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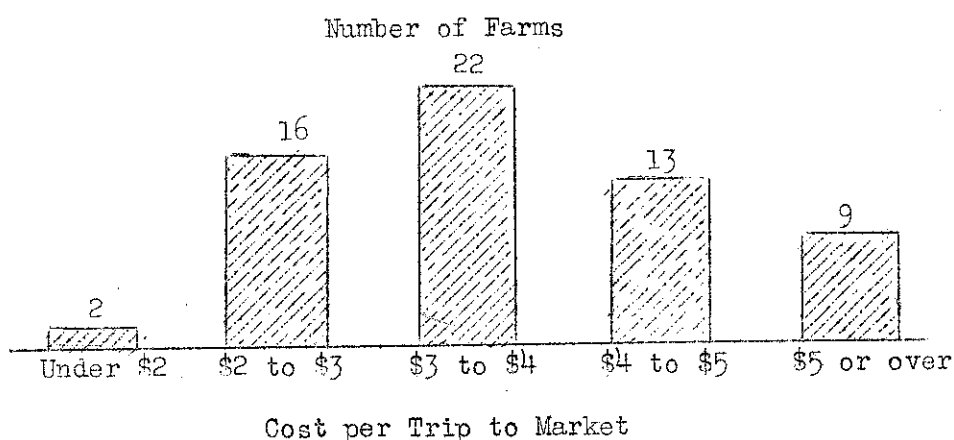
Report of a Farm Management Survey of

VEGETABLE FARMS IN ROCHESTER AREA

Monroe County, N. Y.

Crop Year, 1933

VARIATIONS IN COST PER TRIP TO ROCHESTER MARKET



The average cost per trip to the Rochester Public Market was \$3.59. This included \$2.04 for labor, \$0.92 for truck expense, and \$0.63 for market fees.

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Department of Agricultural Economics and Farm Management
Cooperating with the Monroe County Farm Bureau

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From a Study of Vegetable Farms Made by J. L. Paschal and E. G. Misner

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REPORT OF A FARM MANAGEMENT SURVEY OF 72 VEGETABLE FARMS IN MONROE COUNTY, 1933-34

A farm management survey of vegetable farms in Monroe County was made during April, 1934. Records covering the year ending March 31, 1934 were obtained by a personal visit to each farm. They included a complete summary of the year's business together with such information as crops grown, yields of crops, methods of marketing and the like. This report includes a summary of the business organization of the farms, and some of the factors related to profits or losses on these farms.

The farms studied were located within a 14 mile radius of the Rochester Public Market. This report includes only the 72 farms without greenhouses. During the 42-year period 1892 - 1933 this area had an average growing season of 178 days. The average annual precipitation from 1929 to 1933 was 32.94 inches, 14.44 of which fell during the months of April to August inclusive. The precipitation was 78 per cent of normal during the year 1933 and 72 per cent of normal during April to August inclusive. Most of the vegetables were grown on the sandy soils of good drainage.

The Agricultural Situation

The period covered by this study was not an encouraging one for vegetable growers. The 1933 New York farm price index for all commodities was 23 per cent below pre-war. Prices of vegetable crops for New York State are not available for the pre-war period 1910-14 but those for 1933 were considerably below those for 1920 to 1930. United States wholesale prices were 4 per cent below pre-war, and costs of living 29 per cent above pre-war. Many items of farm expense were still above pre-war. This caused relatively low returns from farming and gave farmers a relatively

low purchasing power for the year 1933. However, they were in a more favorable position than during the year 1932.

Methods of Marketing

The city of Rochester had a population of 325,019 in 1930. The Rochester public market was the chief outlet for the vegetables grown on the farms included in this study. In addition to handling a large share of the produce consumed in Rochester, the market plays an important part in supplying vegetables for outlying towns. Most of the farms studied were on hard-surface roads within 30 minutes drive of the market.

