....	12.99	.....	12.15	.....	11.92	.....	11.89	.....	12.24	.....
Calves	.....	7.36	.....	8.52	.....	10.26	.....	7.22	.....	8.34	.....
Total returns	.....	$228.58	.....	$243.09	.....	$244.80	.....	$205.02	.....	$230.37	.....

* Of the 96 accounts, 12 were in Washington, 11 in Livingston, 10 in Genesee, 9 in Onondaga, 8 in Steuben, 6 in Monroe, and 40 in 15 other counties.

Relation of milk production per cow to costs and returns

For herds that averaged 9300 pounds of milk per cow, the quantities and the costs of feed, and the hours of man labor per cow were much higher than for herds averaging 5800 pounds of milk per cow. The average cost per cow for the 9300-pound dairies was $263.36, as compared with $198.30 for the 5800-pound dairies. For the 9300-pound dairies the net cost per 100 pounds of milk was $2.52. For the 5800-pound dairies the cost per 100 pounds of milk was $3.14. Dairymen caring for 9300-pound cows earned 54 cents an hour, while those caring for 5800-pound cows earned 22 cents an hour for their time (table 91).

TABLE 91. RELATION OF MILK PRODUCTION PER COW TO COSTS AND RETURNS, 96 ACCOUNTS, 1927–1930

	Low third in pounds of milk per cow	Middle third in pounds of milk per cow	High third in pounds of milk per cow
Number of accounts	29	35	32
Production per cow (pounds)	5,765	7,318	9,274
Cows per farm	17.4	17.6	18.2
Average per cow:			
Value	$115	$122	$155
Depreciation	$19.98	$10.18	$8.72
Pounds of grain	1,755	2,371	3,160
Tons of hay	1.8	2.1	2.0
Tons of silage	2.4	3.4	4.3
Man hours	119.8	142.0	152.6
Cost of feed and bedding	$91.03	$113.25	$136.70
Cost of labor and equipment	$63.57	$75.63	$82.71
Veterinary and medicine expense	$1.36	$1.52	$1.10
Total cost	$198.30	$223.60	$263.36
Average per 100 pounds of milk:			
Cost of feed and bedding	$1.58	$1.55	$1.47
Cost of labor and equipment	$1.10	$1.03	$0.89
Total cost	$3.14	$2.77	$2.52
Returns per cow	$173.76	$218.30	$277.22
Return per hour of man labor	$0.22	$0.40	$0.54

TABLE 92. RELATION OF THE SIZE OF DAIRY TO COSTS AND RETURNS, 48 ACCOUNTS, 1927–1930

	Dairies with production above average	
	Below average in size	Above average in size
Number of cows per farm	10.4	26.0
Pounds of milk per cow	8,800	8,800
Averages per cow:		
Value	$136	$148
Pounds of grain	2,903	3,054
Tons of hay	2.5	1.9
Tons of silage	3.8	3.8
Cost of feed and bedding	$132	$132
Man hours	187	139
Labor and equipment cost	$94	$77
Total cost	$271	$249
Cost per 100 pounds of milk	$2.79	$2.53
Return per hour of man labor	$0.31	$0.60

Relation of size of dairy to costs and returns

With the same production per cow, large dairies and small dairies had the same cost for feed and bedding per cow. With a 10-cow dairy averaging 8800 pounds of milk per cow, 187 man hours were required per cow, and with 26 cows averaging 8800 pounds of milk per cow, only 139 man hours were required per cow. The larger dairies paid on the average about twice as much per hour for the time spent on them (table 92).

HENS

Accounts with hens over the period 1915 to 1930, show significant increases in the average number of eggs produced, the total cost, the total returns and the hours of man labor per hen. The cost per dozen eggs has decreased slightly. Yearly averages of egg values during this period ranged from 31 cents a dozen in 1915, to 61 cents a dozen in 1920. In all but one year, 1917, the average return per hour of man labor on hens has been 30 cents or more; in 2 years it exceeded $1, and for the 16 years it averaged 55 cents (table 93).

