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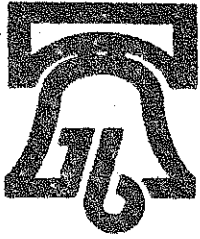
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COST OF PRODUCTION

Update

For 1975

on

**SWEET CORN
for PROCESSING**

**RED KIDNEY
DRY BEANS**

**APPLES
for FRESH
and PROCESSING**

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Introduction

The agricultural industry in New York has long benefited from a continuing research project dealing with specific farm enterprise cost and return data. Commonly known as the New York Farm Cost Account project, this program has provided information for livestock and crop enterprises most prevalent in the State. Some crops, however, are not adequately represented in the records kept by the cooperating farmers to provide enough data to be meaningful to the whole industry. These include various crops grown in sufficient volume to merit specific study to maintain up to date cost of production information.

In 1975, three such crops were chosen for special study. Procedures to accumulate enterprise data were developed using the same basic approach used in the formal enterprise Cost Account project. They were designed to encourage maximum use of the growers' actual physical and financial data as experienced by him in the production of the crop. Crops studied in this effort in 1975 were processing sweet corn, red kidney dry beans and apples grown primarily for the fresh and the processing markets.

Procedure

Extension agents concerned with these particular crops cooperated in enlisting the cooperation of growers in various parts of central and western New York. Growers were asked to keep a record of labor and tractor hours as well as cash costs expended for the crop during the growing and harvesting seasons. After the crop was harvested, each grower was interviewed to review and complete his data and to obtain additional data necessary to analyse the crop enterprise. Some costs are not easily determined on the farm in an interview situation. This is particularly true of tractor, truck, equipment and certain overhead or miscellaneous costs. In these cases, data from the Farm Cost Account project was used and is considered to fairly represent average costs for these items.

Accumulated data from these growers was processed, summarized and made available early in 1976 to the agents and growers involved. The data for these crops presented in the following sections of this publication are the results and findings of the 1975 enterprise studies.

A detailed explanation of the procedure and forms for accumulating crop costs and analysing the enterprises is available in two bulletins published by the Department of Agricultural Economics at Cornell.*

* Enterprise Analysis: A guide for determining Field and Vegetable Crop Costs and Returns, A.E. Ext. 76-4, D.P. Snyder, Department of Agricultural Economics, Cornell University, Ithaca, New York 14853.

Enterprise Analysis: A guide for determining Fruit Crop Costs and Returns, A.E. Ext. 76-5, D.P. Snyder, Department of Agricultural Economics, Cornell University, Ithaca, New York 14853.

PROCESSING SWEET CORN

For the past several years New York State has ranked 7th in the nation in terms of harvested acres of sweet corn for processing. Production in New York accounts for approximately 3-4 percent of the national acreage in processing sweet corn as well as a similar portion of the total tons produced.

Acreage and total production have been gradually increasing over the years. This is true for both the United States and New York State. (Tables 1 and 2).

Table 1. Sweet Corn for Processing
Harvested Acreage
1966 and 1973-75

State	1966*	1973	1974	1975
----- acres -----				
Wisconsin	115,900	132,600	118,100	142,000
Minnesota	110,900	102,000	111,100	120,800
Illinois	53,300	54,000	56,700	59,700
Washington	40,700	38,200	39,000	42,000
Oregon	33,400	40,600	41,400	41,300
Idaho	15,400	26,600	27,200	26,800
New York	15,400	15,200	17,900	22,500
Maryland	23,000	14,500	13,900	14,500
Other States	33,650	30,200	34,250	36,700
United States	441,650	453,900	459,550	506,300

* 1966 was the year of the last formal study of sweet corn for processing in New York.

Table 2.

Sweet Corn for Processing
Production
1966 and 1973-75

State	1966	1973	1974	1975
	----- Tons in Husk -----			
Wisconsin	457,800	510,500	452,300	517,700
Minnesota	493,500	554,900	465,500	504,500
Illinois	205,200	227,900	203,000	276,400
Washington	253,600	229,950	233,550	282,200
Oregon	225,100	298,800	299,400	319,200
Idaho	79,500	141,500	152,850	161,050
New York	78,500	45,600	74,300	104,400
Maryland	44,400	50,050	46,850	56,250
Other States	110,500	120,000	130,250	144,150
United States	1,948,100	2,179,200	2,058,000	2,365,850

The two states of Wisconsin and Minnesota have continued to produce nearly half of the total national production of sweet corn for processing for the past decade. However, their portion of the total production is tending to decline slightly as other states increase production more rapidly.