Table 1. Marketing Produce on the Rochester Public Market
62 Vegetable Farms, Monroe County, 1933-34

Average per farm	
Value produce marketed for year	\$1317
Trips made to market per year	76
Mileage traveled to and from market	1216
Costs for marketing produce	\$273
Average per trip	
Value of produce	\$21
Hours gone from farm	6
Miles traveled	16
Cost per trip	\$3.59
Average per \$100 of produce sold	
Labor	\$12
Transportation	6
Market costs	3
Total	\$21

Value of Produce and Cost of Marketing. The cost of marketing produce on the Rochester market was obtained from 62 of the 72 farmers. They marketed an average of \$1317 of vegetables per farm on the market. The average number of trips to market was 76. In addition to providing a wholesale or retail outlet for produce it provided an opportunity for more work for the operator and his truck in connection with the farm business.

The cost of marketing includes charges for man labor, use of truck, and market fees. The man labor and truck charges covered all labor and mileage from the time the truck left the farm until it returned (Table 1).

The average cost per trip was \$3.59. Sixty-four per cent of the farms had a cost of less than \$4.00 per trip (Table 2). Only 15 per cent had costs of over \$5.00 per trip. Of the total costs, 57 per cent was for labor, 26 per cent for transportation, and 17 per cent for market fees.

Table 2. Variation in the Cost per Trip to Market
62 Vegetable Farms, Monroe County, 1933-34

Cost per trip to market	Number	Per cent
Less than \$2	2	3
\$2 to \$3	16	26
\$3 to \$4	22	35
\$4 to \$5	13	21
\$5 to \$6	7	12
\$6 or more	2	3
Total	62	100

The larger the volume of produce marketed per grower the lower the cost of making \$100 sales on the market (Table 3). As the volume of produce increased the growers made a larger number of trips over a longer season and carried more produce per trip. The value of the produce carried per trip increased from \$10 to \$33 per trip when the farmers increased the amount of produce sold on the market from \$340 to \$3267. The greater the volume required little additional time and expense per trip. Therefore, the cost per \$100 of produce sold decreased from \$44 to \$13. The cost of marketing \$100 of produce was lowest for those growers who had enough produce to visit the market regularly over a long period with a full load of produce each trip.

Table 3. Relation of Volume of Produce to Marketing Costs
62 Vegetable Farms, Monroe County, 1933-34

Total volume produce sold on market	Number of farms	Number trips per year	Value produce per trip	Cost per trip to market	Cost per \$100 of produce
Less than \$500	7	34	\$10	\$3.28	\$44
\$500 to \$1500	39	53	18	3.55	25
\$1500 to \$2500	9	108	19	3.62	22
\$2500 to \$3500	7	101	33	3.76	13
All farms	62	76	\$21	\$3.59	\$21

Cost of Operating Trucks. Cost of truck use, or transportation, amounted to 26 per cent of the cost of marketing produce. A truck is almost a necessity on market vegetable farms. The products are perishable and require quick action during both production and marketing. Most of the trucks used were of a ton or ton and one-half capacity. The average cost of operating 65 trucks on the 62 farms during the year is shown in Table 4. The three largest items were gas and oil, depreciation, and license. Because the average load of vegetables was relatively light it did not require a very large or valuable truck for these farms. The most important factor influencing low cost per mile was the annual mileage. Trucks driven over 6000 miles had a cost of \$0.03 per mile compared with \$0.07 per mile for trucks driven under 2000 miles.

Table 4. Cost of Operating Trucks
62 Vegetable Farms, Monroe County, 1933-34

	Average per truck	Average per mile	Per cent of total
Average value per truck	\$292		
Miles driven annually	3473		
Costs			
Gas and oil	\$48.79	\$0.014	28
Depreciation	37.58	0.011	22
License	26.57	0.008	15
Interest	17.54	0.005	10
Tires	12.97	0.004	8
Repairs	10.72	0.003	6
Other costs	18.16	0.005	11
Total	\$172.33	0.050	100

Use of Land

The average land area was 36.4 acres per farm (Table 5).

This is relatively small compared with most other types of farming in the state. Only 6 of the 72 farms operated more than 100 acres. About two-thirds of the land area was used for all crops and half of the crop land was in vegetables. The farm buildings, road, and other land used a relatively high per cent of the total land area. The field crops were grown primarily for feed and made up only 1 per cent of the farm receipts.

Table 5.

