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C O S T S A N D R E T U R N S

I N P R O D U C I N G

C A N N I N G F A C T O R Y P E A S

21 Western New York Farms

1951

by

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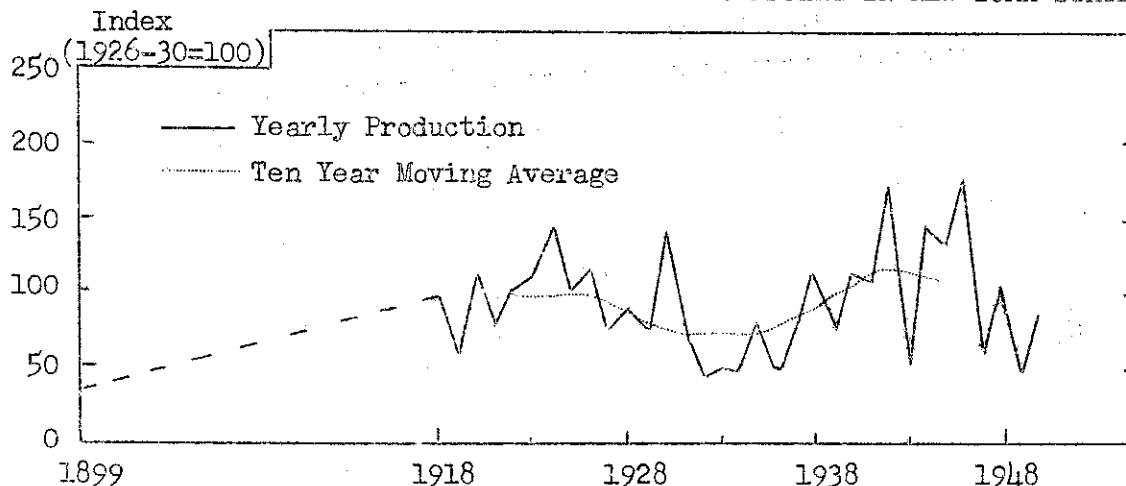
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A. E. 791

COSTS AND RETURNS IN PRODUCING PEAS
IN GENESEE AND LIVINGSTON COUNTIES, 1951^{1/}

New York is an important producer of canning factory peas. In 1950 there were 23.6 thousand tons produced in the State. This was down somewhat from the high production during World War II (Figure 1).

Figure 1. PRODUCTION OF GREEN PEAS FOR PROCESSING IN NEW YORK STATE



Source: Agricultural Production in New York, A.E. 783, M. C. Bond.

During the period 1940-49, New York averaged 7.6 per cent of the peas produced for processing in the United States and was the fifth ranking state in the Nation.

Three of New York's important counties in pea production are Livingston, Genesee, and Orleans. In 1942, these counties produced about 49 per cent of the peas that were grown for processing in the State.

In 1951, there were 21 farmers in these counties who cooperated with their County Farm Bureau Agent and the College of Agriculture at Cornell in keeping records on their pea enterprises. These records show the quantities and costs for items which are used in the production of the crop and enable the farmers who kept the records to see how their enterprises compared with those of other farmers.

Judged by the yield, 1951 was nearly an average year for peas on the 21 farms. Average yield on the 12 Genesee County farms was 1,973 pounds, on the Livingston County farms it was 1,809 (Table 1). Because there were only two records in Orleans County, the information was included in the average for all farms but separate averages are not shown for the county. For all farms the average was

^{1/}Author's acknowledgments. This publication was made possible because 21 New York farmers were willing to cooperate with their County Agent and the College of Agriculture at Cornell. The County Agents were K. W. Stone, R. G. Parker, and A. G. West. The clerical work was done by Joyce Sewell and Mary Dwu, and the stenographic work by Gloria Howell.

1,972. This is only 82 pounds more than the State average of 1,880 for 1951^{2/} and is only 234 pounds more than the average yield for the ten years, 1942-51.