Over the past half century there have been definite changes in areas of production. Ohio and Maine together produced about 20 percent of the total crop in 1918; today production in those states is very minimal.

On the other hand, production in the northcentral and northwestern states has increased greatly. In 1918, Wisconsin and Minnesota produced about 7 percent of the crop compared to about 43 percent in 1975. The northwest states of Washington, Oregon and Idaho produced very little sweet corn for processing in 1918. In 1935 these states produced only 1 percent of the crop. Their portion of the total crop increased to 29 percent by 1966 and in 1975 they produced 32 percent of the national crop. Production in New York has shown a gradual increase, although in 1975 New York's acreage increased dramatically by 25 percent over 1974.

Yield per Acre

Variations in climatic and biological conditions cause yields of sweet corn to vary from year to year. Except for years of abnormal weather conditions yields in New York have recently averaged slightly below the national average. New York sweet corn yields are generally higher than in the northcentral states but are consistently well below yields of sweet corn in the northwestern states.

The Study

In 1975, twenty seven farmers in central and western New York State cooperated in supplying information about their processing sweet corn enterprise. The sweet corn produced on these farms represented about 20 percent of both the acreage and production of the crop grown in the State in 1975.

The data from these 27 processing sweet corn enterprises is presented in two sets of tables. The first set includes Tables 3, 4 and 5 which show costs on a per acre and per ton basis in detail and summary as well as returns and profits.

The second set includes Tables 6, 7 and 8 which illustrate the analysis format, itemize the costs per acre and show the range of selected factors for all 27 sweet corn enterprises.

Table 3. SWEET CORN for Processing
Growing Costs
4495 acres on 27 Farms, New York, 1975

Item	Rates per acre	Cost	
		per acre	per ton*
Labor:	2.5 hr	\$ 11	\$ 3.23
Tractor:	2.1 hr	8	2.39
Equipment, large trucks		7	2.11
Custom work, equipment rent		1	.41
Land use		36	10.86
Lime, cover crop, manure		5	1.55
Fertilizer: LBS N-96, P-75, K-75		43	12.97
Seed: 10 lbs		9	2.70
Spray materials		8	2.49
Interest, all other		5	1.19
Total growing costs		\$133	\$39.90

* Yellow or husked weight

In growing sweet corn for processing, fertilizer costs at \$43 per acre accounted for nearly one-third of the total growing costs. Land and fertilizer costs alone made up nearly 60 percent of the total. Direct cash costs for fertilizer, seed and chemicals added to \$60 per acre of sweet corn - 45 percent of the total. Costs per ton were calculated on the basis of yellow weight because most growers were paid on a husked weight basis. Yellow weight generally ranged from 68 to 71 percent of the green weight in the husk and averaged about 69 percent.

Table 4.

SWEET CORN for Processing
Harvesting Costs
3574 acres on 24 Farms, New York, 1975

Item	Owned Equipment	Custom Harvest
Number of farms	16	8
Acres per farm	191	64
Yield per acre: husked tons	3.4	3.2
	Costs per Acre	
Labor	\$ 4	\$ 1
Tractor	4	-
Truck	-	-
Equipment	6	-
Custom work	-	22
All other	<u>1</u>	<u>1</u>
Total harvesting costs	\$15	\$24
	Costs per ton*	
Labor	\$1.31	\$.24
Tractor	1.06	.14
Truck	-	-
Equipment	1.93	-
Custom work	.02	6.73
All other	<u>.26</u>	<u>.43</u>
Total harvesting costs	\$4.58	\$7.54

* Yellow or husked weight

Harvesting costs, as presented in Table 4, are shown for two groups of growers - those who owned their own harvest equipment and those who hired a custom operator to harvest their sweet corn. Three growers reported a combination of harvest methods and, therefore, their data were omitted from this table.

The fact that growers who harvested their own sweet corn had lower harvest costs than those in the custom harvest group is due, in part, to economies of scale which usually accompany larger enterprises. Custom harvesting was commonly charged for on the basis of green weight. Table 4 shows custom work cost \$6.73 per yellow ton. With yellow weight averaging about 69 percent of green weight custom harvest charges would cost an average of \$4.64 per green ton.

Table 5.