Use of Land

72 Vegetable Farms, Monroe County, 1933-34

Acres used for	Average per farm	Per cent of total
Vegetable crops	12.3	34
Field crops	8.9	24
Fruit and berries	5.3	15
Total crop acres	26.5	73
Double cropped	1.5	4
Used for crops	25.0	69
Pasture	2.6	7
Woods	3.0	8
Other land	5.8	16
Total	36.4	100

Vegetable Crops Grown

There were 45 vegetable crops grown on the farms during the crop year 1933. No crop was sold by every farmer. Tomatoes were grown on the largest number of farms and accounted for 21.7 per cent of the vegetable crop sales. ~~Ten crops were sold by thirty-six or more farmers and they~~ accounted for 72 per cent of the total vegetables sold. Thirteen of the vegetables accounted for less than 1 per cent of the total sales. The average receipts per farm, acres per farm, yields per acre, and prices per unit for the 10 vegetables that were grown by the largest numbers of farmers are shown in Tables 6 and 7. Other important vegetables grown on a large

number of the farms were celery, eggplant, parsnips, beets, spinach, turnips, peas, onions, cucumbers, and lettuce. There was an average of 12 vegetables sold per farm.

Table 6. Yields & Acreages of Ten Leading Vegetable Crops
72 Vegetable Farms, Monroe County, 1933-34

Crops	Number farms growing	Acres per farm growing	Per cent of vegetable crop acreage	Average yield per acre
Tomatoes (market)	66	2.0	14.6	642 12 qt. bas.
Peppers	60	1.0	7.1	823 " " "
Carrots	58	.8	5.0	284 bu.
Melons	53	1.6	9.6	183 doz.
Beans (market)	50	.6	3.6	304 12 qt. bas.
Cauliflower	44	1.0	5.2	284 doz.
Squash (winter)	43	1.0	4.8	5 tons
Sweet corn (early)	42	1.8	8.4	346 doz.
Potatoes (late)	37	1.8	7.5	79 bu.
Cabbage (late)	36	1.3	5.3	2.6 tons

Table 7. Prices and Receipts for the Ten Leading Vegetable Crops
72 Vegetable Farms, Monroe County, 1933-34

Crops	Receipts per farm growing	Per cent of total veg- etable sales	Receipts per acre	Price per unit
Tomatoes (market)	\$311	21.7	\$159	\$.22 12 qt. Bas.
Peppers	95	6.0	91	.17 " " "
Carrots	98	6.0	127	.49 bu.
Melons	244	13.7	153	.87 doz.
Beans (market)	58	3.0	89	.32 12 qt. bas.
Cauliflower	211	9.8	201	.79 doz.
Squash (winter)	49	2.2	50	14.59 ton
Sweet corn (early)	87	3.9	49	.15 doz.
Potatoes (late)	81	3.2	45	.73 bu.
Cabbage (late)	69	2.6	54	26.00 ton

Capital

The average capital per farm amounted to \$12,364 (Table 8). Land and buildings accounted for \$10,757 or 87 per cent of the total investment. This represented an average of \$296 per acre for the 36.4 acres per farm. This is a relatively high investment per acre for New York State. Machinery accounted for 7 per cent and livestock 3 per cent of

the total capital per farm. Seventy per cent of the farms had investments of between \$5,000 and \$15,000.

Table 8. Average Capital per Farm
72 Vegetable Farms, Monroe County, 1933-34

Items	Average per farm	Per cent of total
Land and buildings	\$10,757	87
Machinery and equipment	836	7
Livestock	343	3
Cash and supplies	428	3
Total	\$12,364	100

Receipts

Receipts average \$1881 per farm. The cash receipts represented \$1810 of the total. (Table 9). The most important source of receipts was vegetable crops. The second most important source was fruits and berries. These accounted for 70 per cent and 15 per cent of the total receipts. Other sources such as field crops and livestock products were relatively unimportant.

Table 9. Receipts
72 Vegetable Farms, Monroe County, 1933-34

Item	Average 72 farms	Per cent of total
Crop sales		
Vegetable crops	\$1313	70
Fruit and berries	288	15
Field crops	17	1
Total crop sales	\$1618	86
Livestock products	136	7
Miscellaneous	56	3
Total cash receipts	\$1810	96
Livestock increase	33	2
Increased value buildings and equipment	38	2
Total all receipts	\$1881	100

Expenses

All farm expenses except interest and wages for the operator amounted to \$1765 per farm. Unpaid family labor other than the operator's amounted to \$406 per farm. This left a net of \$1359 for cash farm expenses (Table 10).

