

COSTS AND RETURNS IN GROWING POTATOES

6 WYOMING COUNTY FARMS

1948

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Potato production in New York State has changed in many respects in recent years. There have been shifts in the areas producing potatoes. Methods have improved and the size of operations have increased. Total acreage has declined while yields per acre have increased. Potato surpluses have created a marketing problem. These changes present many problems to the potato growers in the State.

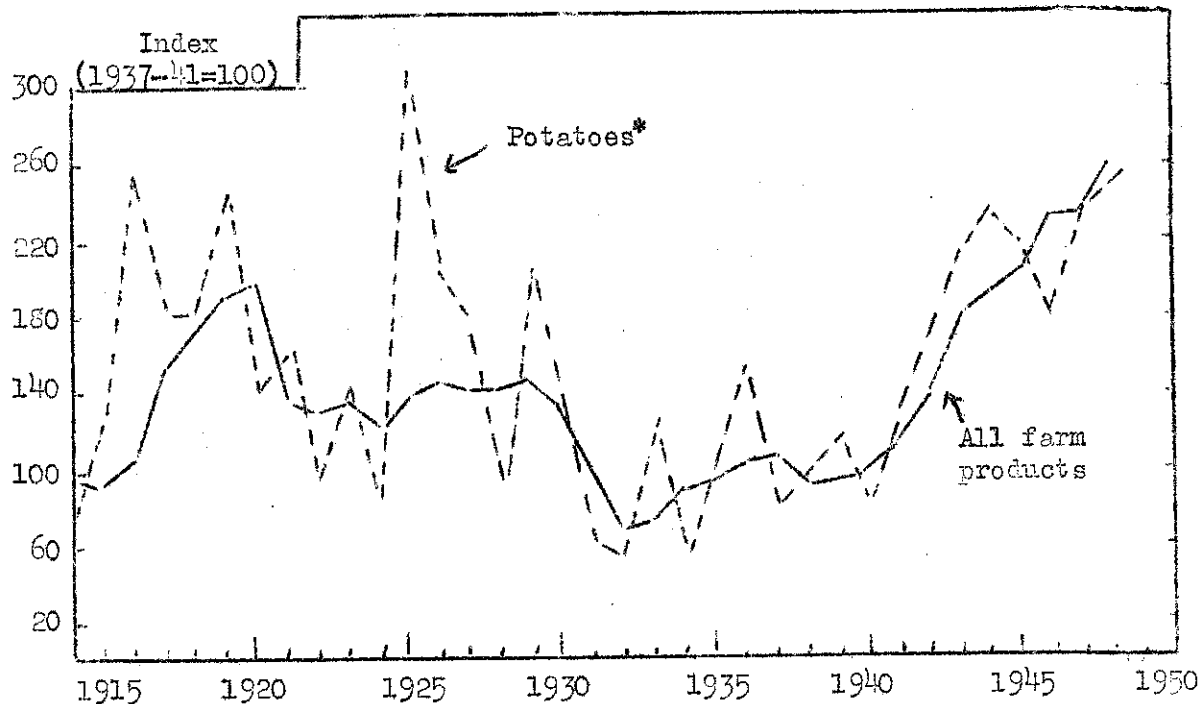
Wyoming County Records

In the spring of 1948 a group of Wyoming County potato growers became interested in studying their potato enterprises. Books for keeping information on the time required and the costs and returns on the potato enterprise were provided by the New York State Extension Service. The farmers kept the detailed records on their farms for the 1948 crop year.

At the close of the 1948 crop season the records on these farms were sent to the College of Agriculture for summarization. Complete records were kept by six growers. The results of the records kept by these growers are presented in this report.

The six potato enterprises studied varied in size from 8 to 44 acres. Practices followed also varied. The results cannot be assumed to represent all potato growers in Wyoming County. The costs and returns can be studied as the experience of individual growers. The findings presented here can be used only as a general guide. More records would be needed to give a representative indication of the costs of producing potatoes in this area.

## NEW YORK FARM PRICES OF POTATOES\* AND ALL FARM PRODUCTS



Source: "Farm Economics"

\*Oct.-Mar. average price

Farm prices of potatoes in New York fluctuate around the price level, being high in years when the crop is small and low when the crop is large. For six years, potato production has been above average and prices to farmers have been sustained by government purchases.

A constant production of potatoes at around the level of 1937 to 1941 appears to be enough for domestic needs because consumption per capita has declined at about the same as the increase in population. The value of potatoes for by-product uses such as alcohol, starch, flour and livestock feed varies between 25 and 50 cents per hundredweight.

