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COSTS AND RETURNS IN GROWING POTATOES

8 WYOMING COUNTY FARMS

1949

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8 Wyoming County Farms, 1949

New York State potato production has undergone many changes in recent years. It has shifted from a small enterprise on many farms to a major enterprise on relatively few farms. Changes in practices have encouraged potato growing as a commercial enterprise and discouraged the small scale grower of potatoes.

Problems in marketing potatoes have become a major concern of growers. Price support programs have received much attention and will have bearing, along with other developments, on the future of potato production in New York.

Successful potato growers today need to be informed. Not only do they need to keep abreast of government programs, prices, markets and the like but they need to be informed on their own potato enterprise.

Wyoming County Records

1949 was the second year for a small group of Wyoming County potato growers to keep records on their potato enterprises. A simple record book for recording costs and returns for the potato enterprise was provided by the New York State Extension Service. Eight farmers kept detailed records on their potato enterprises for the 1949 crop year. In late December the records of these farms were completed and sent to the College of Agriculture at Cornell for summarization. The results are presented in this report.

The costs and returns reported here reflect the experiences of the eight growers who kept records in 1949. An individual grower can compare his enterprise with the average for this small group. The results of these eight growers should not be assumed to be representative of all growers in Wyoming County.

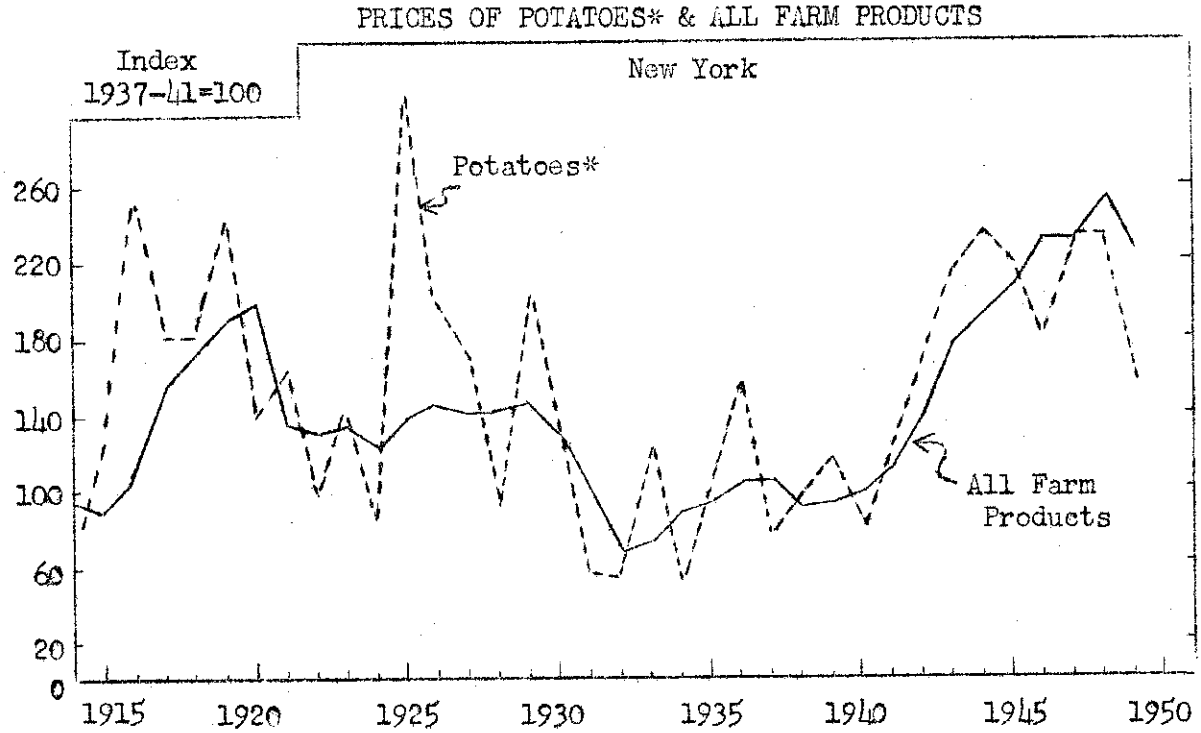
Prices in 1949

The general level of prices declined during 1949 but was still high in comparison with earlier periods. Prices of all commodities in the United States for 1949 were down 6 per cent from 1948. Prices received by New York farmers in 1949, however, were 13 per cent lower than those of 1948 while the prices paid by farmers were down only 3 per cent.

