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REPORT ON THE COST OF GROWING AND HARVESTING CABBAGE IN 1933

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This report is based on the summary and analysis of records kept by five cabbage growers in 1933. Two of these records were from Cayuga County, two from Chenango County, and one from Monroe County. This work has been carried on cooperatively between the various county agents and economic extension specialists of the New York State College of Agriculture. The five growers kept detailed records of their costs for growing and harvesting their cabbage crops. This report is prepared primarily for them in order that they may have an opportunity to study their costs more carefully and compare these costs with the costs of other growers keeping records.

The small number of records obtained in 1933 prohibits making a detailed study. More records are essential to the most useful detailed analysis.

The Cost of Growing and Harvesting an Acre of Cabbage

The cost of growing an acre of cabbage ranged from $32 to $63 while the cost of harvesting an acre ranged from $6 to $21, the cost of harvesting depended largely on the yield. The total cost of producing cabbage ranged from $42 to $82 an acre and averaged $64. The variations between the different growers in the cost of producing a ton of cabbage were even greater, due largely to the wide variations in yield. The yield per acre obtained by the different growers ranged from 5 tons to over 16 tons, resulting in a range in cost per ton from less than $5 to more than $11. The average yield was 9.4 tons and the average cost per ton $6.61.

In spite of a higher yield of about one ton per acre the cost of producing an acre of cabbage in 1933 was $1.32 per ton more than in 1932, table 1. Not too much significance should be given this comparison because of the limited number of records in both cases and the fact that growers keeping records in 1933 were not the same as in 1932. According to these records the cost of producing an acre of cabbage was $12 less in 1932 than in 1933. The yield per acre was about a ton higher in 1933.

TABLE 1. COST OF GROWING AND HARVESTING AN ACRE OF CABBAGE
Genesee and Monroe Counties, 1932,
Cayuga, Chenango, and Monroe Counties, 1933

	Average 17 farms 1932	Average 5 farms 1933	Your farm
Acres per farm	7.1	3.7	
Yield per acre	8.3	9.4	
Land	$6.02	$5.92	
Manure & cover crops	6.79	8.99	
Fertilizer	4.07	5.72	
Plowing	3.90	3.20	
Fitting	3.94	4.62	
Cost of plants	5.68	3.64	
Setting plants & apply fertilizer	7.78	11.10	
Cultivating	4.26	5.28	
Spray & dust material & appl.	.17	1.39	
Interest	.85	1.00	
Total growing cost	$43.46	$50.86	
Total harvesting cost	8.37	12.74	
Total growing & harvesting cost	$51.83	$63.60	
Cost to grow a ton	5.70	6.61	
Cost to harvest a ton	1.12	1.41	
Total cost to produce a ton	$6.82	$8.02	

More fertilizer and manure were used in 1933 and the cost of setting plants and applying fertilizer, cultivating, spraying and dusting, and harvesting was more in 1933 than in 1932. The average acreage of the growers keeping records in 1932 was nearly double that of the growers keeping records in 1933. This fact probably accounted in part for the higher costs per acre in 1933.

Again in 1933, man labor was the largest item of expense in growing and harvesting an acre of cabbage amounting to $24.51 or about 1/3 of the total cost. About 91 hours of man labor was used to grow and harvest an acre of cabbage. This was considerably higher than in 1932. Manure and fertilizer in 1933 amounted to nearly a quarter of the total cost. The use of horse labor was the next largest item of expense and made up about 1/10 of the total cost. Very little spraying or dusting was done. The producers grew most of their own plants.

The average cost of man labor was 27 cents an hour, ranging from 24 to 31 cents for the different growers. Horse labor was charged at 14 cents an hour and truck use at 8 cents a mile for all growers, these figures being taken from cost account records. Only two growers used a tractor, the average cost for the use of these being $1.10 an hour. Eight per cent of the average value of the land was charged for the use of land to cover interest and taxes. The cost of equipment was calculated for each grower, charging 6 per cent interest on the average investment. The operator's estimate was used for depreciation, repairs and other costs. Manure was charged at $1.50 a ton. It was assumed that the value of manure lasted over a period of four years. Forty per cent of the cost was charged to the cabbage crop, if this was the first crop grown after the manure was applied; 30 per cent if the second crop; 20 per cent if the third crop; and 10 per cent if the fourth crop.