### Prices In 1948

Prices in general were high in 1948. The general price level which shows the level of the prices of all commodities reached an all time high in August of 1948. New York farm prices also reached a record high level during 1948 as shown in the accompanying chart. Prices of things farmers buy were also high in 1948.

New York farm prices of potatoes tend to follow the prices of all farm products (see chart). Potato prices fluctuate around the general level of farm prices depending on the size of the potato crop. New York potato prices in 1948 were the highest they had been since the mid-1920's.

### Trends

Potato acreage in Upstate New York has declined steadily since 1910 (see chart). The acreage grown in 1948 was less than one-third that grown in 1910. There was a slight increase in the 1948 Upstate acreage over that of 1947. On the other hand the long-time trend in potato acreage on Long Island has been gradually upward.

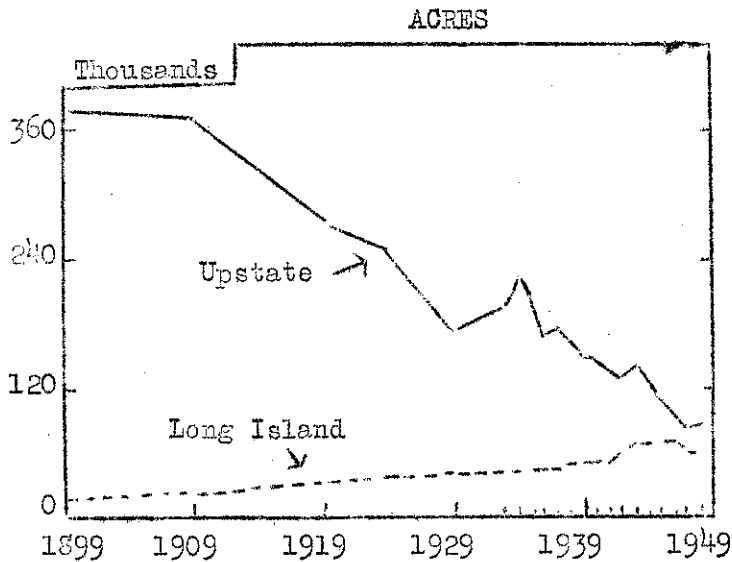
Yields per acre have been consistently higher for Long Island than for Upstate. Higher yields have been obtained Upstate during the past three years (see chart). There is some question whether or not this increase in yield can be maintained.

In 1948 the total potato production on Long Island was about the same as for Upstate. In recent years, however, the total production for Long Island has exceeded that of Upstate.

Long Island potato farmers grow larger acreages than do Upstate farmers. Larger acreages give some advantages in the use of equipment and efficiency in operation. The trend for Upstate farmers also has been toward larger potato enterprises.

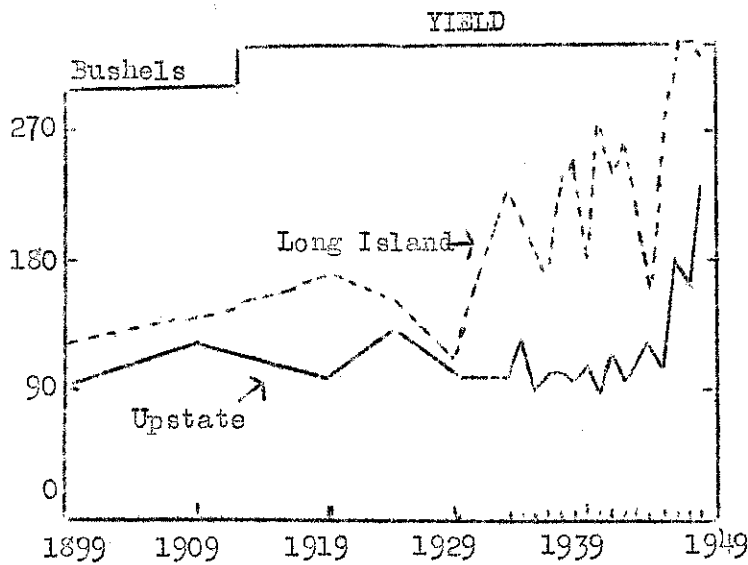
What will the future bring? Will Upstate farmers be able to compete successfully with growers in other areas?

POTATO ACREAGE AND PRODUCTION  
Long Island and Upstate New York



The acres of potatoes in upstate New York has declined gradually. There was a slight increase in acres in 1948. The acreage in 1948 was less than one-third of that of 1899.

The acreage on Long Island gradually increased to 1946 and was reduced under the acreage allotment program in 1947 and 1948. The increase was sharp at the beginning of World War II. Potato production has rapidly become a more and more specialized business.