With an average of 503 hens per flock, and a production of 133 eggs per hen, the average cost per bird for the 4 years 1927 to 1930, was $4.05. Of this total, 51 per cent was for feed, 19 per cent for labor, and 14 per cent was for depreciation (table 94).

Total returns for the years 1927 to 1930 averaged $4.24 per bird and exceeded all costs by 19 cents. After deducting from the total returns all charges except for man labor, there remained 53 cents for each hour of labor on the flock.

TABLE 93. AVERAGES FROM ACCOUNTS WITH HENS, 1915–1931

Year	Number of accounts	Number of hens per farm	Eggs produced per hen	Total cost per bird	Total return per bird	Cost per dozen eggs	Value per dozen eggs	Man hours per 100 birds	Return per hour of man labor
1915	3	1,200	72	$1.73	$1.82	$0.29	$0.31	142	$0.33
1916	6	546	75	1.97	1.97	0.31	0.31	158	0.30
1917	6	661	72	3.00	2.47	0.50	0.41	139	-0.02
1918	7	306	129	4.80	5.22	0.45	0.49	211	0.50
1919	5	349	104	3.82	5.13	0.43	0.59	169	1.27
1920	4	461	105	3.73	5.34	0.42	0.61	139	1.63
1921	6	613	83	2.77	3.00	0.40	0.44	147	0.57
1922	7	497	98	2.99	3.08	0.37	0.38	191	0.45
1923	7	472	106	3.57	3.44	0.40	0.39	185	0.30
1924	10	398	113	3.66	3.75	0.39	0.40	193	0.40
1925	7	413	112	3.69	4.15	0.39	0.44	201	0.62
1926	10	416	118	4.06	3.98	0.41	0.41	206	0.36
1927	10	400	127	3.89	3.97	0.37	0.38	197	0.48
1928	20	406	126	3.97	4.11	0.37	0.39	183	0.50
1929	23	579	137	4.34	4.79	0.38	0.42	175	0.68
1930	29	626	142	4.02	4.09	0.34	0.35	181	0.46
1931	34	608	135	3.53	3.24	0.31	0.29	184	0.21
Averages:									
1915–1919	27	612	90	$3.06	$3.32	$0.40	$0.42	164	$0.48
1920–1924	34	488	101	3.34	3.72	0.40	0.44	171	0.67
1925–1929	70	443	124	3.99	4.20	0.38	0.41	192	0.53

TABLE 94. COSTS AND RETURNS FOR HENS, 1927–1930

	1927		1928		1929		1930		1927–1930		
Number of accounts	10		20		23		29		82*		
Number of hens per farm	400		406		579		626		503		
Eggs produced per hen	127		126		137		142		133		
Value per bird	$1.37		$1.40		$1.37		$1.31		$1.36		
	Quantity per bird	Value per bird	Quantity per bird	Value per bird	Quantity per bird	Value per bird	Quantity per bird	Value per bird	Quantity per bird	Value per bird	Per cent
Items of cost:											
Grain (pounds)	43.5	$0.92	43.7	$0.99	44.0	$0.94	41.9	$0.79	43.2	$0.91	22.4
Mash (pounds)	35.0	0.89	36.5	0.99	39.9	1.05	38.1	0.97	37.4	0.97	24.0
Other feed	.....	0.11	.....	0.20	.....	0.20	.....	0.16	.....	0.17	4.2
Total	.....	$1.92	.....	$2.18	.....	$2.19	.....	$1.92	.....	$2.05	50.6
Litter	.....	0.03	.....	0.04	.....	0.05	.....	0.04	.....	0.04	1.1
Man labor (hours)	2.0	0.87	1.8	0.77	1.8	0.74	1.8	0.75	1.8	0.79	19.3
Use of equipment	.....	0.14	.....	0.17	.....	0.15	.....	0.12	.....	0.14	3 5
Depreciation	.....	0.54	.....	0.39	.....	0.72	.....	0.69	.....	0.58	14.3
Interest	.....	0.09	.....	0.10	.....	0.10	.....	0.09	.....	0.09	2.2
Egg cases, fillers, etc	.....	0.04	.....	0.03	.....	0.03	.....	0.05	.....	0.04	1.0
Express and commission	.....	0.05	.....	0.03	.....	0.02	.....	0.06	.....	0.04	1.0
Fees for supervision and certification	.....	0.00	.....	0.01	.....	0.01	.....	0.02	.....	0.01	0.3
Other costs	.....	0.21	.....	0.25	.....	0.33	.....	0.28	.....	0.27	6.7
Total cost	.....	$3.89	.....	$3.97	.....	$4.34	.....	$4.02	.....	$4.05	100.0
Receipts:											
Eggs	127	$3.86	126	$3.95	137	$4.67	142	$3.99	133	$4.12	.....
Manure	.....	0.11	.....	0.15	.....	0.12	.....	0.11	.....	0.12	.....
Total	.....	$3.97	.....	$4.10	.....	$4.79	.....	$4.10	.....	$4.24	.....
Profit	.....	$0.08	.....	$0.13	.....	$0.45	.....	$0.08	.....	$0.19	.....