TABLE 2. COST OF GROWING AND HARVESTING AN ACRE OF CABBAGE
Genesee and Monroe Counties, 1932,
Cayuga, Chenango and Monroe Counties, 1933

	Averages for 17 farms, 1932			Averages for 5 farms, 1933		
	Quan. per A.	Cost	% total cost	Quan. per A.	Cost	% total cost
Use of land	1 acre	$6.02	12	1 acre	$5.92	9
Manure & cover crops	---	6.79	13	---	8.99	14
Fertilizer	308 lbs.	4.38	8	3861 lbs.	5.72	9
Seed	0.37 lbs.	1.57	3	0.48 lbs.	2.30	4
Purchased plants	2000	1.25	2	500	0.25	---
Spray & dust material	---	0.06	---	---	0.74	1
Man labor	66 hrs.	16.78	32	91 hrs.	24.51	39
Horse labor	48 hrs.	9.12	18	51 hrs.	7.14	11
Tractor use	2.6 hrs.	1.42	3	2 hrs.	1.92	3
Other equipment	---	3.59	7	---	5.11	8
Interest on growing cost	---	0.85	2	---	1.00	2
Total cost per acre for growing & harvesting	---	$51.83	100	---	$63.60	100
Cost per hr. of man labor	---	0.26	--	---	0.27	--
Cost per hr. of tractor labor	---	0.58	--	---	1.10	--

Cost of Plants

Most of the plants were home grown. Seed was the largest item of expense; about 1/2 pound of cabbage seed was used per acre at a cost of $2.30. The total cost per acre for plants was $4.05. One grower used a cloth over his plant bed.

TABLE 3. COST OF PLANTS FOR AN ACRE OF CABBAGE
Cayuga, Chenango, and Monroe Counties, 1933

	Average 5 farms		Your farm	
	Quant. per acre	Cost per acre	Quant. per acre	Cost per acre
Seed	0.48 lbs.	$2.30	____lbs.	$_____
Plants purchased	500	0.25	_____	_____
Use of land	---	0.11	_____	_____
Fertilizer	31 lbs.	0.41	____lbs.	_____
Man labor	2.4 hrs.	0.67	____hrs.	_____
Horse labor	0.5 hrs.	0.07	____hrs.	_____
Cloth to cover bed	---	0.24		
Total	---	$4.05	---	$

Cost of Plowing

The average cost of plowing an acre of land for cabbage for these five growers was $3.20. It took an average of 4.2 hours of man labor, 8.3 hours of horse labor, and 0.6 hours of tractor work. Only two of the growers used a tractor for plowing. Previous studies have shown that the cost of plowing with horses is about twice as great as the cost of plowing with a tractor. The saving of man labor through the use of a tractor for plowing is the main reason for the cheapness of tractor plowing.

TABLE 4. COST OF PLOWING AN ACRE FOR CABBAGE
Cayuga, Chenango, and Monroe Counties, 1933

	Average 5 farms		Your farm	
	Hours	Cost	Hours	Cost
Man labor	4.2	$1.10	_____	$_____
Horse labor	8.3	1.17	_____	_____
Tractor labor	0.6	0.58	_____	_____
Use of plows	---	0.35		
Total		$3.20		$

Cost of Fitting

Fitting the land for cabbage cost on the average $4.62 an acre. This included the entire preparation of the field prior to setting the cabbage, except for plowing. It took an average of 5.7 hours of man labor, 11.5 hours of horse labor, and 1.2 hours of tractor use to fit an acre. Again only two growers used a tractor. Previous studies have shown that, as with plowing, fitting with a tractor is cheaper than with horses.

TABLE 5. COST OF FITTING AN ACRE FOR CABBAGE
Cayuga, Chenango, and Monroe Counties, 1933

	Average 5 farms		Your farm	
	Hours	Cost	Hours	Cost
Man labor	5.7	$1.51	_____	$_____
Horse labor	11.5	1.62	_____	_____
Tractor labor	1.2	1.35	_____	_____
Use of tools	---	0.14		
Total		$4.62		$

Cost of Fertilizing and Setting Plants

One grower used no fertilizer. Of the other four growers one applied the fertilizer with the setter, two broadcasted it with a drill, and one applied nitrate by hand after the cabbage was set. The average amount of fertilizer applied was 386 pounds costing $5.72 per acre. The total average cost for applying this fertilizer and setting the cabbage plants was $11.10 an acre. Man labor, 24.8 hours, accounted for $6.74 or more than 1/2 of the total cost. The setters were horse drawn in every case. The expense for the use of setters was $2.23 an acre.

TABLE 6. COST PER ACRE FOR APPLYING FERTILIZER AND SETTING PLANTS
Cayuga, Chenango, and Monroe Counties, 1933

	Average 5 farms		Your farm	
	Hours	Cost	Hours	Cost
Man labor	24.8	$6.74	_____	$_____
Horse labor	13.0	1.81	_____	_____
Use of setter	---	2.23	_____	_____
Use of other equipment	---	0.32		
Total cost		$11.10		$

Cost of Cultivating and Hoeing

For the growers keeping records, the average cost of cultivating and hand hoeing cabbage was $5.28 an acre. Two of the five growers did no hand hoeing. Man labor was the most important item of expense costing $3.45 an acre for 13.1 hours of man labor. The cost for horse labor was

$1.59 per acre for 11.3 horse hours. The use of tools was an unimportant item, of only 20 cents an acre.