From 1936 to 1945, the average yield per acre on Long Island was 226 bushels, that of Upstate, 110 bushels. Wherever the soil and climate are favorable Upstate commercial farms have obtained high yields per acre. Low yields are obtained on farms with small acreage, not well adapted to potato production. These farmers are rapidly dropping out of potato production.

The average yield per acre for Upstate New York reached a high of 225 bushels in 1948.

POTATO ACREAGE, YIELD & PRODUCTION IN NEW YORK, 1947 & 1948

|             | Acreage         |      | Yield per acre |      | Production      |      |
|-------------|-----------------|------|----------------|------|-----------------|------|
|             | 1947            | 1948 | 1947           | 1948 | 1947            | 1948 |
|             | - 1,000 acres - |      | - bushels -    |      | - million bu. - |      |
| Long Island | 61              | 59   | 330            | 320  | 20              | 19   |
| Upstate     | 81              | 85   | 160            | 225  | 13              | 19   |
| Total       | 142             | 144  | -              | -    | 33              | 38   |

Government Surplus Removal

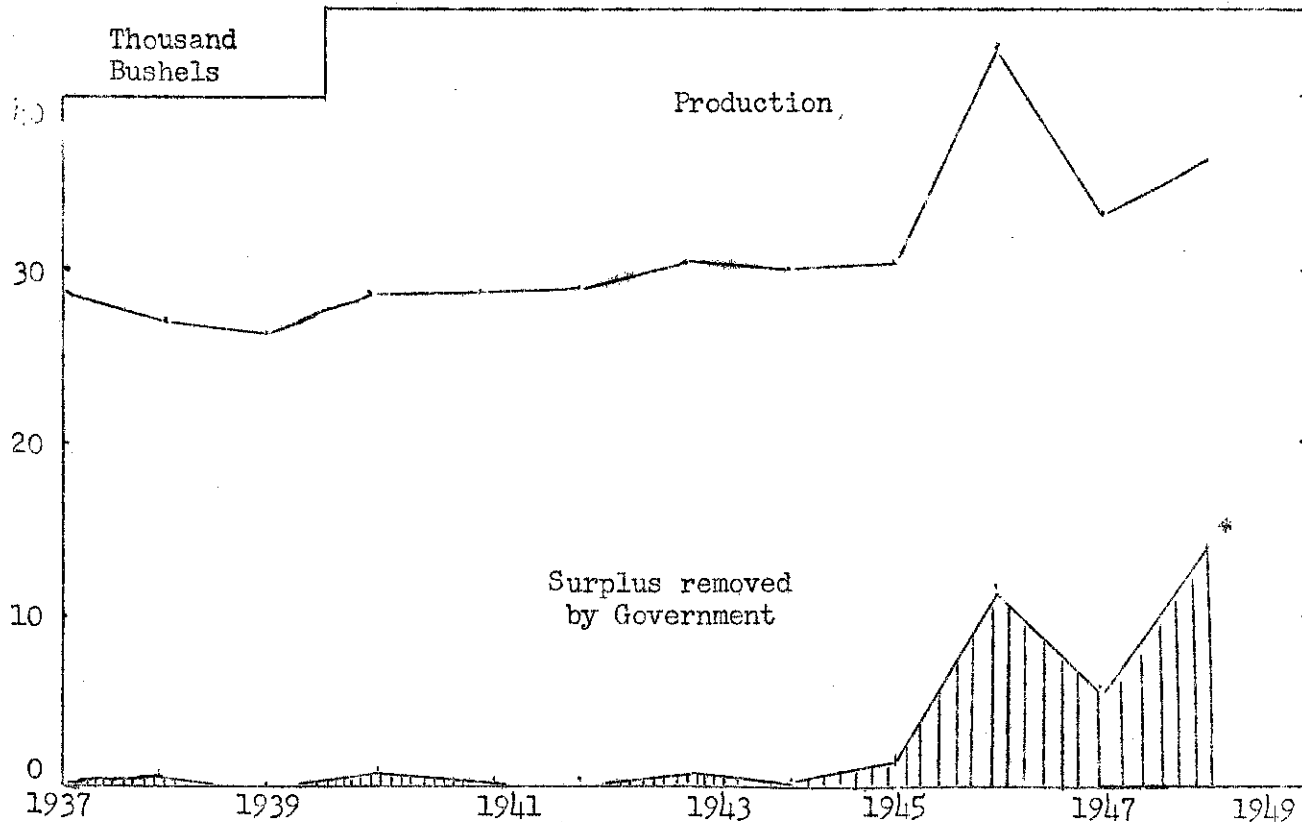
Surplus potatoes have been purchased by the government to maintain prices. Purchases have been made each year since 1937. In general, the amount of surplus removal was small until 1945 (see chart).