Potato prices received by New York State growers in December 1949 were 38 per cent below those of December 1948. The average price reported by the 8 Wyoming County growers who kept records in 1949 was 30 per cent below the price reported by 9 similar growers in 1948 (see table 8).

The farm price of potatoes fluctuates widely around the prices of all farm products, as shown in the chart below. Since 1945 potato prices have been below the level of all farm product prices and were markedly below for 1949.

PRICES OF POTATOES* & ALL FARM PRODUCTS



Source: "Farm Economics" * Oct.- Mar. average price

Trends

Upstate New York potato acreage has been declining since about 1910. Long Island acreage, on the other hand, increased until 1946. The Upstate acreage in 1949 was only about one-half the average for 1937-41. Long Island's acreage for 1949 was about 10 per cent above the 1937-41 average. (Table 1.)

Potato yields in Upstate New York have increased considerably in recent years. In 1949, for the first time, Upstate yields were larger than the Long Island yeilds.

Table 1. ACREAGE, YIELD AND PRODUCTION OF POTATOES IN NEW YORK

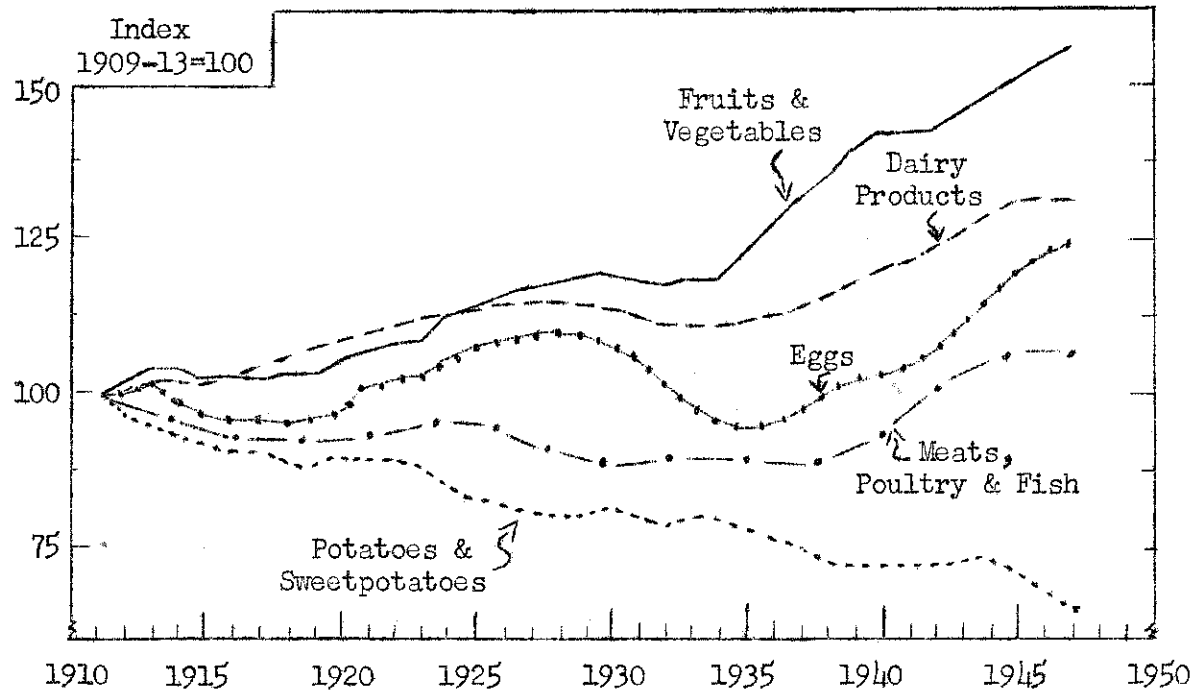
Year	Acreage		Yield		Production	
	Upstate	Long Island	Upstate	Long Island	Upstate	Long Island
	- thousand acres -		- bushels -		- million bushels -	
1909	370	24	122	140	45	3
1937-41 ave.	154	49	105	235	16	12
1945	110	72	100	270	11	19
1946	104	72	185	330	19	24
1947	81	61	160	330	13	20
1948	85	61	225	310	19	19
1949	76	54	240	230	18	12

Source: N. Y. S. Agricultural Statistician, U. S. Crop Reports, and P. M. A.

