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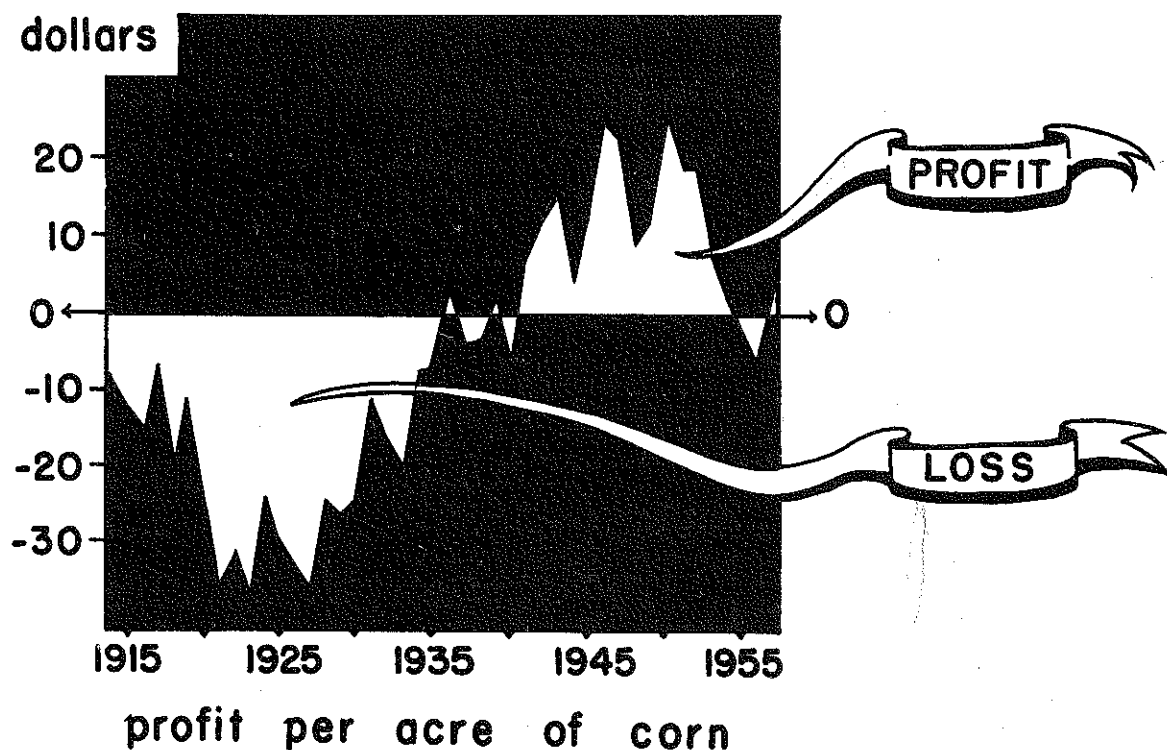
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# NEW YORK CORN FOR GRAIN PRODUCTION, COSTS AND RETURNS

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# NEW YORK CORN FOR GRAIN PRODUCTION

## COSTS AND RETURNS

Of five million acres of cropland harvested in New York State in 1957 two hundred thirty-eight thousand or about four per cent were in corn for grain (Table 1). The average yield was 53 bushels per acre; the total production was 12.2 million bushels.

TABLE 1.

CROP ACRES HARVESTED  
New York State, 1955 and 1957

	Acres	
	1955	1957
	(000)	(000)
Wheat	316	310
Oats	701	701
Other small grains	106	107
Corn for grain	233	238
Corn for silage	466	466
Vegetables	186	186
Other crops	223	407
Hay	3,066	3,125
Total	5,297	5,475

The New York State production was less than one-half of one per cent of the corn for grain grown in the United States, and even on the farms on which it is grown it does not as a rule contribute heavily to the net income.

Much of the corn harvested for grain in New York is in a sense a by-product of the dairy farm. A farmer in order to assure himself of enough