The quantity of potatoes removed by the government during 1946, 1947, and 1948 has been large. Preliminary figures for 1948 indicate that more than 14 million bushels were purchased by the government. This is more than one-third of the 1948 total production for the State.

Future programs in regard to surplus removal will have an important bearing on the profitableness of growing potatoes. Changes have been made for the price supports for the 1949 crop. These changes may make it more important for growers to study their costs and returns.

## POTATO PRODUCTION AND GOVERNMENT SURPLUS REMOVAL

New York State, 1937 to 1948



\* Preliminary through January 31, 1949

Large quantities of New York potatoes were purchased by the government in 1946, 1947, and 1948. In 1946 the surplus removal amounted to 26 per cent of the total New York production.

Preliminary figures of purchases through January 31, 1949 of the 1948 crop indicate that 14 million bushels of potatoes had been removed from New York State. This is more than one-third of the total potato production in the State.

Costs and Returns

Summary of Costs and Returns Per Acre  
6 Wyoming County Potato Enterprises, 1948

| Item               | Enterprise |        |        |        |        |        |
|--------------------|------------|--------|--------|--------|--------|--------|
|                    | #1         | #2     | #3     | #4     | #5     | #6     |
| Acres grown        | 8          | 18     | 19.5   | 44     | 20.4   | 12     |
| Bushels per acre   | 430        | 328    | 488    | 493    | 398    | 320    |
| Ave. price per bu. | \$1.35     | \$ .79 | \$1.40 | \$1.60 | \$1.58 | \$1.14 |
| Returns per acre   | \$580      | \$259  | \$683  | \$788  | \$630  | \$364  |
| Cost per acre      | 285        | 342    | 267    | 401    | 252    | 225    |
| Net per acre       | \$295      | \$-83  | \$416  | \$387  | \$378  | \$139  |

Returns per acre on these six farms varied from \$259 to \$788. Variations in returns depended on the average price per bushel and the yield. The price received by the high farm was double that reported for the low farm.

Cost per acre ranged from \$225 to \$401. Costs depend on many factors. A breakdown of the costs are shown in a later section.

Net returns per acre ranged from a loss of \$83 to a profit of \$416. Net returns show what is left to the operator for his management after all costs, including the estimated cost of all labor, have been deducted.

Costs Per Acre of Producing Potatoes  
6 Wyoming County Potato Enterprises, 1948

| Cost Item          | Enterprise |       |       |       |       |       |
|--------------------|------------|-------|-------|-------|-------|-------|
|                    | #1         | #2    | #3    | #4    | #5    | #6    |
| Labor              | \$ 44      | \$109 | \$ 87 | \$123 | \$ 68 | \$ 55 |
| Power & Equipment  | 39         | 58    | 19    | 78    | 23    | 35    |
| Fertility          | 74         | 68    | 56    | 66    | 50    | 64    |
| Seed               | 65         | 35    | 46    | 71    | 63    | 26    |
| Spray & Dust       | 28         | 26    | 31    | 16    | 33    | 26    |
| Land Use           | 5          | 20    | 10    | 6     | 10    | 14    |
| Storage            | 30         | 4     | 3     | 4     | 3     | 5     |
| Bags & Inspections | -          | 22    | 15    | 37    | 2     | -     |
| Total              | \$285      | \$342 | \$267 | \$401 | \$252 | \$225 |

Labor was the largest cost item per acre on 4 of the farms, and fertility was the largest on 2 of the farms. The other large cost items were power and equipment, seed and spray and dust.

Labor costs included both hired labor and the cost of regular farm labor based on monthly wages paid and value of the operator's time. Power and



equipment costs included charges for the use of machinery and the cost of operating trucks, tractors, and autos. Rates for use of horses, tractors, trucks, and autos were taken from the results of New York Cost Account farms. The rates were: 25¢ per hour for horses, 60¢ per hour for tractors, 9¢ per mile for trucks, and 6¢ per mile for autos. Machinery costs included depreciation, repairs, housing, interest and insurance on machinery used for the potato enterprise

Fertility costs included fertilizer purchased, manure applied and the cost of cover crops grown for the potato enterprise.

Spray and dust includes all materials purchased and the cost of custom work. Five of the farms hired their potatoes sprayed on a custom rate.