Hired labor was the largest single item of cash expenses. It amounted to \$194, or 11 per cent, of the total expenses. Various equipment expenses, such as truck, tractor, repairs, and new machinery, amounted to \$270 per farm. Materials such as fertilizer, manure, seeds, spray and dust materials totaled \$241. Taxes and other real estate expenses amounted to \$243. Feed, packages, and selling expenses were the only other expenses of any significance.

Cash Income

The average farm cash receipts exceeded the cash expenses by \$451 (Table 11). This is the average amount the farm family had available from the farm business to pay family living expenses, interest and principal payments on debts, and for savings. It does not take into consideration the non cash receipts and expenses of the farm business, therefore, it is not a good measure of the profitableness of different farms.

Table 10.

Expenses
72 Vegetable Farms, Monroe County, 1933-34

Expenses	Average 72 farms	Per cent of total
Cash Expenses		
Labor		
Hired	\$164	9
Board of hired labor	<u>30</u>	<u>2</u>
Total hired labor	\$194	11
Equipment		
Truck expense	107	6
Tractor expense	29	2
Farm share of auto	19	1
Repairs, tools and new machinery	110	6
Other equipment expense	<u>5</u>	<u>-</u>
Total equipment expense	270	15
Materials		
Fertilizer and lime	87	5
Manure	71	4
Seeds and plants	53	3
Spray, dust, etc.	17	1
Other materials	<u>13</u>	<u>1</u>
Total materials	241	14
Real estate		
Taxes	135	8
Building repairs	71	4
Insurance	25	1
New buildings	11	1
Other real estate expenses	<u>1</u>	<u>-</u>
Total real estate expense	243	14
Feed	172	10
Packages	120	7
Selling expense	59	3
Miscellaneous	<u>60</u>	<u>3</u>
Total cash expenses	\$1359	77
Non Cash Expenses		
Value unpaid labor, including board	406	23
TOTAL FARM EXPENSES	\$1765	100

Labor Income

In order to make comparisons between farms it is necessary to take more than the cash receipts and expenses into consideration. Credits should be given for increases in the values of livestock and feed on hand. Charges should be made for labor of members of the farm family who worked on the farm without pay, or for decreases in the value of livestock on hand. In Table 11 non cash receipts of \$71 are added to the cash income and non-cash expenses of \$406 deducted. This leaves an amount of \$116 as a return to cover interest on the farm investment and pay for the operator's time. Since some farmers had more invested in their farm businesses than others, it is also desirable to charge interest on the investment before comparing individual farms.

When an interest charge of 5 per cent on the investment amounting to \$618, was deducted from \$116, it shows that the operators failed by \$502 to have anything left for their year's work. Only farmers free of debt can stand conditions such as existed in 1933 for any length of time. In addition to the incomes already mentioned the operator's and their families also had a house to live in and such farm products as milk, eggs, garden, etc. for home use. Since labor income is very similar to the wages of a married hired man, most of the hired men on these farms were better off in 1933 than the operators.

Table 11. Summary Receipts and Expenses
72 Vegetable Farms, Monroe County, 1933-34

	Average 72 farms
Cash receipts	\$1810
Cash expenses	1359
Cash available for interest, family living, and saving	451
Plus non cash receipts	71
	522
Less non cash expenses	406
Net income for capital and operator's labor(farm income)	116
Interest on capital (\$12,364) at 5 per cent	618
Labor income	-\$502

Variations in Labor Income. While the average labor income was -\$502 there was a wide variation between individual farmers. Thirty-nine of the farmers made better than the average labor income and 16 had plus labor incomes (Table 12). Eight of the farms showed a loss of \$1500 or more when measured by labor income. The purpose of the following analysis is to find out why this great variation in labor income.

