

December 1971

A.E. Res. 344

LIVESTOCK COSTS AND RETURNS FROM FARM COST ACCOUNTS

30 FARMS - 1970

C. D. Kearl and Darwin P. Snyder

Department of Agricultural Economics
Cornell University Agricultural Experiment Station
New York State College of Agriculture and Life Sciences
A Statutory College of the State University
Cornell University, Ithaca, New York 14850

REPORTS
from
FARM COST ACCOUNTS
30 Farms, 1970

Overhead Costs	A.E. Res.	341
Field Crops Costs and Returns	A.E. Res.	342
Cash Crops and Fruits Costs and Returns	A.E. Res.	343
Livestock Costs and Returns	A.E. Res.	344

LIVESTOCK COSTS AND RETURNS, A.E. Res. 344

- Contents -

	Page
Introduction	1
Summary of cost account enterprises	4
Rates of return compared with other years	5
Heifers	6
Cows	9

INTRODUCTION

For the Cost Account year 1970 there were 30 New York State farmers who completed detailed records on their businesses in cooperation with the Department of Agricultural Economics, Cornell University. The farms are located in most of the farming areas of the state. They are generally well-run, full-time, commercial farm businesses. They are representative of the "better" farms in New York.

The report presents the results for individual enterprises and the averages of the costs and returns for all farms. It thus shows not only the averages of costs and returns but also indications of the variations and reasons for them. The factors for individual enterprises are arranged according to size of enterprise. The averages of the costs are not averages of average costs but are weighted by the size of the enterprise.

The project was under the supervision of C. D. Kearl. The field work on these accounts was done by Darwin Snyder and C. D. Kearl. The closing of the books and the preparation of this report on results of the operation of the farms was done by the Cost Account staff consisting of Oneta Shipe, Edna Wheeler, Barbara Upham, Cynthia Piburn, Regina Combs and Mary Chaffee.

The material on pages 2 and 3 of this report was taken from A. E. Res. 331, Dairy Farm Management, Business Summary, New York, 1970 by C. A. Bratton.

Table 1. TEMPERATURE, GROWING SEASON AND PRECIPITATION
Selected Stations

Station	Av. temperature		Precipitation				Length of	
	May thru Sept.		May thru Sept.		Total annual		growing season*	
	1941-70	1970	1941-70	1970	1947-67	1970	1947-70	1970
	Degrees			Inches			Days	
Alfred	61.8	63.2	17.3	16.5	36.7	35.4	125	151
Auburn	65.0	63.9	14.1	17.2	31.1	32.3	174	162
Batavia	64.0	66.1	15.3	20.5	31.8	40.6	154	163
Canton	63.0	62.6	16.5	17.5	34.9	34.5	127	141
Lowville	62.5	62.8	16.5	19.3	38.0	39.5	123	163
Norwich	61.9	61.7	18.4	19.1	40.1	38.0	120	162
Poughkeepsie FAA	66.3	67.7	16.7	15.2	38.2	34.4	164	163
Salem	62.8	63.9	18.4	20.8	39.0	36.5	119	130
Utica FAA	63.5	64.9	18.1	20.3	39.8	46.1	157	163

* Days between the last temperature of 32 degrees in the spring and the first in the fall

Weather is a factor to be considered when studying a farm business for a specific year. The growing conditions have a marked effect on the crops for the year. It is for this reason that data are presented on the growing conditions for 1970 and for the period 1941-70.