Each grower estimated the value of the land he used for potatoes. A "land use" charge of 10 per cent of the value was figured. There were wide variations in the values the growers placed on their land.

Storage charges were made at the rates of 7¢ and 8¢ per bushel of potatoes stored. The storage cost depended to a large extent upon the proportion of the crop stored.

Costs Per Bushel of Producing Potatoes  
6 Wyoming County Potato Enterprises, 1948

| Cost Item         | Enterprise |        |        |        |        |        |
|-------------------|------------|--------|--------|--------|--------|--------|
|                   | #1         | #2     | #3     | #4     | #5     | #6     |
| Labor             | \$ .10     | \$ .33 | \$ .18 | \$ .25 | \$ .17 | \$ .17 |
| Power & Equipment | .09        | .18    | .04    | .16    | .06    | .11    |
| Fertility         | .17        | .21    | .12    | .13    | .13    | .20    |
| Seed              | .15        | .10    | .09    | .14    | .16    | .08    |
| Spray & Dust      | .07        | .08    | .06    | .03    | .08    | .08    |
| Land Use          | .01        | .06    | .02    | .01    | .02    | .04    |
| Storage           | .07        | .01    | .01    | .01    | .01    | .02    |
| Bags & Inspection | --         | .07    | .03    | .08    | --     | --     |
| Total             | \$ .66     | \$1.04 | \$ .55 | \$ .81 | \$ .63 | \$ .70 |

Total cost per bushel ranged from \$.55 to \$1.04. Per bushel costs are affected by the total costs incurred and the number of bushels per acre. Other studies have shown that the higher the yield per acre the lower tends to be

the cost per bushel.

There was a wide variation in the cost per bushel for the different cost items on these six farms. Variations in practices followed undoubtedly accounted for some of the differences on these farms.

Returns Per Hour of Man Labor  
6 Wyoming County Potato Enterprises, 1948

| Item                                    | Enterprise |       |        |          |        |        |
|---|------------|-------|--------|----------|--------|--------|
|   | #1         | #2    | #3     | #4       | #5     | #6     |
| Returns to man labor                    | \$2712     | \$488 | \$9794 | \$22,391 | \$9091 | \$2321 |
| Total hours of man labor                | 434        | 2298  | 1722   | 4730     | 1569   | 662    |
| Returns per hour of man labor           | \$6.25     | \$.21 | \$5.69 | \$4.73   | \$5.79 | \$3.51 |
| Hours man labor per 100 bu.<br>potatoes | 13         | 39    | 18     | 22       | 19     | 17     |

Returns to man labor are figured by deducting all costs other than labor from the total returns. Returns per hour of labor is the total return to labor divided by the number of man hours.

Returns per hour of man labor varied from \$.21 to \$6.25. The number of hours of labor per 100 bushels of potatoes tends to affect the returns per hour of labor.

The returns per hour of labor on these six farms are unusually high. This is a reflection of a good potato year and efficient operations on these farms.

Production Practices

Practices Followed In Producing Potatoes  
6 Wyoming County Potato Enterprises, 1948

| Practice                 | Enterprise |      |      |      |      |      |
|--------------------------|------------|------|------|------|------|------|
|                          | #1         | #2   | #3   | #4   | #5   | #6   |
| Lbs. fertilizer per acre | 1375       | 2000 | 2154 | 1545 | 1765 | 2000 |
| Cost fertilizer per acre | \$37       | \$47 | \$46 | \$59 | \$33 | \$45 |
| Value manure per acre    | \$22       | \$22 | \$ 9 | \$ 3 | \$17 | \$19 |
| Used cover crop          | Yes        | No   | No   | Yes  | No   | No   |
| Bu. seed per acre        | 28         | 23   | 33   | 27   | 22   | 26   |
| Cost seed per acre       | \$65       | \$35 | \$46 | \$71 | \$63 | \$26 |
| Number sprays            | 9          | 9    | 10   | 9    | 9    | 7    |

These six farms were all using heavy applications of fertilizer ranging from 1375 pounds per acre to 2154 pounds per acre. The analyses most commonly used were 8-16-16 and 5-10-10. Enterprise number 5 used 4-8-8 which accounts for the lower cost per acre even though about the same amount was used.

Manure was used where available on all these farms. Manure applied during the past four years was figured as a cost to this crop. Forty per cent of the manure applied in 1948 was charged to this crop with 30%, 20%, and 10% of the manure applied in 1947, 1946, and 1945 respectively charged. Value of manure was figured at \$2.70 per ton which is the cost as determined on New York Cost Account farms.

None of the six growers used dust regularly. Two used dust to supplement the sprays.