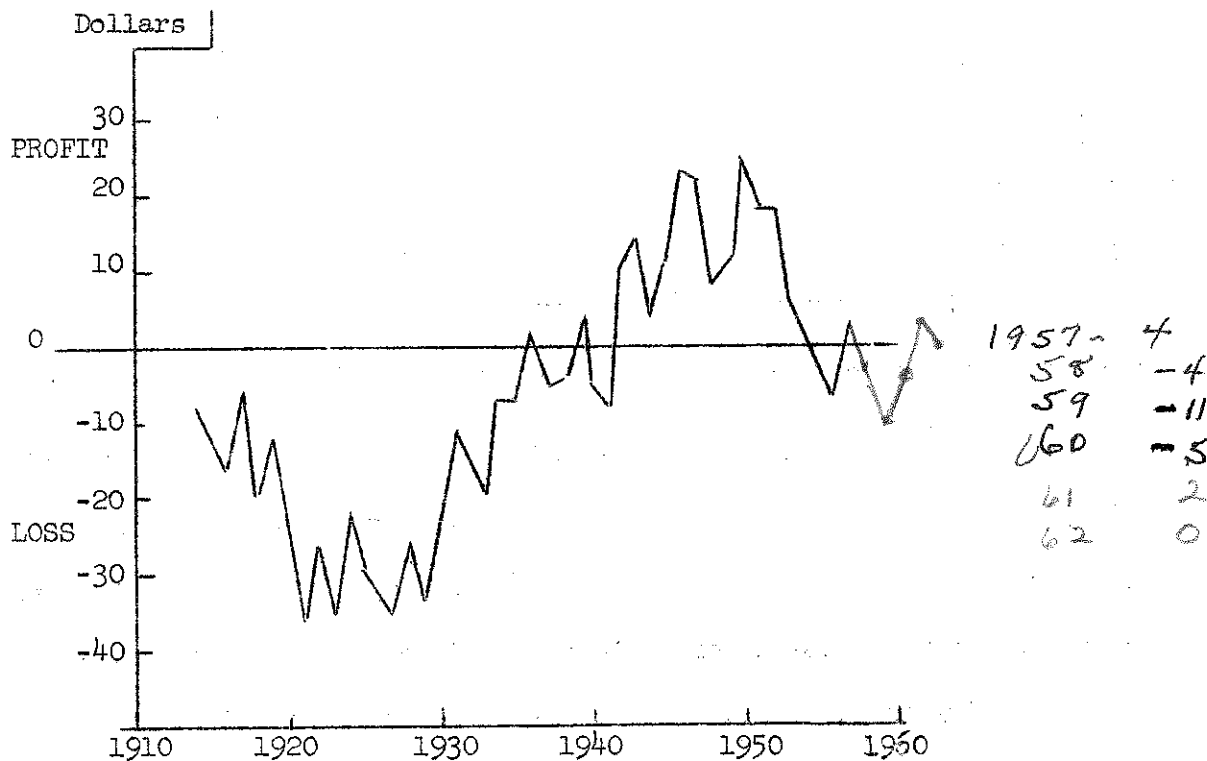
silage to fill his silos and feed his cows through the winter plants more corn than he will need. In an adverse year he has enough silage, and in a favorable year he has corn left to pick. This accounts for much of the variability from year to year in acreage and total production.

#### PROFITS AND PRODUCTION

Before 1941 corn for grain presented a dismal picture. The crop was a losing enterprise on the average Cost Account farm in every year between 1914 and 1941 except 1936 and 1939 and in those years showed a profit of only \$2 per acre (Figure 1).

FIGURE 1.

PROFIT PER ACRE OF CORN FOR GRAIN  
New York Cost Account Farms, 1914-57



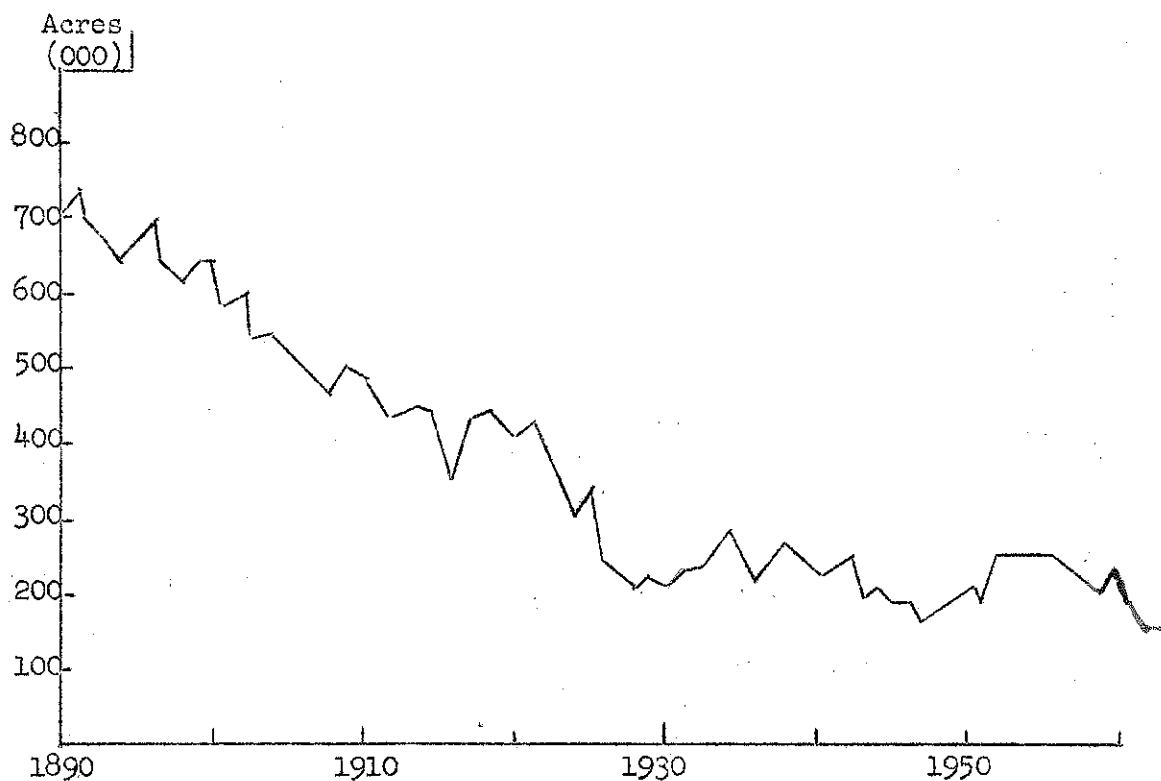
From 1929 until 1950 there was a trend of improved profits, but after 1950 the trend was downward except in 1957 which was an unusually favorable year for the production of corn in New York.

#### Acreage change

The acreage devoted to the crop in New York is about one-third as great today as it was 65 years ago. However, in the past ten years there has been increased acreage grown (Figure 2).