Table 1. YIELD PER ACRE OF CANNING FACTORY PEAS IN NEW YORK
AND ON THE FARMS STUDIED IN LIVINGSTON AND GENESEE COUNTIES

Year	New York State	Genesee	Livingston	All farms*
1942	2,080			
1943	1,210			
1944	1,890			
1945	1,820			
1946	2,420			
1947	1,590			
1948	2,060			
1949	910			
1950	1,520			
1951	1,880	1,973	1,809	1,972
Ten year average	1,738			

*Includes two farms in Orleans County.

COST OF PLOWING

The average cost of plowing an acre of pea land on the farms studied was \$4.49 (Table 2). Of this, \$1.85 was for man labor and \$1.28 for tractor work. An average of 1.5 hours of man labor and tractor work were required per acre. The cost for plowing was somewhat higher in Genesee than in Livingston County. For the former, it was \$4.70 while for the latter it was \$3.63. Somewhat more labor was used per acre in Genesee County, and both labor and tractor costs were higher. Equipment costs were somewhat lower.

Table 2. COST OF PLOWING PER ACRE
21 New York Farms, 1951

Item	Genesee	Livingston	All farms
Man hours	1.6	1.4	1.5
Tractor hours	1.5	1.4	1.5
Truck miles	0.2		0.2
Costs:			
Man labor	\$2.02	\$1.23	\$1.85
Tractor	1.37	0.89	1.28
Truck	0.02		0.02
Other equipment	1.29	1.51	1.34
Total labor and equipment	\$4.70	\$3.63	\$4.49

^{2/}Commercial Truck Crop Report, BAE, U.S.D.A.

The variation in cost of plowing land was from \$2.37 per acre to \$6.60. The number of hours of labor required per acre for plowing ranged from 0.9 to 2.8. In general, high costs of plowing were associated with large amounts of labor per acre.

COST OF FITTING

An average of 1.6 hours of labor were required per acre to fit the land for production of peas on the farms studied (Table 3). This cost \$1.86. In addition, tractor, truck, and equipment costs amounted to \$2.86 and brought the total cost of fitting land to \$4.72. The range in cost was from \$2.32 to \$9.31. The amount of labor required per acre to fit the land varied from 0.4 to 3.7 hours.

Table 3.

COST OF FITTING PER ACRE 21 New York Farms, 1951

Item	Genesee	Livingston	All farms
Man hours	1.6	1.1	1.6
Tractor hours	1.6	1.0	1.5
Truck miles	0.3		0.3
Costs:			
Man labor	\$2.08	\$0.87	\$1.86
Tractor	1.41	0.79	1.32
Truck	0.03		0.02
Other equipment	1.37	2.21	1.52
Total labor and equipment	\$4.89	\$3.87	\$4.72

As with plowing, the cost in Genesee County was somewhat higher than in Livingston County with \$4.89 and \$3.87, respectively. More hours of labor were required in the former county and higher value was placed on the time. This was in part offset by higher equipment costs in Livingston County.

COST OF FERTILIZING

The fertilizer application varied from 300 to 625 pounds per acre. The cost of the fertilizer averaged \$12.83 per acre and when added to the cost of application brought the total cost of fertilizing with chemical fertilizers to \$14.46 per acre. The average application of fertilizer was 490 pounds which cost an average of \$1.63 per acre to apply (Table 4). The number of man hours were 0.5, and the tractor hours were 0.3 per acre. The usual method of spreading fertilizer was to broadcast it with the grain drill prior to planting. However, two farmers hired the fertilizer custom spread by the dealer. One other farmer broadcast the fertilizer at time of planting. The most common fertilizer analysis used was a 10-10-10; however, other analyses were 5-10-5, 8-16-16, 30-0-0, 5-10-10, 3-12-6, Cyanamid, and Ammonium Nitrate.

Table 4.