SWEET CORN for Processing
Costs and Returns
27 Farms, New York, 1975

Item	Cost or Return	
	per acre	per ton*
Number of farms	27	
Acres per farm	166	
Yield per acre: Tons	3.3 husked or 4.8 in husk	
Costs to:		
Grow	\$133	\$ 40
Harvest	<u>17</u>	<u>5</u>
Produce	\$150	\$ 45
Sell (haul)	<u>25</u>	<u>7</u>
Total costs	\$175	\$ 52
Returns	\$246	\$ 74
Profits	\$ 71	\$ 22

* Yellow or husked weight

Table 5 summarizes costs, returns and profits for processing sweet corn enterprises. When all enterprises are grouped together harvesting costs averaged \$17 per acre or \$5 per yellow ton. Selling costs for processing sweet corn were mainly the cost to haul the crop from the field to the processor. Hauling distances varied greatly from farm to farm. Therefore, hauling costs, while averaging \$7 per yellow ton, ranged from \$2 to \$20 per ton depending on distance to the processor. Seventy percent of the growers had hauling costs between \$4 and \$7 per yellow ton of sweet corn.

Returns for processing sweet corn averaged \$74 per yellow ton and, at an average yield of 3.3 tons of husked corn per acre, grossed \$246 per acre. Returns per ton was influenced mainly by quality. However, in several cases higher prices were paid to compensate the grower for longer than usual hauling distances or late planting schedules.

The following three tables contain averages for various factors from the group of 27 cooperating sweet corn growers. This is the basic data generated from the records. Since the data on harvesting costs in these tables includes all enterprises, refer to Table 4 for a breakdown of harvesting costs based on owned equipment and custom harvest situations.

Table 6 illustrates the enterprise analysis format used for sweet corn for processing enterprises in 1975. Each individual grower received a summary and analysis of data from his enterprise in this format. Data in Table 6 is a composite for all 27 enterprises included in the study. It shows various averages for the crop on a per acre and per yellow ton basis as well as factors indicating productivity and returns to labor and investment.

Table 7 shows the same results for the group of 27 sweet corn growers but in more concise form summarizing data from the analysis form.

Table 8, which extends across both pages, shows selected factors for each individual enterprise, group averages based on size of enterprise and weighted averages for all farms.

In each of these three tables, factors related to "labor" are calculated on the basis of farm labor and, therefore, includes only labor employed by the grower including his own labor. Labor provided in a custom harvest or hauling arrangement is not included. Thus, labor per acre would tend to be lower and production per hour of labor would tend to be higher for those enterprises where custom work is involved.

Processing sweet corn enterprises, as shown in Table 8 and elsewhere, were profitable in 1975. All enterprises showed a profit. For each dollar invested in the crop as a cost, an average return of \$1.41 was realized.

NEW YORK FARM COST ACCOUNTS
SUMMARY AND ANALYSIS OF CROP ENTERPRISE 4320 SWEET CORN- PROC

Table 6.
FISCAL YEAR 1975

F A C T O R S

C R E D I T S

DEBITS		CREDITS	
DESCRIPTION	QTY UNIT	TOTAL \$	COST/ACRE \$
DEBITS			
GEORING COSTS - OPER 11			
1. LABOR	11,080 HR	48,407	11
2. TRACTOR	9,343 HR	35,838	8
3. TRUCK		1,550	0
4. EQUIPMENT	30,047	7	0
5. CUSTOM WORK, EQUIP RENT	6,111	1	1
6. LAND USE	162,626	36	36
7. MANURE, COVER CROPS	19,348	4	4
8. LIVE	3,871	1	1
9. FERTILIZER-N**431, 159 LB			
P**235, 237 LB			
10.			
11.			
12. SEED, PLANTS	42,867 LB	194,212	43
13. SPRAY, DUST MATERIALS	40,465	9	9
14. INTEREST	37,511	8	8
15. ALL OTHER	6,120	1	1
	11,720	3	3
HARVESTING COSTS - OPER 21			
16. LABOR	3,370 HR	14,403	3
17. TRACTOR	2,833 HR	11,451	3
18. TRUCK		65	0
19. EQUIPMENT	20,718	5	5
20. CUSTOM WORK, EQUIP RENT	27,515	6	6
21. ALL OTHER	4,448	1	1
SICRING & SELLING COSTS - OPER 31			
22. LABOR	2,402 HR	10,747	2
23. TRACTOR, TRUCK		22,623	5
24. EQUIPMENT		0	0
25. BUILDING USE		0	0
26. INTEREST	13,771	3	3
27. ALL OTHER	61,141	14	14
28. TOTAL COSTS		\$784,500	
29. GAIN		319,616	
CREDITS			
31. CROP			
	14,975 TN	1,104,124	
32. BY-PRODUCT			
		0	
33. OTHER RETURNS			
		0	
34. TOTAL RETURNS			
		\$1,104,124	
35. LOSS			
		0	
36. TOTAL CREDITS			
		\$1,104,124	
AVERAGE PER ACRE			
J. YIELD	(31/A)		3.3 TN
K. FERTILIZER - N	(97/A)		96 LB
L.	(10/A)		75 LB
M. SEED, PLANTS	(11/A)		75 LB
N. GROWING COST	(12/A)		10 LB
O. HARVESTING COST	(8/A)		\$ 133
P. PRODUCTION COST	(C/A)		\$ 17
Q. TOTAL COSTS	(D+P)		\$ 150
R. TOTAL RETURNS	(28/A)		\$ 173
S. TOTAL RETURNS	(34/A)		\$ 243
T. PROFIT	(5-P)		\$ 71
U. LABOR TO: GROW	(1/A)		2 HR
V. HARVEST	(16/A)		1 HR
W. PRODUCE	(U+V)		3 HR
X. LABOR RETURNS	(17/A)		\$ 87
Y. TRACTOR: GROW	(2/A)		2 HR
Z. HARVEST	(17/A)		1 HR
AVERAGE PER UNIT			
AA. GROWING COST	(8/31)		\$ 40
BB. HARVESTING COST	(C/31)		\$ 5
CC. NET** PRODUCTION COST (D-32)/31			\$ 45
DD. STORE & SELL COST (E/31)			\$ 7
EE. TOTAL COSTS (28/31)			\$ 52
FF. NET COST ** (F/31)			\$ 52
GG. TOTAL RETURNS	(34/31)		\$ 74
HH. NET RETURNS ** (34-32)/31			\$ 74
II. PROFIT (HH-FF)			\$ 22
RETURNS			
JJ. PROD / HR OF LABOR (31/(1+16))			1.0 TN
KK. RETURN PER HR OF LABOR (17/1)			\$ 23.33
LL. RETURN PER \$ OF COST (34/28)			\$ 1.41