FIGURE 2.

ACRES OF CORN FOR GRAIN HARVESTED  
New York, 1890-1957

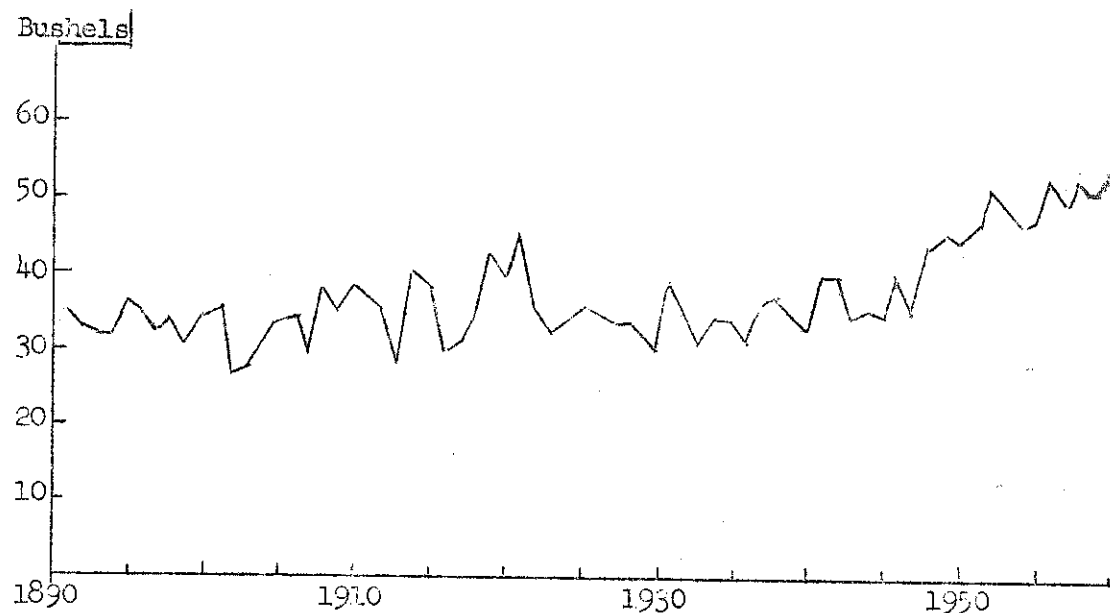


1957 - 238,000 ✓  
1958 - 212,000 ✓  
1959 - 229,000 ✓  
1960 - 211,000 ✓  
1961 - 181,000 ✓  
1962 - 181,000 ✓

### Yield per acre

Not only has there been a recent increase in the acreage of corn grain, there has also been an improvement in yield per acre. The adoption of hybrid seed corn and the use of more fertilizer have brought about this change. These changes have come after a history of over fifty years of very slightly increasing yields of 30 to 40 bushels (Figure 3). The new level appears to be approximately 50 bushels per acre.

FIGURE 3. YIELD OF CORN FOR GRAIN PER ACRE  
New York, 1890-1957



### Production

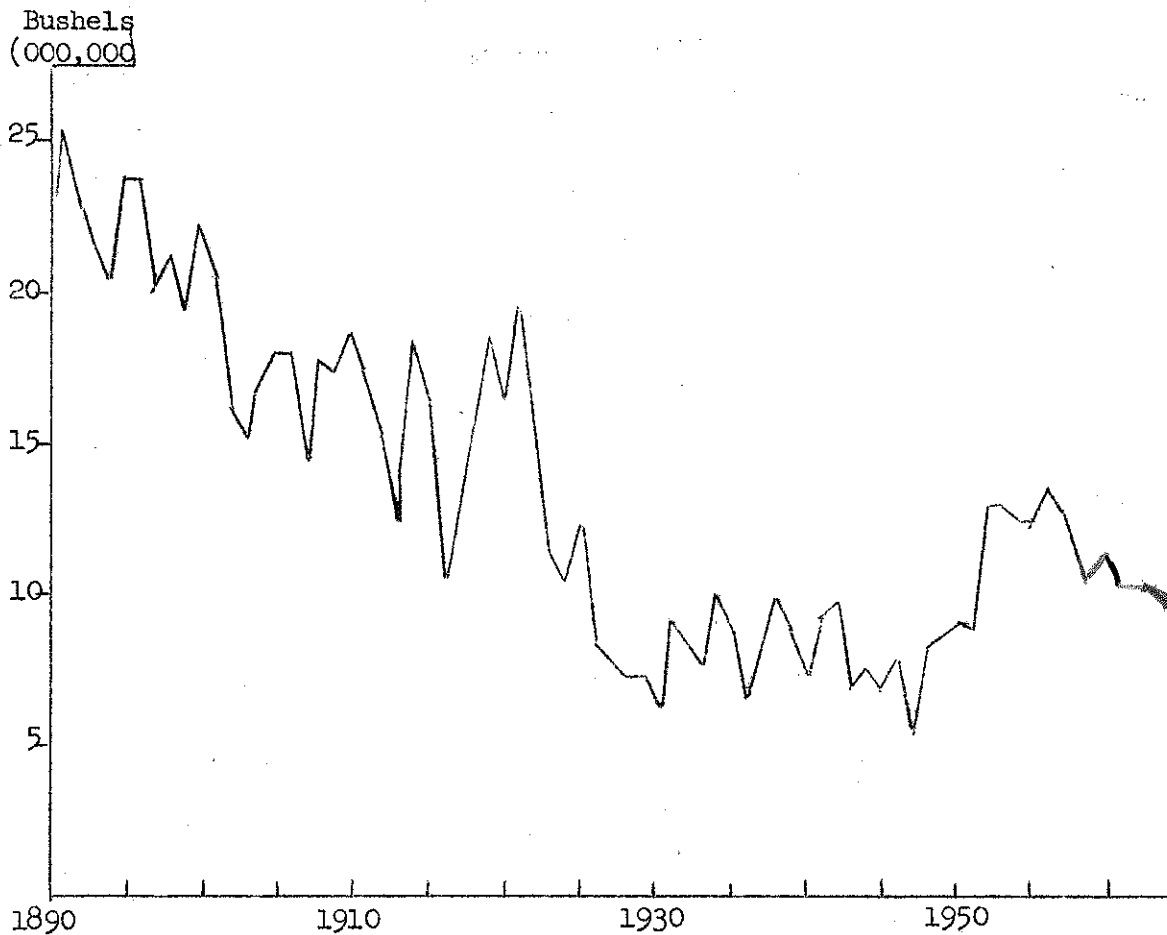
The rapid reduction in acreage without an equally compensating change in yields resulted in a rapid decrease in the production of corn for grain in the State from 1890 to 1930 (Figure 4). From 1930 until 1947 a slight increase in yield compensated for a continued but slower decrease in acreage with the result that production remained almost constant. The higher yields, between 1947 and 1956, coupled with the increased acreage in corn