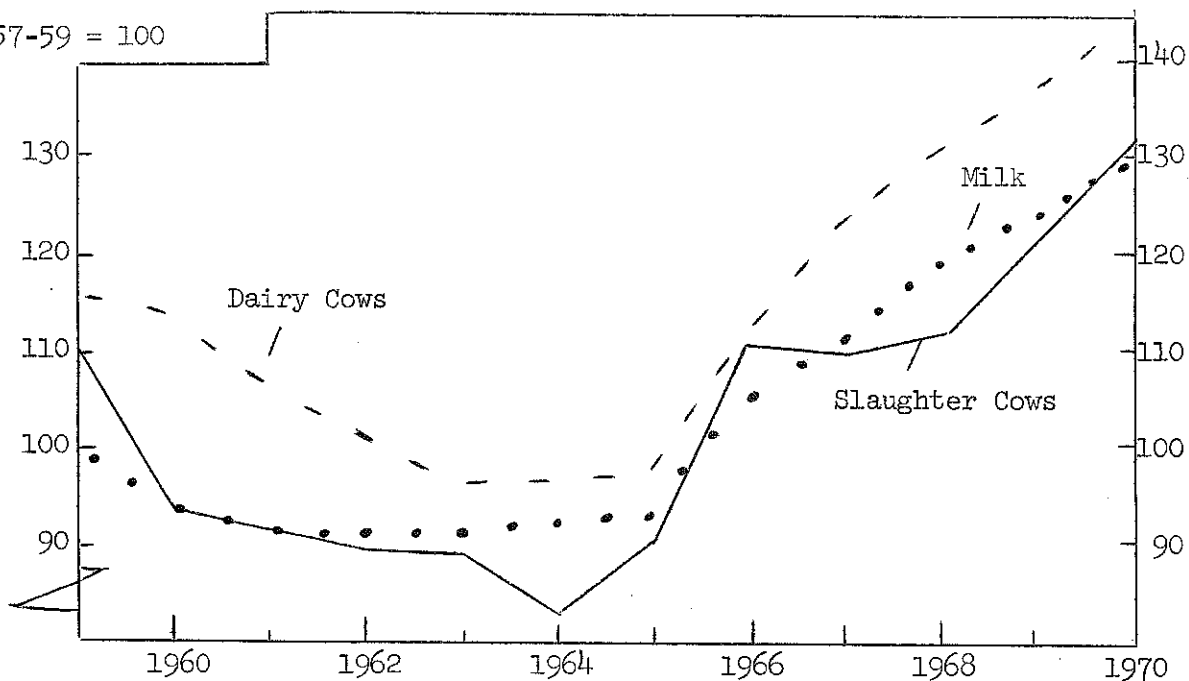
In general, the 1970 growing season can be characterized as having near normal temperatures, a slightly longer growing season and about normal annual rainfall. Conditions varied from area to area in the state. Data are presented for nine weather stations. The rainfall is reported by months for the growing season. May, June, and July were about normal in most areas while August and September were wet (table 2).

Table 2. GROWING SEASON RAINFALL
Selected Stations, 1941-70 and 1970

Station	May		June		July		August		September	
	1941-70	1970	1941-70	1970	1941-70	1970	1941-70	1970	1941-70	1970
Alfred	3.84	2.92	3.76	1.65	3.73	5.24	3.00	2.77	2.93	3.88
Auburn	2.82	2.86	2.90	3.25	3.43	4.04	2.57	3.62	2.35	3.38
Batavia	3.17	3.72	2.69	2.85	3.05	2.92	3.50	6.19	2.87	4.79
Canton	3.37	2.38	2.91	3.50	3.45	4.56	3.45	3.19	3.31	3.83
Lowville	3.42	3.21	2.94	4.36	3.26	3.84	3.58	3.24	3.31	4.63
Norwich	3.92	4.15	4.13	1.88	3.95	5.96	3.17	2.45	3.27	4.66
Poughkeepsie	3.37	2.96	3.42	2.96	3.20	1.89	3.59	4.03	3.16	3.31
Salem	3.75	3.62	3.89	4.35	3.66	4.19	3.43	2.87	3.67	5.79
Utica	3.52	3.87	3.55	5.79	4.17	1.56	3.54	3.54	3.32	5.51

SOURCE: Climatological Data, New York, Environmental Data Service, ESSA, U. S. Department of Commerce