* DETERMINED BY COST ACCOUNT STAFF

** VALUE OF BY-PRODUCT DEDUCTED

Table 7.

SWEET CORN- PROC
 COSTS AND RETURNS PER ACRE
 4,495 ACRES ON 27 COST ACCOUNT FARMS, 1975

ITEM	AVERAGE PER ACRE
COSTS: GROWING:	
LABOR 2 HR - - - - -	\$ 11
TRACTOR 2 HR - - - - -	8
TRUCK, EQUIPMENT - - - - -	7
CUSTOM WORK, EQUIP RENT - - - - -	1
LAND USE - - - - -	36
MANURE, LIME, COVER CROP - - - - -	5
FERT - LBS N- 96, P- 75, K- 75 - - - - -	43
SEED, PLANTS 10 LB - - - - -	9
SPRAY, DUST MATERIALS - - - - -	8
INTEREST, ALL OTHER - - - - -	5
TOTAL GROWING COSTS - - - - -	\$ 133
HARVESTING:	
LABOR 1 HR - - - - -	3
TRACTOR 1 HR - - - - -	3
TRUCK, EQUIPMENT - - - - -	5
CUSTOM WORK, EQUIP RENT - - - - -	6
ALL OTHER - - - - -	0
TOTAL HARVESTING COSTS - - - - -	17
TOTAL PRODUCTION COSTS - - - - -	\$ 150
STORING AND SELLING:	
LABOR 1 HR - - - - -	2
TRACTOR, TRUCK, EQUIP - - - - -	5
BUILDING USE - - - - -	0
INTEREST, ALL OTHER - - - - -	18
TOTAL STORING AND SELLING COSTS - - - - -	25
TOTAL COSTS - - - - -	\$ 175
RETURNS:	
CROP - YIELD: 3.3 TN - - - - -	\$ 246
BY-PRODUCT, OTHER RETURNS ** - - - - -	0
TOTAL RETURNS - - - - -	\$ 246
PROFIT: - - - - -	\$ 71
AVERAGE	
OTHER FACTORS: COST PER TN TO:	
GROW	\$ 40
HARVEST	5
STORE AND SELL	7
TOTAL (OR NET*) COST PER TN	52
TOTAL (OR NET*) RETURN ** PER TN	74
PROFIT PER TN	22
LABOR RETURN PER ACRE	\$ 87
PRODUCTION PER HOUR OF LABOR	1.0 TN
RETURN PER HOUR OF LABOR	\$ 23.33
RETURN PER DOLLAR OF COST	1.41

* VALUE OF BY-PRODUCTS, IF ANY, DEDUCTED
 ** RECEIPTS FROM GOVERNMENT PROGRAMS NOT INCLUDED

Table 8. FACTORS FROM VEGETABLE CROP ENTERPRISES
COST ACCOUNT FARMS, 1975
(ARRANGED BY ACRES OF CROP)