1957 - 54  
1958 - 53  
1959 - 53  
1960 - 54  
1961 - 63

about doubled the corn grain production in the State. In each of the last two years, however, the acreage has decreased with no compensating yield increase, and production has fallen.

FIGURE 4.

BUSHELs OF CORN FOR GRAIN PRODUCED  
New York, 1890-1957



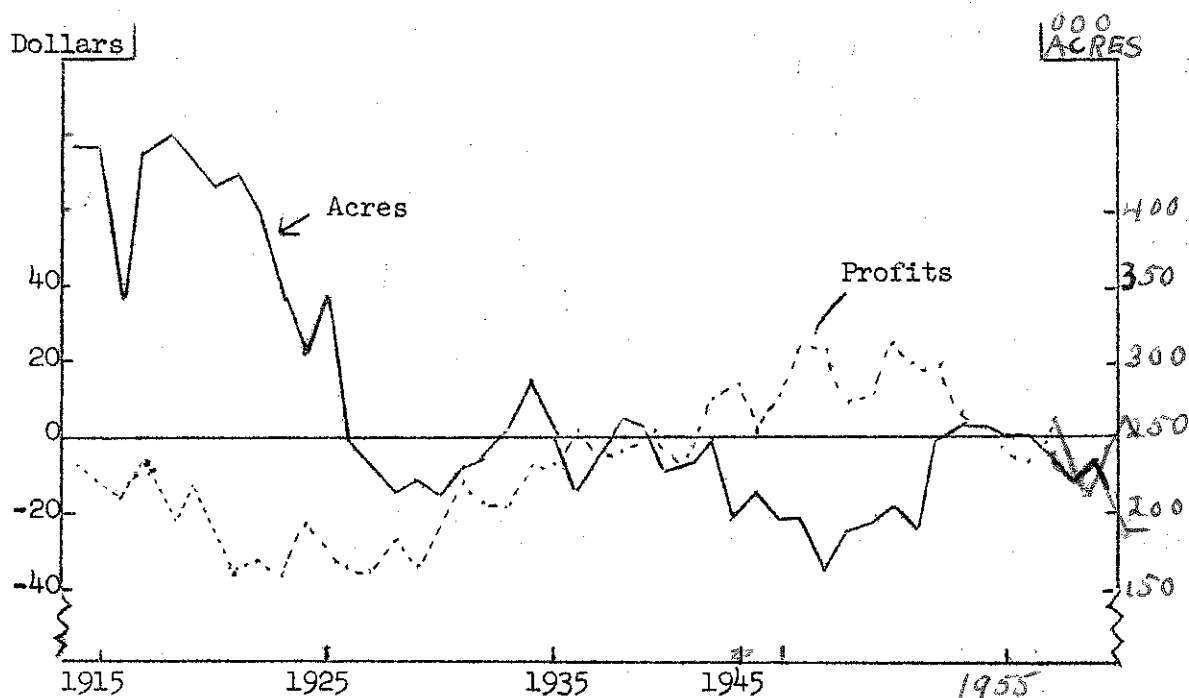
FARM ADJUSTMENTS

Good farm management decisions by farmers should lead them to plant those crops which are profitable. They, as a group, should be expected to plant more or less acres of a crop as profits increase or decrease. At

1957 12,852,000  
 1958 - 11,236,000  
 1959 - 12,137,000  
 1960 - 14,344,000  
 1961 - 11,403,000  
 1962 - 10,860,000

first glance this does not appear to be the case with corn for grain (Figure 5). If anything there seems to be an inverse relationship. This is not true, however. It takes a while for farmers to make adjustments in purchasing equipment, altering rotations, etc. It may even take time for them to recognize whether a crop is profitable or unprofitable. An immediate well-paying alternative crop may not exist to substitute for a losing enterprise. These delay the response of production to profits.