* Of the 82 accounts, 26 were in Genesee, 9 in Washington, 8 in Monroe, 6 in Livingston, 6 in Cayuga, 6 in Onondaga, and 21 in 10 other counties.

RAISING CHICKS

Averages from 74 accounts for the raising of chicks for the years 1927 to 1930 show that out of 1122 chicks started, 417 pullets and cockerels were raised per farm. The total cost per bird raised was $1.76. About 43 per cent of the total cost was for feed, 28 per cent was for the cost of chicks, 18 per cent was for labor and 7 per cent for housing and use of equipment. Credits for broilers and manure made the net cost per bird raised $1.24. The average value of the pullets and cockerels, at 6 months, was $1.30. With this value, there was a profit of 6 cents per bird raised and an average return of 50 cents per hour of man labor on the enterprise (table 95).

TABLE 95. COSTS AND RETURNS FOR RAISING CHICKS, 1927–1930

Year	1927		1928		1929		1930		1927–1930		
Number of accounts	9		15		21		29		74*		
Number of chicks started per farm	850		925		1264		1451		1122		
Number of pullets and cockerels raised per farm	291		359		486		531		417		
	Quantity per bird raised	Value per bird raised	Quantity per bird raised	Value per bird raised	Quantity per bird raised	Value per bird raised	Quantity per bird raised	Value per bird raised	Quantity per bird raised	Value per bird raised	Per cent
Items of cost:											
Cost of chicks	2.8	$0.54	2.6	$0.46	2.6	$0.48	2.7	$0.48	2.7	$0.49	27.8
Grain (pounds)	15	0.35	11	0.29	10	0.25	10	0.20	12	0.27	15.3
Mash (pounds)	12	0.33	15	0.44	16	0.43	21	0.58	16	0.45	25.6
Other feed	.....	0.04	.....	0.04	.....	0.06	.....	0.04	.....	0.04	2.3
Man labor (hours)	0.9	0.38	0.7	0.31	0.7	0.30	0.7	0.29	0.8	0.32	18.2
Fuel	.....	0.04	.....	0.04	.....	0.04	.....	0.04	.....	0.04	2.3
Housing and use of equipment	.....	0.08	.....	0.09	.....	0.16	.....	0.14	.....	0.12	6.8
Other costs	.....	0.03	.....	0.03	.....	.....	.....	0.04	.....	0.03	1.7
Total	.....	$1.79	.....	$1.70	.....	$1.72	.....	$1.81	.....	$1.76	100.0
Credits for minor products:											
Broilers	0.96	$0.59	0.80	$0.47	0.94	$0.52	1.02	$0.47	0.93	$0.51	.....
Manure	.....	0.01	.....	0.01	.....	0.01	.....	0.01	.....	0.01	.....
Total	.....	$0.60	.....	$0.48	.....	$0.53	.....	$0.48	.....	$0.52	.....
Net cost per pullet or cockerel raised	.....	$1.19	.....	$1.22	.....	$1.19	.....	$1.33	.....	$1.24	.....
Value per pullet or cockerel raised	.....	$1.29	.....	$1.32	.....	$1.36	.....	$1.21	.....	$1.30	.....
Profit or loss per pullet or cockerel raised	.....	$0.10	.....	$0.10	.....	$0.17	.....	$-0.12	.....	$0.06	.....
Return per hour of man labor	.....	$0.56	.....	$0.57	.....	$0.68	.....	$0.18	.....	$0.50	.....