TABLE 7. COST OF CULTIVATING AND HOEING AN ACRE OF CABBAGE
Cayuga, Chenango, and Monroe Counties, 1933

	Average 5 farms		Your farm	
	Hours	Cost	Hours	Cost
Man labor	13.1	$3.49	_____	$_____
Horse labor	11.3	1.59	_____	_____
Use of tools	---	0.20		
Total		$5.28		$

Spraying and Dusting

No spraying of cabbage was done. Two growers dusted with a hand duster, and one applied salt by hand. The other two growers did no spraying or dusting.

Cost of Harvesting

As stated above the cost of harvesting varied widely depending largely on the yield per acre. The average cost for the five growers was $12.73 an acre with an average yield of 9.4 tons. Man labor was by far the most important cost, averaging $10.46 an acre for 38.7 hours of labor. The use of a truck was next in importance amounting to $1.25 an acre. The average cost of harvesting a ton of cabbage was $1.41.

TABLE 8. COST OF HARVESTING AN ACRE OF CABBAGE
Cayuga, Chenango, and Monroe Counties, 1933

	Average 5 farms		Your farm	
	Quantity	Cost	Quantity	Cost
Man labor	38.7 hrs.	$10.46	_____ hrs.	$_____
Horse labor	6.3 "	0.88	_____ "	_____
Use of truck	15.6 mi.	1.25	_____ mi.	_____
Other costs	---	0.14		
Total cost per acre	---	$12.73	_____	$_____
Total cost per ton	---	1.41	_____	_____
Average yield per acre	9.4 tons			

The Effect of Yield on Costs

Two growers had yields above average and 3 growers had yields below average. The two growers having rather high yields were in an area of considerably higher rainfall in 1933 than the other growers. This fact accounts at least in part for the difference in yield between an average of 15.6 tons and 5.3 tons for the two groups. It cost the growers having the higher yields 1/3 more to grow and 2 1/2 times more to harvest an acre. However, because of the great difference in yield, it cost the growers getting the higher yield less than 1/2 as much to grow a ton of cabbage and somewhat less to harvest a ton. The total cost of producing cabbage was $4.78 per ton less for the growers getting high yields than for the growers getting low yields. It took the growers getting the better yields 29 per cent more man hours to grow and nearly 3 times as many man hours to harvest an acre of cabbage. The great difference in harvesting was largely due to the difference in volume of cabbage to be handled. It took less hours to harvest a ton of the higher yielding cabbage.

TABLE 9. THE EFFECT OF YIELD PER ACRE ON COSTS
Cayuga, Chenango, and Monroe Counties, 1933

	Yield above average	Yield below average
Number of accounts	3.	2
Average yield per acre	5.3	15.6
Cost per acre to grow	$44.86	$59.83
Cost per acre to harvest	7.92	19.96
Total cost to produce an acre	52.78	79.79
Hours of man labor per acre to grow	46.9 hrs.	60.6 hrs.
Hours of man labor per acre to harvest	22.0 "	63.9 "
Total hours man labor to produce an acre	68.9 "	124.5 "
Cost per ton to grow	$8.43	$3.86
Cost per ton to harvest	1.50	1.29
Total cost to produce a ton	$9.93	$5.15

Although weather is the principal factor affecting the yield of cabbage, it pays to get high yields when possible. High yields are necessary if one is to produce cabbage at the lowest possible cost per ton.

Summary

1. This report is based on detailed records kept by five growers, two of whom were located in Cayuga, two in Chenango, and one in Monroe counties.

2. The average cost of growing and harvesting an acre of cabbage was $63.60 in 1933. The average yield was 9.4 tons, and the average cost of producing a ton was $8.02. Man labor made up 39 per cent of the total cost.

3. It cost $3.20 to plow an acre for cabbage, $4.62 to fit this land prior to setting, $11.10 to set the plants and apply the fertilizer, and $5.28 to cultivate and hoe the cabbage.

4. All but one grower used some fertilizer, the average amount used was 386 pounds per acre. All growers used some manure. No spraying and very little dusting was done, two growers doing none at all.

5. The cost of harvesting varied widely depending largely on the yield. The average cost was $12.74 an acre.

6. Yields varied widely, ranging from 5.0 tons to over 16 tons per acre and averaging 9.4 tons. The high yield obtained by part of the growers was probably largely due to more rainfall in the area where these growers were located. High yields are important in reducing the costs of growing and to some extent of harvesting a ton of cabbage.

7. IT PAYS TO STUDY YOUR COSTS TO FIND WHERE THEY ARE HIGH AND HOW THEY MAY BE REDUCED.

AE 65

CONTENTS