1957-59 = 100

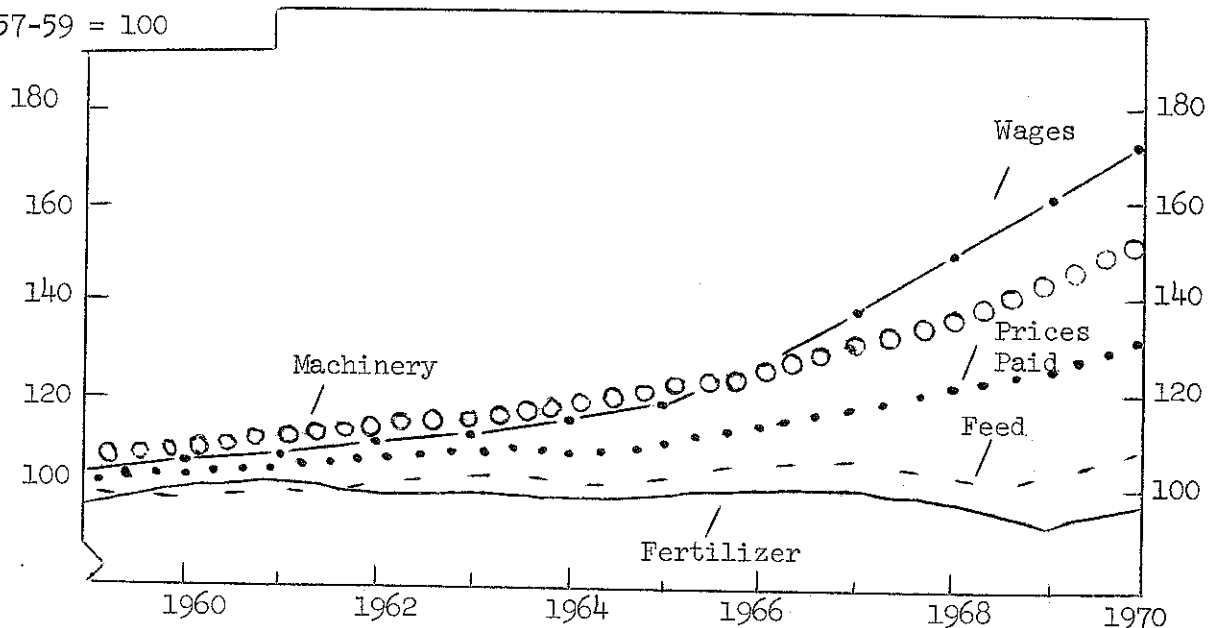


SOURCE: U.S.D.A. Agricultural Prices

Prices are an important business factor. The relationship of prices received to prices paid determines the general level of incomes. Milk prices for 1970 averaged \$5.89 compared with \$5.66 in 1969 and \$4.14 in 1962. Both dairy and slaughter cow prices in 1970 were at new highs for recent years. In general, prices received by dairymen in 1970 were good.

PRICES PAID BY N.Y. DAIRY FARMERS, 1959-1970

1957-59 = 100



SOURCE: U.S.D.A. Agricultural Prices

The index of prices paid by New York dairy farmers has risen steadily but items have changed by different amounts. Farm wages have increased the most. Fertilizer prices have declined some. Feed prices have fluctuated but in general have changed little. The overall index of prices paid by New York dairy farmers in 1970 was up 5 percent from 1969 and was 27 percent higher than 1960.

YIELDS FOR CROPS AND LIVESTOCK
New York State and Farm Cost Account Averages

Item	Unit	1946-55	1969	1970	Cost Account 1970
Hay	tons	1.7	2.1	2.2	2.9
Corn silage	tons	10	14	14	14
Corn grain	bu.	44	75	79	84
Wheat	bu.	31	40	43	48
Cows	lbs.	6,588	10,067	10,207	13,589

* AMS Reports and unpublished tabulations

FARM COST ACCOUNT SUMMARY, 1970

Crop Enterprises

Crop	Number of enter- prises	Average acres per enter- prise	Yield per acre	Hours of labor per acre*	Return per Hour of labor	Dollar of cost	Profit per acre	Profit on enter- prise
				hr	\$	\$	\$	\$
<u>Forage:</u>								
Hay	18	72.0	2.9T	6	1.21	0.89	- 10	- 705
Hay crop silage	11	68.6	8.4T	4	0.86	0.92	- 8	- 589
Corn silage	19	96.0	14.0T	6	2.41	0.98	- 3	- 269
<u>Grain:</u>								
Corn for grain	7	38.2	84bu.	4	11.75	1.38	34	1,305
High moisture corn	5	53.0	3.9T	5	4.45	1.07	9	511
Wheat	10	91.6	48bu.	4	12.10	1.42	36	3,288
Oats	7	23.7	74bu.	6	0.89	0.87	- 13	- 297
<u>Fruit:</u>								
Apples	13	82	373bu.	73	0.61	0.68	-198	-16,280
Sweet cherries	5	15	2,619lbs.	78	1.25	0.68	-134	- 2,059
Red Tart cherries	10	27	7,140lbs.	70	2.87	0.96	- 18	- 480
Peaches	6	13	80bu.	73	2.64	1.01	4	46
Grapes	5	26	4T	113	3.76	1.31	169	4,335