* Of the 74 accounts, 21 were in Genesee, 8 in Livingston, 8 in Onondaga, 7 in Monroe, 7 in Washington, 6 in Cayuga, 4 in Dutchess, and 13 in 9 other counties.

SHEEP

With 60 ewes per farm, the average cost per ewe for the 4 years, 1927 to 1930, was $14.53. Of this total cost, 57 per cent was for feed, bedding, and pasture, 18 per cent was for labor and 9 per cent was for use of buildings. Average costs exceeded average returns by $4.12 per ewe. If no charge were made for man labor, other costs incurred would have exceeded total returns by $1.47 per ewe (table 96).

In 1930, there was a drastic decline in sheep values. The income from lambs sold was not sufficient to offset the decreases in the value of ewes. This resulted in a depreciation charge of $1.21 per ewe. For the 3 years previous to 1930, the average increase and net sales of sheep averaged $7.06 per ewe. For these three years, returns from sheep paid all other costs and gave about 12 cents an hour for the time spent on the flock.

Large flocks were fed more but cheaper grain, and required less labor per ewe. The increase and net sales per ewe were higher with the larger flocks but the value of wool per ewe was lower. With large flocks, there was a smaller loss per ewe, but a greater total loss, than with small flocks (table 97).

TABLE 96. COSTS AND RETURNS FOR SHEEP, 1927–1930

Year	1927		1928		1929		1930		1927–1930		
Number of accounts	14		15		16		14		59*		
Number of ewes per farm	77		65		50		50		60		
Value per ewe	$13		$15		$15		$11		$14		
	Quantity per ewe	Value per ewe	Quantity per ewe	Value per ewe	Quantity per ewe	Value per ewe	Quantity per ewe	Value per ewe	Quantity per ewe	Value per ewe	Per cent
Costs:											
Grain (pounds)	115	$1.95	128	$2.40	173	$3.28	156	$2.32	143	$2.49	17.1
Pasture	.....	1.11	.....	2.01	.....	1.88	.....	1.73	.....	1.68	11.6
Other feed and bedding	.....	3.45	.....	4.74	.....	4.18	.....	3.88	.....	4.06	27.9
Total	.....	$6.51	.....	$9.15	.....	$9.34	.....	$7.93	.....	$8.23	56.6
Man labor (hours)	6.8	$ 2.78	7.8	$ 3.00	6.3	$ 2.61	5.4	$ 2.20	6.6	$ 2.65	18.2
Equipment	.....	0.28	.....	0.13	.....	0.17	.....	0.19	.....	0.19	1.3
Depreciation and net decrease	.....	.....	.....	.....	.....	.....	.....	1.21	.....	0.30	2.1
Interest	.....	0.80	.....	0.88	.....	0.92	.....	0.64	.....	0.81	5.6
Use of buildings	.....	0.96	.....	1.20	.....	1.56	.....	1.42	.....	1.29	8.9
Shearing	.....	0.23	.....	0.13	.....	0.19	.....	0.18	.....	0.18	1.2
Other costs	.....	0.62	.....	0.40	.....	0.49	.....	2.00	.....	0.88	6.1
Total costs	.....	$12.18	.....	$14.89	.....	$15.28	.....	$15.77	.....	$14.53	100.0
Returns:											
Increase and net sales	.....	$ 6.79	.....	$ 7.24	.....	$ 7.14	.....	.....	.....	$ 5.29	.....
Wool (pounds)	8.1	2.78	8.4	3.43	7.8	2.43	7.9	$1.66	8.0	2.58	.....
Manure	.....	1.38	.....	2.25	.....	2.15	.....	1.63	.....	1.85	.....
Other returns	.....	0.37	.....	0.41	.....	0.33	.....	1.66	.....	0.69	.....
Total	.....	$11.32	.....	$13.33	.....	$12.05	.....	$4.95	.....	$10.41	.....
Loss	.....	$0.86	.....	$1.56	.....	$3.23	.....	$10.82	.....	$4.12	.....