Upstate total production in 1949 was considerably greater than the Long Island production, due to an unusually severe drought on Long Island which caused a sharp reduction in yields. Total production for the last five years on Long Island has exceeded that of Upstate New York.

Per capita consumption of potatoes has been on the decline for the past forty years (chart on next page). In 1949 the per capita consumption of potatoes was 110 pounds compared with the 1935-39 average of 131 pounds.

TRENDS IN PER CAPITA CONSUMPTION*



* 5-yr. moving average centered.
Source: National Food Situation.

In contrast to the decline in the per capita consumption in potatoes is the increase in the use of other fruits and vegetables. The consumption of all types of foods except potatoes and grains has increased considerably since 1935. These starchy foods apparently are giving way to the animal products, fruits, and vegetables.

What's Ahead

Potato prices in recent years have been supported by a government purchase program. Prior to 1949 supports were based on 90 per cent of parity, but for the 1949 crop supports were reduced to 60 per cent of parity. Present legislation provides for mandatory supports for the 1950 potato crop at levels between 60 and 90 per cent of parity. The Secretary of Agriculture has announced that they will be supported at 60 per cent of parity in areas having marketing agreements in effect.

Acreage allotments as a condition for price supports have been in

effect since 1947. This has made it necessary for growers who wished to participate in the government program to reduce their operations. Marketing orders and agreements have been specified as a requirement for potato price supports for 1950. New York growers will have to decide whether or not they wish to participate in a support program on this basis.

The use of more machinery in growing potatoes has increased the investment for growers. This tends to encourage larger acreages so as to make more efficient use of the machinery. A continuation of this trend toward more and improved machinery in view of possible acreage controls, will present a problem in how to use equipment most efficiently.

A price "squeeze" is on for New York farmers. Prices of farm products have declined considerably while the costs of things farmers buy have changed relatively little, some even continuing to increase. This puts the squeeze on the farmer (see table 8). To meet this squeeze the grower must study his operations and try to cut his costs and increase his efficiency.

Basis for Cost and Return Figures

The eight potato enterprises on which complete records were kept varied in size and practices followed. In all cases, however, potatoes were a major farm enterprise and were grown for commercial table use.

At the time the records were summarized about half the potatoes grown in 1949 on these farms had been sold and half was in storage. Only one farm had sold the entire crop. Potatoes in storage were valued by the grower at what he considered them to be worth based on the December price offered by buyers in the area.

It was necessary to calculate the cost of the labor of the regular farm help, machinery, manure, and land. These costs were calculated in the way commonly used in cost studies of farm enterprises.

Each grower estimated what his time was worth and gave the cost of regular hired help including the value of farm privileges such as house rent, milk, potatoes, etc. An average hourly rate for the regular farm help was thus calculated and applied to the number of hours of work as recorded in the potato record book. Labor hired specifically for work on the potatoes was charged at the rate actually paid.

Detailed information was obtained on all machinery used on the potato enterprise. The cost of operating this machinery, including depreciation, repairs, housing, insurance, and interest, was calculated and the proportionate share charged to the potato enterprise. Tractor time was charged at the rate of 70 cents per hour which is the current cost reported for New York State Cost Account Farms. Truck use was figured at 9 cents per mile and auto use at 6 cents per mile.

Manure applied during the past four years was partially charged to the potato enterprise, figuring 40 per cent of the 1949 application and 30, 20, and 10 per cent respectively for each of the three preceding year's applications. Manure was charged at $3 per ton.

Each grower estimated the value of the land he used for potatoes. A land use charge of 10 per cent of the value was calculated. In cases where the land was rented the actual rental was used.

Four of the potato enterprises were relatively small in acreage with from 12 to 17 acres each. The other four were medium sized enterpirses, ranging from 35 to 60 acres each. All average costs and returns are presented on the basis of these two size groups.

Spaces have been provided so that individual growers can fill in the figures for their farms and make comparisons with the averages for these 8 Wyoming County growers.

Costs and Returns Per Acre

Table 2. SUMMARY OF COSTS AND RETURNS
8 Wyoming County Potato Enterprises, 1949

Item	Average of 4 large growers	Your farm	Average of 4 small growers
Acres grown	50	_____	14
Bushels per acre	409	_____	401
Average price per bushel	$ .94	$ _____	$ .96
Returns per acre	$ 384	$ _____	$ 383
Cost per acre	$ 312	$ _____	$ 281
Net returns per acre	$ 72	$ _____	$ 102

The four larger growers averaged 50 acres of potatoes compared with only 14 acres for the four smaller growers. The average yields for the two groups and the average price were approximately the same. Yields on the individual enterprises varied from 255 bushels per acre to 641 bushels per acre. Average prices varied from 89 cents for one farm to $1.03 for another farm.