FIGURE 5. PROFITS ON CORN FOR GRAIN ON COST ACCOUNT FARMS  
RELATED TO  
ACREAGE OF CORN FOR GRAIN IN NEW YORK STATE



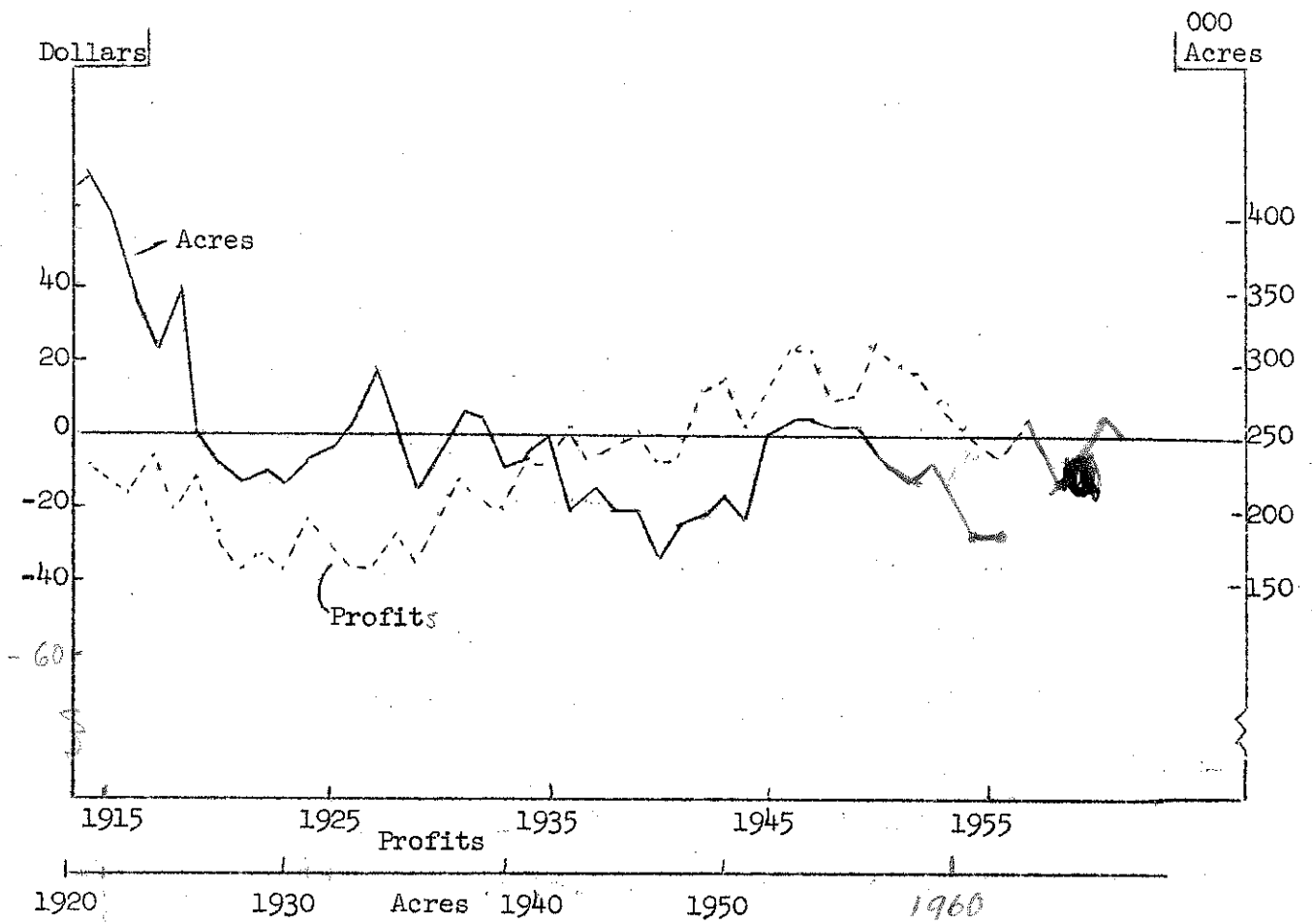
Profit Per Acre  
 1957 - 4.06  
 1958 - 4.37  
 1959 - 10.86  
 1960 - 4.86  
 1961 - 1.83  
 1962 - 0.09

Acres  
 1957 - 238,000  
 1958 - 272,000  
 1959 - 229,000  
 1960 - 211,000  
 1961 - 181,000  
 1962 - 181,000



A study of the data indicates that there is about a seven year delay in response of farmers in adjusting acreage of corn as the effect of the profit situation is felt (Figure 6).

FIGURE 6. PROFITS ON CORN FOR GRAIN ON COST ACCOUNT FARMS  
RELATED TO  
ACREAGE OF CORN FOR GRAIN IN NEW YORK STATE  
(Plotted With A Seven Year Lag)



When the same data shown in Figure 5 are plotted with a seven-year delay in the acreage, the lines of acreage and profit approximately parallel each other. Other factors such as the harvesting of acreage left over from silo filling have a bearing on the amount of corn for grain harvested and confuses the picture. However, profits are without a doubt a very strong factor in determining how much corn acreage will be grown in the State.

#### Recent losses

Cost Account farms show a series of six consecutive years of falling profits since 1950. The returns in 1957 were a slight reversal, but this was a temporary change resulting from unusual production conditions which resulted in unusual yields. The losses on the crop in 1958 will probably more than offset the four dollar per acre profits of 1957.