COST OF FERTILIZING PER ACRE
21 New York Farms, 1951

Item	Genesee	Livingston	All farms
Man hours	0.5	0.4	0.5
Tractor hours	0.3	0.4	0.3
Truck miles	0.8	0.3	0.8
Pounds of fertilizer	520	354	490
Costs:			
Man labor	\$0.69	\$0.34	\$0.67
Tractor	0.24	0.26	0.27
Truck	0.08	0.10	0.09
Other equipment	0.48	0.71	0.60
Total labor and equipment	\$1.49	\$1.41	\$1.63
Fertilizer	13.79	8.64	12.83
Total	\$15.28	\$10.05	\$14.46

The cost of applying fertilizer was almost the same in Genesee and Livingston Counties; however, in the former the average application per acre amounted to 520 pounds as compared to 354 for the latter. Primarily because of the difference in the quantity of fertilizer applied, the cost of fertilizing per acre, including both the cost of application and the fertilizer, was \$15.28 in Genesee as compared to \$10.05 in Livingston County.

COST OF PLANTING

An average of 1.0 man hour and 0.7 tractor hours per acre were required to plant peas (Table 5). The cost of planting averaged \$2.31. In Genesee County it was \$2.38 and in Livingston County it was \$1.76

Table 5.

COST OF PLANTING PER ACRE
21 New York Farms, 1951

Item	Genesee	Livingston	All farms
Man hours	1.0	0.7	1.0
Tractor hours	0.8	0.5	0.7
Truck miles	0.5	0.1	0.4
Bushels of seed	4.3	4.0	4.3
Costs:			
Man labor	\$1.20	\$0.61	\$1.10
Tractor	0.49	0.32	0.44
Truck	0.05	0.11	0.06
Other equipment	0.64	0.72	0.71
Total labor and equipment	\$2.38	\$1.76	\$2.31
Seed	30.43	30.51	30.67
Total	\$32.81	\$32.27	\$32.98

The average amount of seed used per acre was 4.3 bushels. This cost \$30.07. In Genesee County the amount of seed averaged 4.3 bushels and cost \$30.43. In Livingston County 4.0 bushels were used and these cost \$30.51.

The total cost of planting including seed, labor, and equipment for all farms was \$32.98. In Genesee County the cost was \$32.81 and in Livingston County, \$32.27. The Orleans County farms had high seed costs which raised the average.

The range in time spent planting was from 0.4 hours per acre to 3.7 hours. The range in seed use was from 3.5 bushels to 5.0 bushels. The range in total cost per acre was from \$24.33 to \$42.39.

OTHER COSTS

Other costs in growing peas were land, manure and green manure, spraying and dusting, a small amount of man and tractor time for work other than plowing, fitting, fertilizing, and planting, and interest on the growing costs (Table 6). The total of these was \$14.87 per acre. The principal item of other costs was the land cost which averaged \$8.90. Manure and green manure costs came to \$3.35. The amount of spraying and dusting on peas was almost negligible and cost only 60 cents.

Table 6. OTHER COSTS PER ACRE
21 New York Farms, 1951

Item	Genesee	Livingston	All farms
Man hours	0.2	0.1	0.1
Tractor hours	0.1	0.1	0.1
Costs:			
Land	\$9.05	\$8.47	\$8.90
Man labor	0.24	0.13	0.19
Tractor	0.08	0.05	0.07
Truck	0.01		*
Spray and dust	0.34	1.39	0.60
Manure	2.06	3.11	2.79
Cover and green manure	0.13	2.25	0.56
All other	1.75	1.75	1.76
Total	\$13.66	\$17.15	\$14.87

*Average less than one cent.

TOTAL GROWING COSTS

The average total cost of growing an acre of peas on the farms studied was \$71.52 (Table 7). The largest single item of cost was seed which made up 43 per cent of the total. Fertilizer was the next most important cost and land was the third item. These made up 18 and 12 per cent, respectively. Labor, equipment, and tractor costs were the fourth, fifth, and sixth items in order of importance.

Table 7.