Table 12. Variations in Labor Income
72 Vegetable Farms, Monroe County, 1933-34

Range in Labor Income	Number of farms	Per cent of farms
-\$2500 to -\$2000	1	1
-\$2000 to -\$1500	7	10
-\$1500 to -\$1000	11	15
-\$1000 to -\$500	14	19
-\$500 to 0	23	32
0 to +\$500	10	14
+\$500 to +\$1000	4	6
+\$1000 or more	2	3
Total	72	100

Factors Affecting Labor Income

Size of Business. Studies of large numbers of New York farms have shown that farms larger than the average usually pay best. The best measure of size of business on the farms studied was acres of vegetables per farm. The average acres of vegetables per farm was 12. The range was from 3 to 30 acres. There were 25 growing less than 10 acres and 21 growing 16 or more acres. As the number of acres of vegetables increased the receipts increased faster than the expenses causing a higher farm income and labor income (Table 13). While conditions were generally unfavorable for the vegetable growers in 1933 those having a large number of acres of vegetables made higher farm incomes and showed smaller minus labor incomes than the farmers growing a small number of acres of vegetables.

Table 13. Relationship of Acres of Vegetable Crops to ~~Capital~~, Farm Income and Labor Income, 72 Vegetable Farms, Monroe County, 1933-34

Range in acres of vegetables	Number of farms	Acres of vegetables per farm	Total capital per farm	Farm income	Labor income
Under 10	25	6.5	\$7836	-\$147	-\$539
10 to 16	26	12.3	\$14,338	- \$64	-\$781
16 or more	21	19.1	\$15,295	+\$653	-2112
Average		12.3	\$12,364	+\$116	-\$502

One of the important reasons for the smaller losses on the large farms was the more efficient use of labor and capital (Table 14). On farms having 16 acres or more of vegetables per farm the acres of vegetables per man, value of vegetables per man, and receipts per \$100 capital was considerably above the average for all farms. The receipts per man more than doubled whereas the expenses per man were much less than double. Another method of increasing the size of the farm was to grow more of the intensive vegetables. In this way the high capitalization per acre was distributed over a larger volume of receipts.

Table 14. Relationship of Acres of Vegetables to Labor Efficiency
72 Vegetable Farms, Monroe County, 1933-34

Range in acres of vegetables	Number of farms	Acres of vegetable crops	Man equivalent	Acres of vegetables per man	Value of vegetables per man	Receipts per \$100 of capital
Under 10	25	6.5	1.7	4.1	\$391	\$14
10 to 16	26	12.3	2.2	6.4	574	13
16 or more	21	19.1	2.6	7.8	920	23
Average		12.3	2.1	6.0	\$611	\$15

Labor Efficiency. Labor represented 14 per cent of the cash farm expenses and 34 per cent of the total farm expenses. The total cost of hired and unpaid labor, not including that of the operator, amounted

to \$600 per farm. The efficiency with which a farmer used this labor had an important influence on his labor income.

The measure of labor efficiency used for these farms was acres of vegetable crops per man. The average was 6 while the range was from 2 to 17. The 22 farms with less than 5 had an average loss of \$907 per farm (Table 15). The average labor income for the 18 farms most efficient in the use of labor was a minus \$220. The farms growing more acres of vegetables per man reduced the cost of labor per acre and increased the income per man. One of the methods of increasing the efficiency of labor was to have a larger sized business. However, this was not the only method.

Table 15. Relation of Acres of Vegetable Crops per Man to Labor Income
72 Vegetable Farms, Monroe County, 1933-34

Range in acres of vegetable crops per man	Number of farms	Acres of vegetables per man	Value of vegetables per man	Acres of vegetables per farm	Labor income
Less than 5	22	3.4	\$353	7.2	\$-907
5 to 8	32	5.8	638	13.2	-382
8 or over	18	9.7	880	16.8	-220
All farms	72	6.0	\$611	12.3	\$-502

Yields per Acre. Since vegetables accounted for 70 per cent of the farm receipts the yield of vegetable crops per acre was one of the best measures of production. To measure this a vegetable crop index was calculated for each farm. The average yields of all vegetables grown in the area during 1933 were taken as 100 per cent, or average. A vegetable crop index of 90 for the farm means that the yields of the vegetable crops grown on that farm were 90 per cent of the average yields for all farms.