* Of the 59 accounts, 28 were in Genesee, 9 in Wyoming, 5 in Orleans, 3 in Monroe, 3 in Livingston, 3 in Onondaga, 3 in Steuben, 3 in Washington, 1 in Cayuga, and 1 in Dutchess County.

TABLE 97. RELATION OF NUMBER OF EWES PER FLOCK TO COSTS AND RETURNS, 59 ACCOUNTS, 1927–1930

	Low third in number of ewes	Middle third in number of ewes	High third in number of ewes
Number of accounts	20	20	19
Number of ewes per farm	22	50	111
Pounds of grain per ewe	67	116	166
Feed cost per ewe	$8.37	$8.02	$8.17
Man hours per ewe	8.6	5.2	5.1
Cost per ewe	$15.48	$12.93	$14.75
Increase and net sales per ewe	$4.51	$5.05	$5.75
Value of wool per ewe	$3.02	$2.92	$2.46
Loss per ewe	$5.09	$2.95	$3.51
Loss per flock	$112.45	$148.15	$389.05

FEEDER LAMBS

With an average of 436 lambs fed per farm, the cost per lamb fed for the four years 1927 to 1930 was $12.10. Of this total cost, the purchase price of the lamb was 59 per cent, feed and bedding was 25 per cent, and labor 5 per cent. Average costs exceeded average returns by 55 cents per lamb fed (table 98).

Of the 4 feeding seasons reported, the 1927–28 season was the most profitable, there being an average profit of 68 cents per lamb fed. For the 1929–30 season, there was an average loss of $3.24 per lamb fed. Losses in this one season more than offset the profits of the other three seasons.

TABLE 98. COSTS AND RETURNS FOR FEEDER LAMBS, 1927–1930

Year	1927		1928		1929		1930		1927–1930		
Number of accounts	6		6		10		7		29*		
Number of lambs fed per farm	317		371		483		575		436		
	Quantity per lamb fed	Value per lamb fed	Quantity per lamb fed	Value per lamb fed	Quantity per lamb fed	Value per lamb fed	Quantity per lamb fed	Value per lamb fed	Quantity per lamb fed	Value per lamb fed	Per cent
Costs:											
Purchase price	.....	$ 8.18	.....	$ 8.06	.....	$ 7.93	.....	$4.66	.....	$ 7.20	59.4
Grain (pounds)	109	1.99	163	3.04	135	2.49	115	1.43	130	2.24	18.5
Dry roughage (pounds)	209	0.84	156	0.94	162	0.84	61	0.37	147	0.75	6.2
Succulent feed (pounds)	35	0.05	20	0.02	7	0.01	114	0.12	44	0.05	0.4
Bedding	.....	0.10	.....	0.07	.....	0.07	.....	0.07	.....	0.08	0.7
Man labor (hours)	1.7	0.74	1.7	0.66	1.4	0.57	1.0	0.43	1.4	0.60	5.0
Horse labor (hours)	0.1	0.03	0.1	0.01	0.1	0.02	0.1	0.02	0.1	0.02	0.2
Use of truck	.....	0.05	.....	0.06	.....	0.04	.....	0.04	.....	0.05	0.4
Use of other equipment	.....	0.04	.....	0.05	.....	0.02	.....	0.04	.....	0.04	0.3
Veterinary and medicine	.....	0.03	.....	0.03	.....	0.23	.....	.....	.....	0.07	0.6
Shearing	.....	0.08	.....	0.07	.....	0.02	.....	0.03	.....	0.05	0.4
Use of buildings	.....	0.41	.....	0.30	.....	0.30	.....	0.22	.....	0.31	2.6
Selling expenses	.....	0.42	.....	0.35	.....	0.30	.....	0.41	.....	0.37	3.1
Miscellaneous	.....	0.46	.....	0.42	.....	0.05	.....	0.16	.....	0.27	2.2
Total	.....	$13.42	.....	$14.08	.....	$12.89	.....	$8.00	.....	$12.10	100.0
Returns:											
Lambs sold	.....	$12.69	.....	$12.89	.....	$9.14	.....	$7.63	.....	$10.58	.....
Wool (pounds)	2.0	0.87	1.7	0.82	0.7	0.14	1.5	0.28	1.5	0.53	.....
Manure	.....	0.54	.....	0.50	.....	0.37	.....	0.33	.....	0.44	.....
Total	.....	$14.10	.....	$14.21	.....	$9.65	.....	$8.24	.....	$11.55	.....
Profit or loss	.....	$0.68	.....	$0.13	.....	$-3.24	.....	$0.24	.....	$-0.55	.....