TOTAL GROWING COSTS PER ACRE
21 New York Farms, 1951

Item	Genesee	Livingston	All farms
Man hours	4.9	3.7	4.7
Tractor hours	4.3	3.4	4.1
Truck miles	1.8	0.4	1.7
Pounds of fertilizer	520	354	490
Bushels of seed	4.3	4.0	4.3
Costs:			
Land	\$9.05	\$8.47	\$8.90
Labor	6.23	3.18	5.67
Tractor	3.59	2.31	3.38
Truck	0.19	0.21	0.19
Other equipment	3.78	5.15	4.17
Seed	30.43	30.51	30.67
Spray and dust	0.34	1.39	0.60
Fertilizer	13.79	8.64	12.83
Cover and green manure	0.13	2.25	0.56
Manure	2.06	3.11	2.79
All other	1.75	1.75	1.76
Total	\$71.34	\$66.97	\$71.52

The cost in Genesee County averaged \$71.34, which was somewhat above the \$66.97 for Livingston County.

TOTAL HARVESTING AND SELLING COSTS

The largest cost item of harvesting and selling peas was labor which averaged 9.6 hours per acre and cost \$10.69 (Table 8). Miscellaneous costs which included interest on the money owed the farmer by the canning factory between the harvest date and date of payment, hired trucking, etc. made up a total of \$9.10 per acre.

The cost of harvesting per acre varied from \$14.03 to \$51.95 with an average of \$25.40. In the case of the high cost farm, the peas were loaded by hand, and a great deal of man labor was involved.

Table 8. TOTAL HARVESTING AND SELLING COSTS PER ACRE
21 New York Farms, 1951

Item	Genesee	Livingston	All farms
Man hours	9.0	11.5	9.6
Tractor hours	1.5	2.3	1.7
Truck miles	7.0	9.4	7.5
Costs:			
Man labor	\$10.72	\$10.07	\$10.69
Tractor	1.07	1.33	1.10
Truck	0.89	2.46	1.21
Equipment	3.36	2.29	3.30
All other	10.65	2.72	9.10
Total	\$26.69	\$18.87	\$25.40

TOTAL COSTS

The average cost per acre for growing, harvesting, and selling canning factory peas amounted to \$96.92 (Table 9). The range was from \$68.71 to \$137.09. The costs in Genesee County averaged \$98.03 while in Livingston County they were \$85.84.

Table 9. TOTAL COSTS PER ACRE
21 New York Farms, 1951

Item	Genesee	Livingston	All farms
Man hours	13.9	15.2	14.3
Tractor hours	5.8	5.7	5.8
Truck miles	8.8	9.8	9.2
Pounds of fertilizer	520	354	490
Bushels of seed	4.3	4.0	4.3
Costs:			
Land	\$9.05	\$8.47	\$8.90
Labor	16.95	13.25	16.36
Tractor	4.66	3.64	4.48
Truck	1.08	2.67	1.40
Other equipment	7.14	7.44	7.47
Fertilizer	13.79	8.64	12.83
Manure	2.06	3.11	2.79
Cover and green manure	0.13	2.25	0.56
Spray and dust	0.34	1.39	0.60
Seeds	30.43	30.51	30.67
All other	12.40	4.47	10.86
Total	\$98.03	\$85.84	\$96.92

Principal items of cost were seed, \$30.67; labor, \$16.36; fertilizer, \$12.83; land, \$8.90; and equipment, \$7.47. Seed and fertilizer made up more than half of the total cost of growing the peas.

COSTS AND RETURNS PER ACRE

The average returns for all farms studied per acre were \$89.14 (Table 10). Of this, \$88.02 was for the 1,972 pounds of peas, \$0.97 was for ensilage, and \$0.15 were other credits.

Table 10.