The small growers had a lower cost per acre than the large growers. The difference in cost per acre was due in part to differences in machinery used and practices followed. Differences in net returns per acre for the two groups are a result of the differences in costs. Net returns per acre varied from a low of $7 to a high of $231.

Costs Per Acre

Table 3. COSTS PER ACRE OF PRODUCING POTATOES
8 Wyoming County Potato Enterprises, 1949

Item	Average of 4 larger growers	Your farm	Average of 4 smaller growers
Labor	$ 94	$ _____	$ 92
Fertility	66	_____	64
Power and Equipment	41	_____	34
Seed	53	_____	37
Spray and Dust	16	_____	32
Use of Land	14	_____	12
Storage	18	_____	7
Bags and Twine	9	_____	0
Other	1	_____	3
Total	$ 312	$ _____	$ 281

Labor was the largest cost item for both groups, making up 30 per cent of the total. The larger growers used considerably more hired labor per acre than did the smaller grower. The average cost of hired labor was $67 for the larger group and $43 for the smaller group.

Fertility was the second largest cost item. Commercial fertilizer was the principal item here accounting for $60 of the $66 for the first group and $46 of the $64 for the second group. The smaller growers with the lower cost for fertilizer had a higher cost for manure.

Power and equipment costs ranged from $25 for one grower to $88 for another. In general, the smaller growers hired more work done such as

spraying which reduced their investment in equipment and resulting equipment costs. This also explains why the spray and dust item is $32 for the one group and $16 for the other.

Seed costs were considerably more for the larger growers than for the smaller growers. They used 27½ bushels of seed per acre compared with 25 bushels and also paid more per bushel for the seed.

Storage costs were less for the smaller growers due to a smaller proportion of the crop being stored and the fact that simpler storage facilities were used.

Costs Per Bushel

Table 4. COSTS PER BUSHEL OF PRODUCING POTATOES
8 Wyoming County Potato Enterprises, 1949

Item	Acreage of 4 large growers	Your farm	Average of 4 small growers
Labor	$ .23	$ _____	$ .23
Fertility	.16	_____	.16
Power and Equipment	.10	_____	.08
Seed	.13	_____	.09
Spray and Dust	.04	_____	.08
Use of Land	.04	_____	.03
Storage	.04	_____	.02
Bags and Twine	.02	_____	0
Other	0	_____	.01
Total	$ .76	$ _____	$ .70

The differences in costs per acre for the two groups which were discussed in the previous section apply to the costs per bushel since the average yield was about the same for the two groups.

Individual growers costs per bushel ranged from a low of 53 cents to a high of 96 cents. The growers with the higher yields tend to have the lower costs per bushel. This emphasizes the importance of a grower getting good yields if he is to keep his cost per bushel low and get a good return for his efforts.

Returns Per Hour of Labor

Table 5. LABOR USED PER ACRE AND RETURNS PER HOUR OF LABOR
8 Wyoming County Potato Enterprises, 1949

Item	Average of 4 large growers	Your farm	Average of 4 small growers
Hours of "regular" farm labor	28	_____	44
Hours of extra hired labor	66	_____	35
Total hours all labor	94	_____	79
Returns* for all labor	$ 166.00	$_____	$ 194.00
Returns per hour of all labor	$ 1.76	$_____	$ 2.45
Returns** for "regular" labor	$ 99.00	$_____	$ 151.00
Returns per hour of "regular" labor	$ 3.47	$_____	$ 3.45
Hours of labor per 100 bu. potatoes	23	_____	20

* Returns from potatoes minus all costs other than labor
** Returns from potatoes minus all costs other than "regular" labor

"Returns per hour of labor" is a measure of what the workers receive for their time on an enterprise. It is figured by deducting all costs other than labor from the total returns and then dividing the result by the total hours of labor.

The larger growers used an average of 28 hours of regular farm help per acre compared with 44 hours for the smaller growers. This difference was due for the most part to the larger number of acres and the use of "extra help" at harvested time. This latter is reflected in the hours of extra hired help. Small growers also used custom work which reduced the number of hours of labor recorded.

Returns per hour of all labor averaged $1.76 for the larger growers and $2.45 for the smaller growers. The returns per hour of labor for the regular labor force, however, was the same for both groups, the latter measure is the one the farmer is most interested in as it measures the pay he receives for his time.