As the vegetable crop index increased the loss measured by labor income was smaller (Table 16). The 20 farms having a crop index of

less than 80 per cent of average made a minus labor income of \$847. Those having an average crop index of 120 or over lost only \$385. As the vegetable crop yields increased the man equivalent, acres of vegetables, and acres of vegetables per man remained about the same. On the other hand the average capital per farm increased. This was probably due to the fact that the farmers getting higher yields were on better soils.

Table 16. Relation of Vegetable Crop Index to Capital, Farm Income and Labor Income, 72 Vegetable Farms, Monroe County, 1933-34

Per cent of average vegetable yields	Number of farms	Average per farm			
		Vegetable crop index	Capital	Farm income	Labor income
Under 80	20	63	\$ 9,800	\$-357	\$-847
80 - 120	30	98	12,603	+273	-357
120 or over	22	143	14,355	+333	-385
Average		100	\$12,364	\$+116	\$-502

Receipts per \$100 Capital. The average farmer sold about \$16 of farm products for every \$100 capital invested in the farm. This means it took about 6 years for the receipts, at 1933 prices, to equal the farm capital in this area. The receipts per \$100 of capital varied greatly from farm to farm. The lowest was \$4 and the highest \$40. It took a high percentage of the receipts to cover the overhead costs of interest, depreciation, and repairs when the receipts per \$100 of capital were low.

The farm having receipts of \$20 or more per \$100 of farm capital made a labor income of \$72 compared with a loss of \$930 when the receipts were \$10 or less per \$100 capital (Table 17). The 20 farms with the highest receipts per \$100 capital had receipts about double those of the average farm with slightly below the average investment. This favorable ratio was obtained by having 33 1/2 per cent more acres of vegetables per farm, yields of 11 per cent above the average and by growing

more acres of intensive vegetables.

Table 17. Relation of Receipts per \$100 Capital to Labor Income and Other Factors, 72 Vegetable Farms, Monroe County, 1933-34

Receipts per \$100 of capital	Number of farms	Average receipts per \$100 capital	Capital per farm	Vegetable crop index	Total farm receipts	Acres vegetable crops	Labor income per farm
Less than \$11	20	\$ 7	\$13,615	97	\$1022	9	\$-930
\$11 to \$20	32	15	11,850	100	1718	12	-593
\$20 or more	20	28	11,920	111	3422	16	+ 72
All farms	72	15	\$12,364	100	\$1881	12	\$-502

Most Successful Farms

There were 16 farms that made a plus labor income. They averaged \$467 compared with an average loss of -\$502 for all farms.

It is interesting to note that they were above the average in the factors that are shown to have been related to profits. Very few of the 16 farms were highly efficient in more than one or two of the factors but most of them were average or above in all the important factors. Table 18 compares these 16 farms with the average of all farms.

Table 18. Comparison of 16 High Labor Income Farms with Average All Farms 72 Vegetable Farms, Monroe County, 1933-34

	Average all farms	Average 16 high labor income farms	Per cent above average
Labor income	\$-502	\$+467	
Acres of vegetables	12.3	15.5	26
Acres intensive vegetables	8.4	12.0	43
Per cent of vegetable crops intensive	68	77	15
Farm capital	\$12,364	\$12,900	4
Receipts per farm	\$1881	\$3612	92
Receipts per \$100 capital	\$15	\$28	87
Vegetable crop index	100	118	18
Acres of vegetables per man	6.0	7.1	18
Value of vegetables per man	\$611	\$982	61

These farms were 26 per cent above average in acres of vegetables per farm and 92 per cent above average in farm receipts, while having an investment of only 4 per cent above average. These and other facts caused the receipts per \$100 capital to be 87 per cent above average. The high labor income farms were from 15 to 18 per cent above average in vegetable yields, acres vegetables per man and per cent of the vegetable crops that were intensive.

Summary of Your Farm Business

A summary and comparison of your farm business with the average of the 72 farms is attached. This summary was prepared by Dr. Paschal and Dr. Misner.

How does your farm compare with the average of all farms and the 16 most profitable farms (Table 18), in regard to profits and factors related to profits? Space is provided below for you to list the factors in which your farm was above and below the average of all farms. It is suggested that you first list the factors found in Table 18 as they are some of the more important.

Above Average

Below Average