COSTS AND RETURNS PER ACRE
21 New York Farms, 1951

Item	Genesee		Livingston		All farms	
	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars
Returns:						
Peas	1,973	85.96	1,809	87.39	1,972	88.02
Ensilage		1.26		-		0.97
Other		0.10		0.39		0.15
Total		87.32		87.78		89.14
Total cost		98.03		85.84		96.92
Profit		-10.71		1.94		-7.78
Return per hour of labor		0.45		1.00		0.60

The average cost was \$96.92. The loss was \$7.78, and the return per hour of labor was \$0.60.

In Genesee County the returns per acre amounted to \$87.32, and the cost was \$98.03. The loss was \$10.71, and the return per hour of labor was \$0.45.

In Livingston County the returns averaged \$87.78 per acre, which was \$1.94 more than the cost. The return per hour of labor was \$1.00.

COSTS AND RETURNS PER TON TO GROW

Because the average yield of peas per acre was almost a ton, the costs and returns in producing peas per ton are almost the same as those per acre. It required 4.8 hours of labor per ton on the average to grow the peas (Table 11). The amount of fertilizer required was 497 pounds, and the seed was 4.4 bushels. The total growing cost per ton was \$72.54. Of this, \$31.11 was for seed, \$13.01 for fertilizer, \$9.03 for land, \$5.75 for labor, and \$7.85 for equipment and power.

Table 11.

COST PER TON TO GROW
21 New York Farms, 1951

Item	Genesee	Livingston	All farms
Number of farms	12	7	21
Man hours	5.0	4.1	4.8
Tractor hours	4.4	3.8	4.2
Truck miles	1.8	0.4	1.7
Pounds of fertilizer	527	391	497
Bushels of seed	4.4	4.4	4.4
Costs:			
Land	\$9.17	\$9.36	\$9.03
Labor	6.31	3.52	5.75
Tractor	3.64	2.55	3.43
Truck	0.19	0.23	0.19
Other equipment	3.83	5.69	4.23
Fertilizer	13.98	9.55	13.01
Manure	2.09	3.44	2.83
Cover and green manure	0.13	2.49	0.57
Spray and dust	0.34	1.54	0.61
Seed	30.85	33.73	31.11
All other	1.78	1.94	1.78
Total	\$72.31	\$74.04	\$72.54

COST PER TON TO HARVEST

The principal item of cost in harvesting peas was labor, amounting to \$10.84 per ton (Table 12). Equipment, tractor and truck, and other costs brought the total harvesting cost per acre to \$25.76. In Genesee County it was \$27.06 and in Livingston County, \$20.86.

Table 12.

COST PER TON TO HARVEST
21 New York Farms, 1951

Item	Genesee	Livingston	All farms
Number of farms	12	7	21
Man hours	9.1	12.7	9.7
Tractor hours	1.5	2.5	1.7
Truck miles	7.1	10.4	7.6
Costs:			
Labor	\$10.87	\$11.13	\$10.84
Tractor	1.08	1.47	1.11
Truck	0.90	2.72	1.23
Other equipment	3.41	2.54	3.35
All other	10.80	3.00	9.23
Total	\$27.06	\$20.86	\$25.76

TOTAL COST PER TON

The total cost per ton for all farms averaged \$98.30 (Table 13). Of the total, \$31.11 was for seed, \$13.01 for fertilizer, \$16.59 for labor, \$9.03 for land, and the balance was for equipment, cover crop, and other costs. The cost per ton in Genesee County was \$99.37, while in Livingston County it was \$94.90.

Table 13.

TOTAL COST PER TON
21 New York Farms, 1951

Item	Genesee	Livingston	All farms
Number of farms	12	7	21
Man hours	14.1	16.8	14.5
Tractor hours	5.9	6.3	5.9
Truck miles	8.9	10.8	9.1
Pounds of fertilizer	527	391	497
Bushels of seed	4.4	4.2	4.3
Costs:			
Land	\$9.17	\$9.36	\$9.03
Labor	17.18	14.65	16.59
Tractor	4.72	4.02	4.54
Truck	1.09	2.95	1.42
Other equipment	7.24	8.23	7.58
Fertilizer	13.98	9.55	13.01
Manure	2.09	3.44	2.83
Cover and green manure	0.13	2.49	0.57
Spray and dust	0.34	1.54	0.61
Seed	30.85	33.73	31.11
All other	12.58	4.94	11.01
Total	\$99.37	\$94.90	\$98.30

COST AND RETURNS PER TON

The returns per ton for peas for all farms averaged \$89.27 (Table 14). In addition there were credits for silage and other items which brought the total returns per ton to \$90.41. The average cost per ton was \$98.30 which left a deficit of \$7.89.