* These accounts were in Genesee, Monroe, Wyoming, Orleans, and Livingston Counties.

HOGS

With an average of 1.4 sows and 13.4 pigs fatted per farm, the cost per sow kept or pig fatted for the 4 years, 1927 to 1930, was $20.39. Of this total cost, feed represented 59 per cent, and man labor 27 per cent. Average costs exceeded average returns by $5.06 per sow kept or pig fatted (table 99).

TABLE 99. COSTS AND RETURNS FOR HOGS, 1927–1930

Year	1927		1928		1929		1930		1927–1930		
Number of accounts	21		18		12		13		64*		
Number of sows and boars per farm	1.9		1.4		1.6		0.9		1.4		
Number of pigs fatted per farm	13.7		14.9		15.2		9.9		13.4		
	Quantity per sow kept or pig fatted	Value per sow kept or pig fatted	Quantity per sow kept or pig fatted	Value per sow kept or pig fatted	Quantity per sow kept or pig fatted	Value per sow kept or pig fatted	Quantity per sow kept or pig fatted	Value per sow kept or pig fatted	Quantity per sow kept or pig fatted	Value per sow kept or pig fatted	Per cent
Costs:											
Grain (pounds)	662	$11.33	604	$11.92	563	$11.71	435	$ 7.26	566	$10.56	51.9
Pasture	.....	0.15	.....	0.37	.....	0.27	.....	0.45	.....	0.31	1.5
Other feed	.....	0.93	.....	1.89	.....	1.40	.....	0.47	.....	1.17	5.7
Total feed	.....	$12.41	.....	$14.18	.....	$13.38	.....	$8.18	.....	$12.04	59.1
Bedding	.....	$ 0.20	.....	$ 0.17	.....	$0.32	.....	$ 0.16	.....	$ 0.21	1.0
Man labor (hours)	16.6	$ 7.27	13.2	$ 5.57	11.7	$ 5.12	10.0	$ 4.17	12.9	$ 5.53	27.1
Use of equipment	.....	0.41	.....	0.89	.....	0.77	.....	0.40	.....	0.62	3.0
Interest	.....	0.59	.....	0.47	.....	0.50	.....	0.37	.....	0.48	2.4
Use of buildings	.....	0.89	.....	0.86	.....	1.01	.....	0.73	.....	0.87	4.3
Veterinary and medicine	.....	0.02	.....	0.06	.....	.....	.....	0.06	.....	0.04	0.2
Other costs	.....	1.07	.....	0.45	.....	0.21	.....	0.65	.....	0.60	2.9
Total costs	.....	$22.86	.....	$22.65	.....	$21.31	.....	$14.72	.....	$20.39	100.0
Returns:											
Increase and net sales	.....	$16.48	.....	$15.40	.....	$15.16	.....	$10.77	.....	$14.45	.....
Manure	.....	0.85	.....	0.62	.....	0.75	.....	0.56	.....	0.70	.....
Other returns	.....	0.23	.....	0.20	.....	0.12	.....	0.18	.....	0.18	.....
Total	.....	$17.56	.....	$16.22	.....	$16.03	.....	$11.51	.....	$15.33	.....
Loss per sow kept or pig fatted	.....	$5.30	.....	$ 6.43	.....	$ 5.28	.....	$3.21	.....	$5.06	.....
Return per hour of man labor	.....	0.12	.....	-0.07	.....	-0.01	.....	0.10	.....	0.04	.....

* Of the 64 accounts, 26 were in Genesee, 9 in Livingston, 5 in Onondaga, 5 in Dutchess, 4 in Orleans 4 in Monroe, 4 in Cayuga, and 7 in 4 other counties.