#### FACTORS AFFECTING PROFITS

As farmers recognize the less favorable profit position of corn they will shift to other crops, and the acreage and production will decline. All of this is dependent on a continuation of conditions which are contributing to the currently unfavorable situation. This of course raises the questions -- (1) what are the conditions which made corn profitable for thirteen years and (2) can the present conditions be altered to halt the present decline in profits and make the crop consistently profitable?

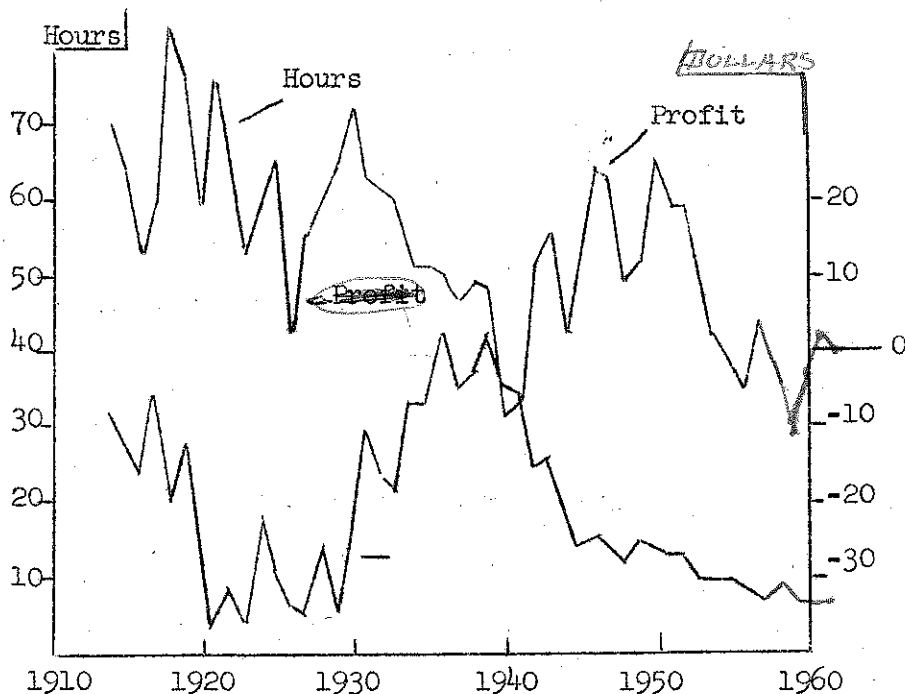
#### Reduced labor

In 1914 the production of corn grain required about 70 hours of labor which was 42 per cent of the cost of production. Corn pickers, tractor power, larger tillage tools, corn planters, etc., came into use and reduced the labor requirement to seven hours. With this change costs of labor were reduced to 13 per cent of the total cost. Most of this occurred

after 1930 and contributed to the more favorable situation which started at that time (Figure 7).

FIGURE 7.

PROFIT AND HOURS OF MAN LABOR  
PER ACRE OF CORN FOR GRAIN  
New York Cost Account Farms



Larger enterprises

The acreage per cost account farm increased from 6.5 acres in 1914-18 to 29.3 in 1954-57 (Table 2).

TABLE 2.  
ACREAGE OF CORN FOR GRAIN  
New York Cost Account Farms

Period	Acres per farm
1914-18	6.5
1919-23	7.4
1924-28	6.7
1929-33	4.8
1934-38	5.3
1939-43	9.7
1944-48	13.5
1949-53	18.6
1954-57	29.3

1958

1955

1959

1960

1961

35.6

37.0

41.6

42.0

30.1

This change in acreage is similar to that of other New York farms. The increased acreage was in part a result of the higher profits, but it was also a cause of these higher profits because of the efficiencies which are associated with larger size of enterprise.

#### Higher yields

Another important contributing factor was increased yields. As shown in Figure 3 these were fairly stable over a fifty-year period during which corn acreage declined. They increased in recent years, the only Cost Account years showing a profit.

#### High prices

A very important factor affecting profits was the price of corn. The value was extremely variable in the pre-World War II years and increased rapidly and was high during the recent years when corn was profitable (Figure 8). The peak price year was 1947 with an average value of \$2.26 per bushel.

FIGURE 8.