Practices Followed

Some of the practices followed on the 8 potato enterprises studied are presented in the tables below. There were not enough records to make any analysis of the effects of the various practices.

Table 6. FERTILITY PRACTICES FOLLOWED
8 Wyoming County Potato Enterprises, 1949

Farm number	Lbs. fertilizer per acre	Fertilizer analysis	Manure used	Cover crop used
1	1778	8-16-16	Yes	No
2	2500 (1500 (1000	(5-10-15 (0-20-0	No	Yes
3	1717	(8-16-16 (5-10-10	No	No
4	1771	(5-10-10 (8-16-16	Yes	No
5	1893	5-10-10	Yes	No
6	1750 (750 (1000	(5-10-10 (0-20-0	Yes	No
7	1792	5-10-10	Yes	Yes
8	2542	(5-10-10 (6-12-6	No	No

Commercial fertilizer was applied at the rate of 3/4 to 1-1/4 tons per acre. The analysis used most frequently was 5-10-10.

Five of the growers used manure and two growers used a rye cover crop.

Table 7. CULTURAL PRACTICES FOLLOWED
8 Wyoming County Potato Enterprises, 1949

Farm number	Variety grown	Bushels of seed per acre	Planting distances	Number of sprays	Rotobeater used
1	Katahdin	25	36 x 12	10	No
2	Katahdin	32	34 x 9	12	Yes
3	(Katahdin (Russet	28	34 x 10-1/2	(6 (8	Yes
4	Russet	21	34 x 10	11	Yes
5	(Katahdin (Russet	21	34 x 10	7	Yes
6	Houma	21	36 x 12	9	Yes
7	Sebago	31	34 x 11	(7 (8	Yes
8	(Katahdin (Russet (Sebago	31	34 x 7-3/4	9	Yes

Katahdin and Russet were the two most common varieties.

The amount of seed used per acre ranged from 21 to 32 bushels. The planting distances and size of seed pieces affect the amount of seed used per acre. On these 8 farms the planting distances did not vary greatly.

Growers using custom spray service tended to apply fewer sprays than those with their own equipment.

A "rotobeater" was used on the tops on seven of the farms. Five hired the use of the rotobeater and two owned their own machines.

Comparison of 1948 and 1949 Records

Nine Wyoming County growers kept potato enterprise accounts in 1948. Of the eight keeping records in 1949, four had kept records the year before.

A comparison of the averages for the entire group for the two years may suggest some general trends.

The returns per acre in 1949 were 30 per cent less than those for 1948. Price accounted for this difference since the average yields were about the same.

Costs per acre were six per cent higher in 1949 than in 1948. Labor, fertility, power and equipment, and storage costs were all higher in 1949 than in 1948. The increase in storage costs was due to the fact that more potatoes were stored, less than one-fifth in 1948 were stored compared with one-half in 1949.

Net returns per acre in 1948 were more than three times as much as they were in 1949. The returns per hour of labor were twice as much in 1948 as they were in 1949.

Table 8. COMPARISON OF POTATO ENTERPRISE RECORDS
Wyoming County, New York, 1948 and 1949

Item	1948	1949
Number of enterprises	9	8
Number of acres	242	257
Acres per enterprise	27	32
Average yield per acre	403	407
Average price per bushel	$ 1.34	$ .94
Average cost per bushel	$ .71	$ .75
Returns per acre	$ 539	$ 384
Costs per acre	$ 288	$ 306
Net return per acre	$ 251	$ 78
Returns per hour of labor	$ 3.65	$ 1.89
Costs per acre:		
Labor	$ 93	$ 94
Fertility	54	66
Power and Equipment	38	40
Seed	53	49
Spray and Dust	20	19
Land Use	10	14
Storage	6	16
Bags and Twine	13	7
Other	1	1
Total	$ 288	$ 306

These comparisons are characteristic of what growers can expect in a period of declining prices. They are in line with the much talked about farm "price squeeze."

Suggestions on Use of Report

The costs and returns for the eight Wyoming County potato enterprises studied in 1949 should not be considered as representative of all growers in the county. They provide figures for individual study and comparison only.

A comparison of the 1949 averages with the 1948 averages shows what growers can expect financially when prices decline.

Study the figures for your farm and compare them with the averages of the 8 growers who kept records. See where your costs or practices are out of line.

Read the "1950 Potato Outlook in New York" which is attached.

Keep informed! Study your potato enterprise!