Table 14.

COST AND RETURNS PER TON
21 New York Farms, 1951

Item	Genesee	Livingston	All farms
Returns:	\$	\$	\$
Peas	87.14	96.61	89.27
Ensilage	1.27	-	0.98
Other	0.10	0.43	0.16
Total returns	88.51	97.04	90.41
Total cost	99.37	94.90	98.30
Profit	-10.86	2.14	-7.89

The returns per ton for peas in Genesee County and Livingston County were \$87.14 and \$96.61, respectively. The latter is \$9.47 more than the former. Because of the higher returns per ton and the lower cost, the profit per ton for Livingston County was \$2.14. For Genesee County, the cost amounted to \$10.86 more than the returns.

COSTS AND RETURNS FOR INDIVIDUAL FARMS

There was a wide variation among the farms in size of enterprise, physical inputs, and costs and returns. The smallest number of acres was 2.5, and the largest was 135 (Table 15). The fewest number of hours of labor per acre were six, whereas the largest number was 30. The fertilizer application per acre ranged from 300 pounds to 625. The yields ranged from 1,080 pounds to 2,918 pounds. The cost per acre was lowest for Farm No. 15 with \$76.95 and was highest for Farm No. 34 with \$137.09. The lowest returns per acre were for Farm No. 14 which had the lowest yield. The highest returns were for Farm No. 4 which had the highest yields. The profit per acre varied from a \$-55.44 to \$112.07.

Because of the relatively small amount of labor per acre on peas, the profit can have a marked effect on the return per hour of labor. The return per hour of labor varied from \$-4.91 to \$10.82.

RELATION OF SIZE OF ENTERPRISE TO VARIOUS FACTORS

When the 21 farms were divided into two groups according to number of acres of peas, the 11 with the largest acreage averaged 39.9 acres while the remaining 10 averaged 5.8 acres (Table 16). The farmers with the larger acreage had somewhat fewer hours of man labor per acre, used slightly more fertilizer, but obtained lower yields. They had slightly lower costs, but, because of their lower yields, did not obtain as large a return as the farmers with smaller acreages and lost an average of \$3.72 per acre. The farmers with the smaller enterprises, but with higher yields made a profit of \$19.76.

Table 16. RELATION OF SIZE OF ENTERPRISE TO VARIOUS FACTORS
21 New York Farms, 1951

Factor	Large	Small
Acres	39.9	5.8
Per acre:		
Man hours	13.9	16.4
Pounds of fertilizer	466	443
Bushels of seed	4.4	4.4
Yield of peas (pounds)	1,979	2,303
Returns	\$91.96	\$117.58
Cost	95.68	97.82
Profit	\$-3.72	\$19.76
Return per hour of labor	\$0.66	\$2.67

Table 15.
COST AND RETURN PER ACRE AND PER TON FOR CANNING FACTORY PEAS
21 Individual New York Farms, 1951