FARM NO	ACRES PER ENTR AC	AVERAGE		PROD PER HR OF LABOR	AVERAGE			TOTAL RETURN
		PER YIELD	ACRE LABOR*		GROW COST	HARV COST	TOTAL COST**	
			HR		\$	\$	\$	\$
SWEET CORN- PROC								
		IN	IN					
027	443.0	2.8	2	1.7	139	16	171	199
011	372.0	3.8	3	1.5	125	26	177	256
008	300.0	2.6	4	0.6	147	15	173	179
023	300.0	3.4	3	1.0	145	15	228	280
001	270.0	2.8	2	1.7	118	8	137	193
018	260.0	3.7	4	1.0	131	10	154	241
022	235.0	4.2	4	0.9	163	22	212	324
014	205.0	3.7	4	1.1	125	23	163	281
016	200.0	3.1	6	0.6	161	20	243	299
007	178.0	4.1	4	1.1	105	13	128	288
026	167.0	3.0	3	1.0	142	13	161	189
015	150.0	4.0	4	1.1	147	18	203	333
013	146.0	3.0	4	0.9	120	23	157	214
002	140.0	3.3	3	1.2	106	11	135	227
021	140.0	4.3	4	1.2	141	13	192	317
004	130.0	2.5	4	0.7	120	10	140	176
005	130.0	3.8	2	1.6	133	23	186	270
024	130.0	3.4	3	1.0	139	19	211	323
006	110.0	3.0	2	1.3	122	14	151	213
009	106.0	3.9	3	1.2	107	23	147	263
017	83.0	2.7	3	0.9	120	20	150	193
010	65.0	3.3	2	1.4	112	30	162	233
012	60.0	3.3	5	0.7	162	26	207	229
019	60.0	3.1	4	0.9	111	21	149	237
025	56.5	2.3	5	0.5	116	27	159	201
003	34.0	2.9	2	1.8	105	21	145	206
020	25.0	3.6	4	0.8	149	26	191	220

1975 GROUP AVERAGES, ACCORDING TO ACRES:

THIRDS

HIGH	287.2	3.4	4	1.2	140	18	185	251
MED	145.7	3.5	4	1.1	129	17	169	260
LOW	66.6	3.2	4	1.1	123	24	163	222

ANNUAL AVERAGES- ALL ENTR. WEIGHTED BY ACRES:

1975	166.5	3.3	3	1.0	133	17	175	246
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- * TO GROW AND HARVEST THE CROP
 ** INCLUDES STORING AND SELLING COSTS
 *** VALUE OF BY-PRODUCTS, IF ANY, DEDUCTED
 (RECEIPTS FROM GOVERNMENT PROGRAMS NOT INCLUDED)

FACTORS FROM VEGETABLE CROP ENTERPRISES
COST ACCOUNT FARMS, 1975
(READ ACROSS BOTH PAGES)

AVERAGE PER ACRE		AVERAGE PER ***		RETURN PER HOUR \$		PROFIT ON	
LABOR	RETURN	NET	NET	OF	OF	ENTER-	FARM
PROFIT	RETURN	COST	RETURN	LABOR	COST	PRISE	NO
\$	\$	\$	\$	\$	\$	\$	

SWEET CORN- PROC

		PER IN					
28	37	61	71	23.37	1.17	12,618	027
79	90	47	68	35.63	1.45	29,320	011
6	26	67	70	5.14	1.03	1,698	008
52	66	67	82	19.66	1.23	15,724	023
56	64	49	69	30.55	1.41	15,200	001
87	109	42	66	25.05	1.56	22,617	018
112	137	50	76	22.13	1.53	26,313	022
118	141	44	76	31.62	1.73	24,330	014
56	82	79	97	15.72	1.23	11,216	016
160	173	31	70	37.88	2.25	28,431	007
28	42	54	64	11.80	1.17	4,654	026
130	151	51	84	35.69	1.64	19,486	015
57	74	52	71	17.80	1.36	8,337	013
92	106	42	70	29.88	1.68	12,781	002
125	153	45	74	25.45	1.66	17,601	021
36	52	55	70	13.68	1.26	4,682	004
84	96	49	71	40.91	1.45	10,987	005
112	133	62	95	32.26	1.53	14,558	024
62	76	50	70	22.98	1.41	6,869	006
116	133	38	68	33.50	1.79	12,344	009
43	62	55	70	17.04	1.28	3,551	017
71	80	49	70	33.99	1.44	4,588	010
22	48	62	69	7.69	1.10	1,300	012
88	102	48	75	29.13	1.59	5,250	019
42	57	70	88	11.33	1.26	2,375	025
61	66	50	71	40.49	1.42	2,062	003
29	49	54	62	11.15	1.15	724	020