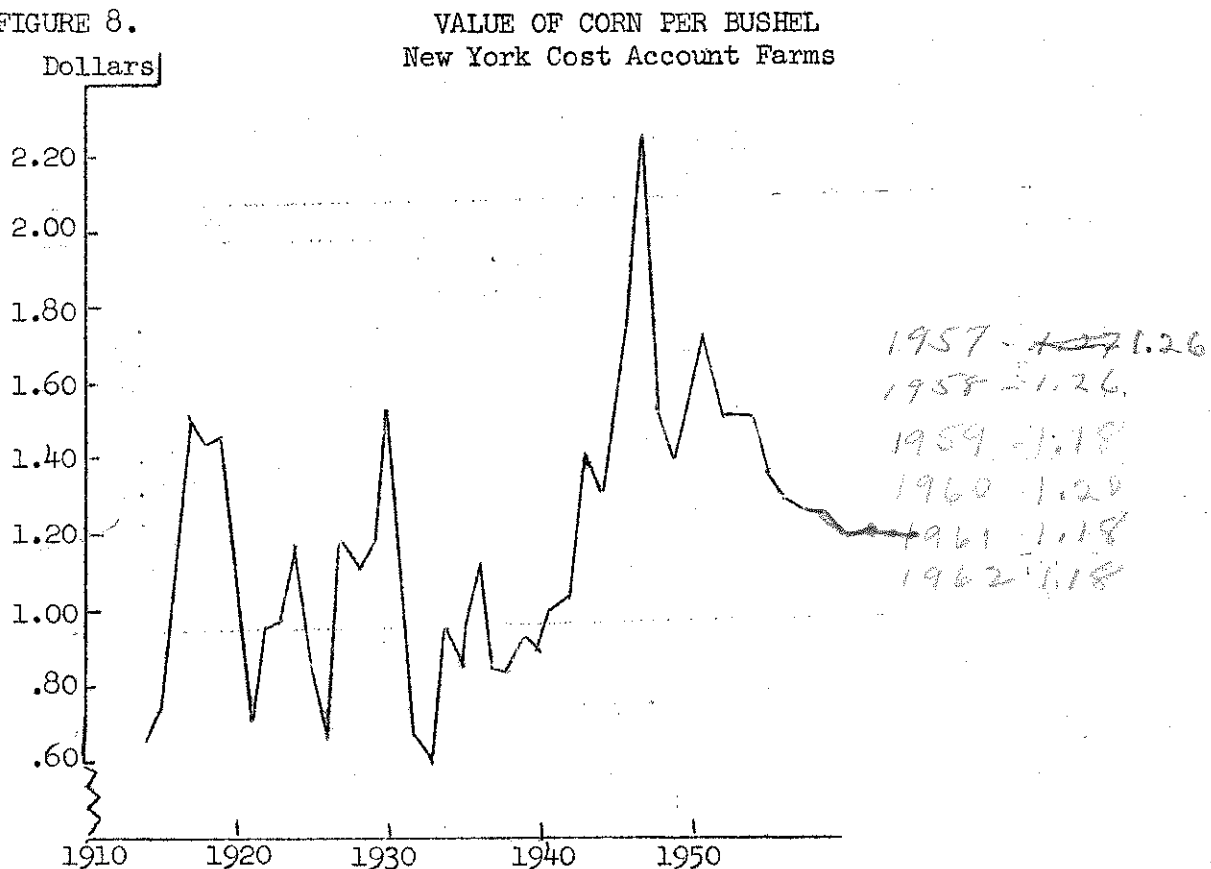
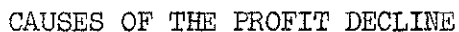


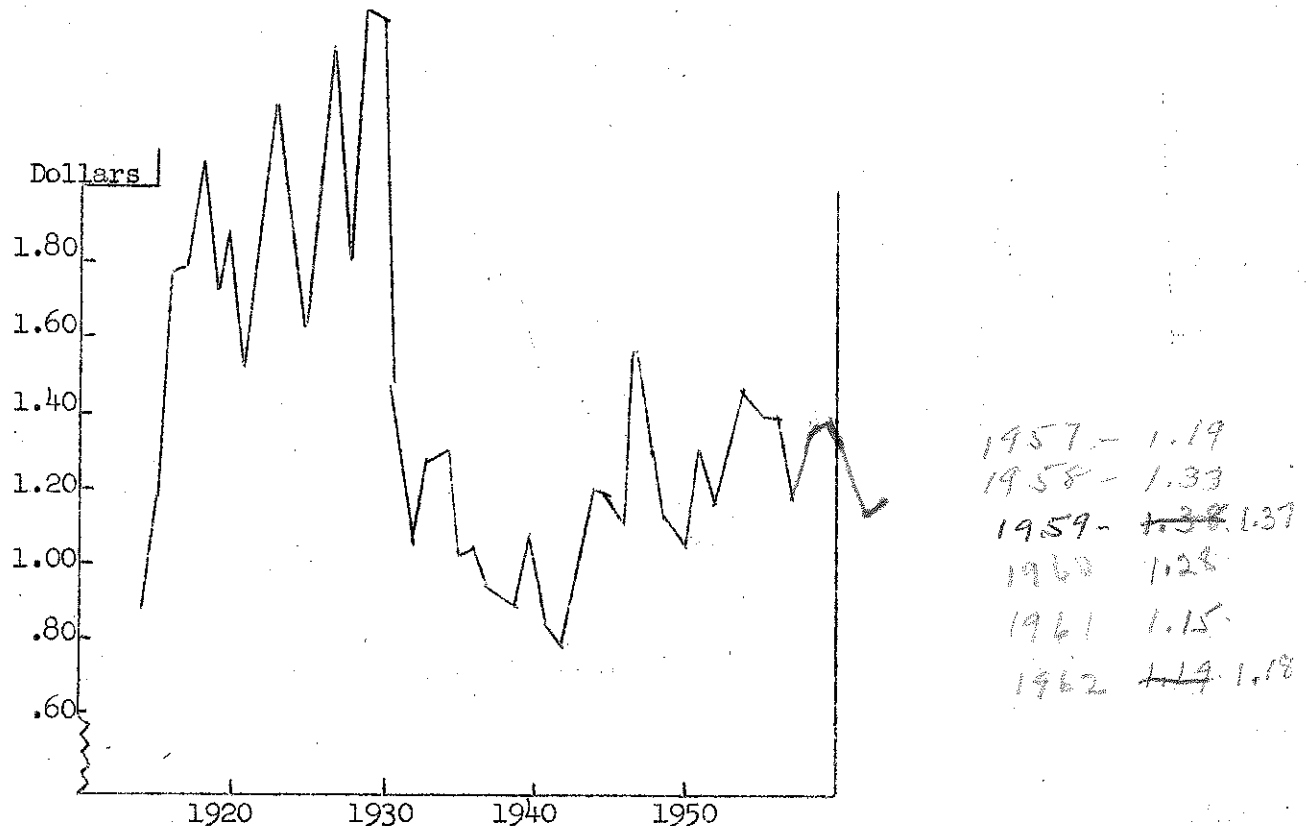
FIGURE 9. COST OF PRODUCING AN ACRE OF CORN FOR GRAIN  
New York Cost Account Farms