Farm no.	Acres	Per acre					Per acre			Per ton			Return per hr. labor
		Man hours	Tractor hours	Fertilizer pounds	Seed bushels	Yield pounds	Cost	Returns	Profit	Cost	Returns	Profit	
<u>Genesee County</u>													
1	5.0	30.2	11.3	528	4.0	1,977	\$133.55	\$80.61	\$-52.94	\$135.17	\$81.59	\$-53.58	\$-0.75
2	8.0	8.0	3.9	450	4.1	2,438	90.46	112.75	22.29	74.15	92.42	18.27	3.76
3	31.0	11.1	4.2	373	4.8	1,904	78.77	98.46	9.69	82.73	103.39	20.66	2.52
4	135.0	7.0	5.1	622	3.9	1,985	103.26	81.34	-21.92	96.60	76.09	-20.51	-0.41
5	40.0	18.1	7.6	575	4.4	2,207	105.86	90.61	-15.25	96.01	82.18	-13.83	0.21
6	37.0	17.4	5.4	527	4.5	2,287	97.53	92.84	-4.69	85.31	81.21	-4.10	1.26
7	4.7	15.3	8.9	426	4.7	2,136	110.28	73.52	-36.76	103.71	69.11	-34.60	-1.41
8	6.0	19.8	9.0	483	5.0	2,516	105.27	110.42	5.15	84.22	88.34	4.12	1.32
9	13.0	14.0	8.2	462	4.6	2,375	98.22	125.15	26.93	82.75	105.44	22.69	2.75
10	49.0	13.5	5.1	311	4.2	1,327	92.44	67.52	-24.92	139.29	101.73	-37.56	-0.57
11	25.0	7.3	4.8	625	4.6	2,096	96.98	108.81	11.83	92.54	103.83	11.29	2.01
12	30.0	6.0	9.4	400	4.7	1,808	87.04	81.42	-5.62	96.28	90.07	-6.21	0.65
<u>Livingston County</u>													
10	4.0	12.6	4.6	540	5.0	2,918	88.89	200.96	112.07	61.31	138.60	77.29	10.82
11	35.0	18.3	6.6	343	3.5	2,217	79.81	99.58	19.77	71.99	89.83	17.84	2.06
12	6.2	12.2	5.4	432	3.5	1,298	82.82	86.20	3.38	129.40	134.68	5.28	1.20
13	2.5	17.8	7.2	320	4.6	2,934	68.71	154.01	85.30	46.81	104.92	58.11	5.79
14	32.0	11.6	3.9	312	4.4	1,080	95.34	39.90	-55.44	305.09	127.68	-177.41	-4.91
15	3.0	16.7	6.7	300	4.0	1,808	76.95	85.63	8.68	85.16	94.79	9.63	1.44
17	10.0	17.4	7.6	124	4.6	2,304	84.19	139.54	55.36	73.03	131.13	48.05	3.87
<u>Orleans County</u>													
34	9.0	14.2	6.8	529	5.1	2,704	137.09	132.13	-4.96	101.38	97.71	-3.67	0.65
39	11.8	18.7	4.3	542	4.4	2,486	117.25	125.90	8.65	94.31	101.27	6.96	1.71

RELATION OF MAN HOURS PER ACRE TO VARIOUS FACTORS

When the farms were divided into two groups, those with high and low labor use per acre, the farmers with high labor use had somewhat smaller enterprises, averaging only 16.8 acres per farm, but had higher yields, 2,244 pounds (Table 17). Their costs were higher, and their returns in spite of the slightly higher yield were just a little below the returns for the farms with low man labor requirements. They received a slightly smaller profit per acre.

Table 17. RELATION OF MAN HOURS PER ACRE TO VARIOUS FACTORS
21 New York Farms, 1951

Factors	High	Low
Acres	16.8	31.2
Per acre:		
Man hours	18.6	11.2
Pounds of fertilizer	443	469
Bushels of seed	4.4	4.4
Yield of peas (pounds)	2,244	2,013
Returns	\$103.10	\$105.32
Cost	96.96	96.43
Profit	\$6.14	\$8.89
Return per hour of labor	\$1.47	\$1.78

RELATION OF BUSHELS OF SEED PER ACRE TO VARIOUS FACTORS

A comparison of the enterprises of farmers who used the largest amounts of seed and those who used small amounts shows that the group with high seed use had somewhat smaller acreages, slightly higher fertilizer use and considerably higher yields (Table 18). The cost per acre was below that for the farmers who used smaller amounts of seed and because of their higher yields, their returns were considerably higher. The profit for the farmers with high seed use was \$24.03 per acre as compared to \$-10.78 for the farms which used small amounts of seed.