1975 GROUP AVERAGES, ACCORDING TO ACRES:

							THIRDS
66	84	57	76	23.21	1.37	17,671	HIGH
92	109	50	75	27.26	1.56	13,502	MED
59	75	53	72	23.03	1.38	4,340	LOW

ANNUAL AVERAGES- ALL ENTR, WEIGHTED BY ACRES:

71	87	52	74	23.33	1.41	11,838	1975
----	----	----	----	-------	------	--------	------

RED KIDNEY DRY BEANS

In 1975, a small group of twelve growers of red kidney dry beans continued working with Agway, a farmers' cooperative, in an effort to record experiences and results from trying various cultural practices in dry bean production. From the same group eleven records of enterprise costs were obtained to provide current production cost data for the crop.

New York has been one of the leading producers of red kidney beans in the United States. During the 1960's New York produced about half of the national crop. This portion fell to about 15 percent in 1972 when low prices, which discouraged plantings, and a low yield for the state combined to result in a dramatic decline in production in the State. Since then, New York production has increased to over 20 percent of the national production in 1975.

While data from the eleven enterprises included in this study represent less than 5 percent of the red kidney dry bean acreage in New York for 1975, the information should be indicative of current costs of growing and harvesting the crop. The eleven enterprises had a total of 948 acres averaging 86 acres per enterprise. These growers had yields averaging 1,409 pounds of clean beans per acre.

Table 9.

Red Kidney Dry Beans
Growing Costs
948 acres on 11 Farms, New York 1975

Item	Rates per acre	Cost	
		per acre	per cwt
Labor	2.4 hr	\$ 11	\$.76
Tractor	2.2 hr	8	.56
Equipment, large truck		11	.76
Custom work, equipment rent		--	.03
Land use		31	2.23
Lime, cover crop, manure		6	.44
Fertilizer: LBS N-26, P-67, K-49		26	1.88
Seed: 85 lbs		37	2.65
Spray materials		18	1.25
Interest, all other		7	.44
Total growing costs		\$155	\$11.00

Seed was the largest single item of cost for growing red kidney dry beans in 1975. At \$37 per acre for 85 pounds, seed amounted to nearly 25 percent of the total growing cost (Table 9). Seed costs were followed in importance by land and fertilizer costs. These three items accounted for 60 percent of the total. Cash costs for fertilizer, seed and chemicals added to \$81 per acre. On a unit basis, red kidney beans cost \$11 per hundredweight to grow in 1975. Cost per unit produced is, of course, directly related to yield. Since yield for these enterprises averaged 1,409 pounds per acre and was higher than normal, cost per hundredweight produced was lower than would have been the case had the yield been less.

Table 10.

Red Kidney Dry Beans
Harvesting Costs
948 acres on 11 Farms, New York, 1975

Item	Cost	
	per acre	per cwt
Labor	\$ 6	\$.42
Tractor	3	.22
Truck	--	--
Equipment	15	1.05
Custom work	--	--
All other	<u>1</u>	<u>.10</u>
Total harvesting costs	\$ 25	\$1.79

Harvesting costs for red kidney dry beans include costs to harvest the crop and place it in farm storage. If the beans were hauled off the farm to a buyer or off-farm storage those costs are included as "Store and Sell" costs (Table 11).

Equipment was the largest single cost item in the harvest operation. A wide variation existed in equipment condition, size and investment on these farms. Equipment cost varied from \$8 to \$35 per acre and averaged \$15 per acre for the group. Size of enterprise and investment in the harvest equipment had an important effect on equipment cost per acre. Overall, harvest costs averaged \$25 per acre in 1975.

Cost per acre to harvest dry beans is not materially affected by yield since harvest is mechanized. However, with the 1975 yield of 1,409 pounds per acre, the harvest operation cost somewhat less than \$2 per hundredweight.

Table 11.

Red Kidney Dry Beans
Production Costs
11 Farms, New York, 1975

Item	Cost	
	per acre	per cwt
Number of farms		11
Acres per farm		86
Yield per acre: pounds, cleaned		1409
Growing costs	\$ 155	\$11.00
Harvesting costs	<u>25</u>	<u>1.79</u>
Production costs	\$ 180	\$12.79
Store and Sell costs (hauling)	<u>3</u>	<u>.20</u>
Total cost	\$ 183	\$12.99

Of primary interest in Table 11 is the total cost of producing red kidney dry beans. This includes costs for growing and harvesting the crop and amounted to \$180 per acre in 1975.