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Yields have gone up and in part have compensated for the increased acre cost (Figure 10). The compensation has only been in part. The cost per acre of corn has increased more rapidly than the bushels of corn produced per acre. It follows that this has resulted in an increasing cost per bushel.

FIGURE 10. COST OF PRODUCING A BUSHEL OF CORN FOR GRAIN  
New York Cost Account Farms



#### Creeping costs

The increasing cost per acre has been a creeping increase of all costs (Table 3). Some items have gone up more than others. Some of the increase has been due to the use of larger quantities of such things as fertilizer. More has been due to changes in prices. The substitution of equipment and power for labor was not without cost, and this has gone up. Commercial corn production has called for better cribs and storage; these cost more

than the corner of the barn where the corn used to be stored. There seems to be little likelihood that these costs will drop.

TABLE 3. CHANGE IN COSTS OF PRODUCING CORN FOR GRAIN  
New York Cost Account Farms

Item of Cost	1940	1962	1957	1958	Percentage Increase	1959	1960
Land	\$ 3.72	7.69	\$ 7.95	8.03	116	8.13	8.03
Labor	8.94 <del>8.95</del>	13.74 <del>12.60</del>	10.05 9.90	13.54 <del>12.63</del>	10	11.28	12.81 <del>12.15</del>
Power	4.42 <del>4.43</del>	5.63	7.05	7.16	58	6.32	6.00
Equipment + Customwork (Includes auto and truck)	2.55 3.03	16.11 <del>15.84</del>	16.21 15.08	15.23 <del>14.03</del>	398	15.41 <del>13.34</del>	16.94 <del>12.84</del>
Fertilizer & Manure	6.62 6.66	23.61	20.80	23.16	212	23.88	18.80
Seed	2.44	2.78	2.49	2.48	2	2.78	2.71
Buildings	0.74	3.15 <del>7.83</del>	1.80 7.25	3.55 <del>11.24</del>	1000	2.74 <del>7.72</del>	2.11 <del>4.03</del>
Other	2.57 2.03	9.93 <del>6.10</del>	7.01 2.84	3.38 9.01	40	4.04 <del>7.04</del>	9.09 <del>4.93</del>
Total	\$32.00	82.62	\$73.36	82.16	129	77.58	76.49

#### Slow-down of technology advances

Can this increasing cost be offset by higher yields or other efficiencies? This is unlikely in the immediate future. Most farmers are already using hybrid seed. Since 1940 their fertilizer cost has increased faster than yields. The fact that total costs have gone up more than yields of grain would indicate that too much money has been spent for the increased production. No new innovations in corn production are in sight which give promise of increasing yields without correspondingly great or greater increases in cost. Nearly everything on the cost side points to no relief from high and increasing costs.

### Lower prices

On the returns side the figures are equally disheartening. Prices have been falling since 1947 and will probably fall more as controls are removed and support prices are lowered. How far they will go is a big question and an important one to New York farmers who grow corn. To the State as a whole, since it imports grain, low corn prices are advantageous and good. It is for the farmer who looks to corn as a cash crop that this is bad. How far the price can drop before the market stabilizes is hard to tell in view of the great stored surpluses. There may be a sizeable decline.

### Poor competitive position

New York farmers are in a poor competitive position as prices fall and costs go up. Illinois farmers on hog farms in 1956 were producing corn at an average of 72 cents and making 50 cents profit per bushel. New York Cost Account farmers were at the same time losing 11 cents by producing it at \$1.40 per bushel.

Some farmers are and can make profits in growing corn. In 1956 two out of sixteen Cost Account farmers made a profit. In 1957 with favorable weather and excellent yields, ten out of nineteen farms made some money. Profits were small, however, on most of these. Those who did make good profits in each year had three things in common. They had (1) large enterprises with (2) high yields and (3) low per-acre costs. With any of the three lacking the chance of success is nil. Few farmers can manage to have all three in any one year.

### CONCLUSIONS

As a result of falling profits there is great likelihood that the corn for grain acreage in New York will decline. This is of importance to the



feed manufacturer, the fertilizer salesman, the seed dealer and the corn dryer. If they are aware of this, they can plan their operations and plants to fit the smaller crop acreage.

As noted above, even under less favorable conditions some farmers can obtain the size and efficiency needed to make profits in corn grain production. These should keep growing the crop until better paying alternatives are found. Most farmers, however, ought to reduce their corn grain acreage back to the traditional "pick what didn't go into the silo" production. These ought to be immediately looking for alternative uses for their land, labor and capital.

Each individual farmer must look at the likelihood of low corn profits differently. His only hope of profits is from a large enterprise with high yields and low costs.