Table 18. RELATION OF BUSHELS OF SEED PER ACRE TO VARIOUS FACTORS
21 New York Farms, 1951

Factors	High	Low
Acres	15.6	32.5
Per acre:		
Man hours	14.8	15.4
Pounds of fertilizer	464	444
Bushels of seed	4.7	4.0
Yield of peas (pounds)	2,362	1,882
Returns	\$119.75	\$87.00
Cost	95.72	97.78
Profit	\$24.03	\$-10.78
Return per hour of labor	\$2.75	\$0.37

RELATION OF POUNDS OF FERTILIZER PER ACRE TO VARIOUS FACTORS

The eleven farmers who had the highest fertilizer applications averaged 535 pounds per acre as compared to 367 pounds for the ten who used smaller amounts (Table 19). Their enterprises were somewhat larger, they used more labor per acre, their seed requirements were higher, and their yield was 481 pounds more. Both the costs and the returns for the farms using large amounts of fertilizer were higher than for those which used less fertilizer. The profit per acre was \$7.92 as compared to \$6.94.

Table 19. RELATION OF POUNDS OF FERTILIZER PER ACRE TO VARIOUS FACTORS
21 New York Farms, 1951

Factors	High	Low
Acres	26.7	20.4
Per acre:		
Man hours	16.1	14.0
Pounds of fertilizer	535	367
Bushels of seed	4.5	4.3
Yield of peas (pounds)	2,363	1,882
Returns	\$114.68	\$92.58
Cost	106.76	85.64
Profit	\$7.92	\$6.94
Return per hour of labor	\$2.12	\$1.06

RELATION OF YIELD OF PEAS PER ACRE TO VARIOUS FACTORS

The most important factor in determining profit from canning factory peas is the yield of peas. Whether this is due to the farmer's managerial ability, to the weather, to the variety of peas, to the selection of soil, or whatever the reason, it is by far the most important factor. When the farms were divided into those which had high yields per acre and those with lower yields, it was found that the average cost per acre was slightly higher for the farms with large yields, averaging \$97.57 as compared to \$95.74 (Table 20). However, because of the larger yields the returns averaged \$125.81 as compared to only \$80.34. Because of the difference in returns, the profit for the high yielding farm enterprises amounted to \$28.24 per acre as compared to \$-15.40 for those with low yields.

Table 20. RELATION OF YIELD OF PEAS PER ACRE TO VARIOUS FACTORS
21 New York Farms, 1951

Factors	High	Low
Acres	16.0	32.1
Per acre:		
Man hours	16.0	14.0
Pounds of fertilizer	472	436
Bushels of seed	4.5	4.3
Yield of peas (pounds)	2,490	1,742
Returns	\$125.81	\$80.34
Cost	97.57	95.74
Profit	\$28.24	\$-15.40
Return per hour of labor	\$3.11	\$-0.02

RELATION OF RETURNS PER HOUR OF LABOR TO VARIOUS FACTORS

In looking at the farmers who had high returns per hour of labor as compared to those who received small returns, it was found that the former had somewhat smaller acreages, used slightly less labor and fertilizer, and more seed per acre. They had considerably higher yields (Table 21). Their costs were much lower and their returns much higher. The difference between the profit per acre amounted to \$56.07.

Table 21. RELATION OF RETURNS PER HOUR OF LABOR TO VARIOUS FACTORS
21 New York Farms, 1951

Factors	High	Low
Acres	13.6	34.8
Per acre:		
Man hours	14.7	15.5
Pounds of fertilizer	442	469
Bushels of seed	4.5	4.3
Yield of peas (pounds)	2,363	1,881
Returns	\$123.75	\$82.61
Cost	89.59	104.52
Profit	\$34.16	\$-21.91
Return per hour of labor	\$3.46	\$-0.41