The Store and Sell costs, as mentioned earlier, include costs to haul the beans to an off-farm destination at harvest time. Some beans were sold at harvest and hauled varying distances; some beans were stored on the farm. Because of these various approaches to the time and method of marketing the beans, cost accumulation was terminated when the beans produced were placed in storage or sold at harvest time. No attempt was made to determine storage costs. Storage costs would depend on the type of storage facility and the length of time the beans were stored - as well as the value of the crop stored.

Table 12.

Red Kidney Dry Beans
Selected Factors
11 Enterprises, New York, 1975
(Ranked by size of enterprise)

Farm No	Acres	Yield per acre (lb)	Production per hour of farm labor (lb)	Average per acre		Cost per cwt \$
				Grow cost \$	Harvest cost \$	
11	190	1353	359	138	14	11
6	151	1360	454	166	19	14
2	100	1640	550	162	30	12
4	100	1168	324	136	33	15
9	96	1563	500	151	31	12
3	90	1552	364	177	28	13
7	60	701	178	160	14	25
8	55	1920	391	152	30	9
5	45	1742	352	142	33	10
1	38	1299	363	171	39	17
10	23	1210	244	201	50	21
All farms	86	1409	383	155	25	13

Table 12 indicates the range of selected factors as experienced by the growers of the 11 kidney bean enterprises included in this study. Production per hour of farm labor is a measure of productivity affected by labor efficiency and yield.

APPLES - FRESH AND PROCESSING

New York State produces 13 to 14 percent of the total apple crop in the United States. New York is the second most important apple producing state in terms of quantity even though Washington State produces more than twice the New York crop. The major varieties in New York are MacIntosh and Cortland apples which together comprise about 50 percent of the State's crop.

In 1975, records were obtained for 31 apple enterprises on central and western New York fruit farms for the purpose of determining current production costs. A distinction was made between enterprises where cultural practices were aimed at fresh market sales and those for processing sales. Therefore, the enterprises were summarized in two groups based on the grower's marketing intentions. Accordingly, there were 19 enterprises averaged as "Fresh" and 12 enterprises averaged as "Processing". Production costs for these two groups are presented in the following tables.

Table 13.

APPLES - Fresh and Processing
Growing Costs
1524 acres in 31 Enterprises
New York, 1975

Item	Fresh	Processing	All Enterprises
Number of enterprises	19	12	31
Acres per enterprise	59	35	49
Yield per acre: bushels	278	437	320
Labor per acre: hours	26	23	25
Tractor use per acre: hours	8	8	8
Costs per acre:			
Labor	\$ 98	\$114	\$102
Tractor	22	22	22
Equipment, large trucks	28	44	32
Custom work, equipment rent	4	1	3
Orchard overhead	72	60	69
Fertilizer	17	19	17
Spray materials	78	86	80
Interest	8	9	8
All other	<u>32</u>	<u>36</u>	<u>34</u>
Total growing costs	\$359	\$391	\$367
Total growing costs per bushel	\$1.29	\$0.89	\$1.15

Growing costs for apples include primarily the activities of pruning the trees during the winter and early spring and spraying for pest control during the growing season. Labor used for pruning may vary widely from block to block on the same farm as well as between farms. Labor for spray application is less likely to vary greatly. Thus, the 19 fresh apple enterprises show an average of 26 man hours per acre to grow the crop (Table 13) with a range of 8 to 60 hours per acre for the different enterprises. The 12 processing apple enterprises varied even more - from 6 to 101 hours averaging 23 hours per acre.

After labor costs, spray materials is the next largest cost for growing apples. Spray costs averaged \$8 less per acre for fresh apple enterprises than for processing apple enterprises (Table 13). Orchard overhead costs include basically the ownership costs of interest on investment and annual taxes and maintenance of the orchard.

Growing costs for this group of 19 fresh apple enterprises averaged \$359 per acre compared to \$391 per acre for 12 processing apple enterprises. With that cost per acre and a lower yield per acre the fresh apple enterprises had a growing cost per bushel of \$1.29 - \$.40 per bushel higher than the processing apple enterprises.

Table 14. APPLES - Fresh and Processing
Harvesting costs*
1524 acres in 31 Enterprises
New York, 1975

Item	Fresh	Processing	All Enterprises
Number of enterprises	19	12	31
Acres per enterprise	59	35	49
Yield per acre: bushels	278	437	320
Labor per acre: hours	32	42	35
Costs per acre:			
Labor	\$118	\$188	\$137
Tractor, large truck	13	11	12
Equipment	39	46	41
Custom work, equipment rent	1	4	2
All other	<u>20</u>	<u>30</u>	<u>23</u>
Total harvesting costs	\$191	\$279	\$215
Total harvesting costs per bushel	\$0.69	\$0.64	\$0.67

* Excludes costs to haul product to off-farm destination.

Harvesting costs (Table 14) for these apple enterprises depended largely upon yield since most apples were hand harvested. Thus, fresh apple enterprises, with a lower yield, had lower harvesting costs than processing apple enterprises on a per acre basis. However, harvesting costs per bushel averaged \$.69 compared to \$.64 per bushel for processing apples reflecting somewhat greater care in the harvesting operation for fresh apples.

Table 15.

APPLES - Fresh and Processing
Production Costs*
1524 Acres in 31 Enterprises
New York, 1975

Item	Costs per acre			Costs per bushel		
	Fresh	Process -ing	All Entr	Fresh	Process -ing	All Entr
Growing costs	\$359	\$391	\$367	\$1.29	\$0.89	\$1.15
Harvesting costs	<u>191</u>	<u>279</u>	<u>215</u>	<u>0.69</u>	<u>0.64</u>	<u>0.67</u>
Production costs	\$550	\$670	\$582	\$1.98	\$1.53	\$1.82

* Excludes costs to haul product to off-farm destination.

Wide variations in distances from the farm to a processor or other off-farm destination exist from one farm to the next. Therefore, to make harvesting costs as comparable as possible, harvesting costs include the direct costs of harvest and placing the crop in farm storage or loading it on a truck for delivery to an off-farm destination from the field. Thus, production costs averaged \$550 per acre for fresh apples and \$670 per acre for processing apples. The overall average was \$582 per acre or \$1.82 per bushel (Table 15).

The following tables (Tables 16 and 17) show the range of selected factors for each of these two groups of apple enterprises for 1975.

Table 16.

Fresh Apples
Selected Factors
1115 Acres in 19 Enterprises
New York, 1975
(Ranked by size of enterprise)

Entr. No.	Acres	Yield	Production	Average per acre		Average per bushel	
	per entr	per acre	per hour of farm labor	Spray costs	Prod* cost	Harvest cost	Prod* cost
	ac	bu	bu	\$	\$	\$	\$
8	170	329	5	57	596	0.71	1.80
12	140	154	4	73	431	0.76	2.79
4	120	444	5	88	668	0.55	1.50
5	100	268	5	85	576	1.02	2.15
11	84	293	5	95	565	0.64	1.93
18	70	312	5	105	630	0.62	2.02
3	60	251	5	49	421	0.56	1.67
7	57	96	6	59	326	0.37	3.38
9	50	200	3	49	539	0.99	2.70
16	45	510	5	69	712	0.44	1.40
6	44	301	4	80	626	0.86	2.08
17	44	218	3	79	539	0.94	2.47
1	39	202	7	59	404	0.66	2.00
2	32	359	7	88	576	0.66	1.61
10	21	215	5	108	490	0.64	2.28
19	20	150	3	199	700	0.68	4.66
15	7	114	5	185	519	0.92	4.54
13	6	90	2	88	630	2.10	7.00
14	5	163	7	108	440	0.68	2.69
All farms	59	278	5	78	550	0.69	1.98

*Production costs include growing and harvesting costs.

Table 17.

Processing Apples
Selected Factors
409 acres in 12 Enterprises
New York, 1975
(Ranked by size of enterprise)

Entr. No.	Acres per entr	Yield per acre	Production per hour of farm labor	Average per acre		Average per bushel	
				Spray costs	Prod** cost	Harvest cost	Prod** cost
	ac	bu	bu	\$	\$	\$	\$
2	92	543	9	72	774	0.67	1.42
4	55	287	5	58	442	0.63	1.55
3	50	571	10	106	649	0.49	1.14
10	46	261	6	83	575	0.92	2.20
11	41	272	6	108	540	0.73	1.98
12	32	783	6	123	1045	0.65	1.33
5	30	390	6	82	461	0.47	1.18
6	19	511	3	123	1448	0.65	2.83
8	17	478	8	51	593	0.68	1.24
1	13	71	2	66	409	0.86	5.73
7	10	405	10	92	496	0.49	1.22
9	5	414	9	105	528	0.57	1.28
All farms	35	437	7	86	670	0.64	1.53

* Production costs include growing and harvesting costs.