* To grow and harvest the crop

ENTERPRISE RATES OF RETURN
FARM COST ACCOUNT RECORDS, 1967-1970

Enterprise	Return per hour of labor				Return per dollar of cost			
	1967	1968	1969	1970	1967	1968	1969	1970
	\$	\$	\$	\$	\$	\$	\$	\$
<u>Livestock:</u>								
Dairy cows	3.03	4.46	4.64	4.34	1.08	1.16	1.14	1.10
<u>Forage:</u>								
Hay	0.08	-0.58	-0.69	1.21	0.83	0.76	0.78	0.89
Hay crop silage	4.17	-2.53	0.26	0.86	1.11	0.76	0.87	0.92
Corn silage	3.38	-0.35	1.95	2.41	1.07	0.86	0.96	0.98
<u>Grain:</u>								
Corn for grain	1.87	-3.48	-2.46	11.75	0.99	0.79	0.84	1.38
High moisture corn	--	--	--	4.45	--	--	--	1.07
Wheat	4.96	6.80	8.83	12.10	1.14	1.20	1.31	1.42
Oats	-3.58	-2.18	--	0.89	0.60	0.70	--	0.87
<u>Fruit:</u>								
Apples	3.57	3.19	1.54	0.61	1.22	1.04	0.82	0.68
Sweet cherries	2.96	5.90	2.12	1.25	1.20	1.61	0.89	0.68
Red tart cherries	9.26	5.77	1.52	2.87	2.45	1.50	0.79	0.96
Peaches	--	--	-0.31	2.64	--	--	0.51	1.01
Grapes	3.21	2.63	--	3.76	1.26	1.06	--	1.31

HEIFERS, 1970
COSTS PER HEIFER EQUIVALENT
484 mature-heifer equivalents on
15 Cost Account Farms*

Item	Average per heifer raised to 29 months
Value of calf at birth-----	\$ 46
Feed - Milk and milk-replacer-----	\$ 19
1,631 lbs. of dry grain-----	58
.04 tons of high moisture corn-----	1
2.6 tons of hay-----	59
1.1 tons of hay crop silage-----	12
3.5 tons of corn silage-----	31
Pasture and all other feed-----	22
Total feed cost-----	202
Labor - 28 hours-----	75
Bedding-----	5
Power and equipment-----	11
Interest-----	29
Building use-----	31
Breeding fees-----	3
Vet and medicine-----	3
Insurance-----	2
Utilities-----	4
All other-----	16
Total other than calf, feed, labor-----	104
TOTAL COSTS - net cost of raising a heifer to 29 months of age-----	\$ 427

* There were a total of 1,192 heifers of all ages on these farms for a part of or all of the year. They were fed a total of 14,045 net heifer-months, which, divided by 29, equals 484 mature-heifer equivalents.

Factors from 15 HEIFER Enterprises
15 Cost Account Farms, 1970
(Arranged by number of heifers)

Farm number	Number of heifers	Labor per heifer	Average age at fresh- ening	Net cost* per heifer month	Per heifer at freshening		Return per	
					Cost	Value	Hour of labor	Dollar of cost
	no	hr	mo	\$	\$	\$	\$	\$
834	170	12	28	11	327	425	3.57	1.05
813	130	10	29	12	435	400	0.68	0.82
830	110	8	32	15	535	400	-4.09	0.75
824	102	14	26	13	387	400	-0.56	0.80
827	91	7	26	13	387	375	5.49	1.08
804	84	5	26	12	335	450	10.39	1.25
821	79	7	27	10	298	300	4.72	1.12
835	67	15	25	14	398	400	5.35	1.24
836	62	13	31	10	354	320	1.40	0.85
805	60	18	31	20	656	475	0.15	0.85
820	58	13	27	18	528	450	-1.94	0.76
817	55	10	28	14	421	325	3.95	1.10
114	54	23	29	17	535	425	1.54	0.87
133	48	8	29	13	394	292	-1.57	0.79
828	22	11	25	14	391	300	-0.07	0.85

1970 Group Averages, according to number of heifers:

Thirds								
High	121	10	28	13	414	400	1.02	0.90
Med	70	12	28	13	408	389	4.40	1.06
Low	47	13	27	15	454	358	0.38	0.87

Annual Averages, all farms, weighted by number of heifers:

1970	79	11	28	13	410	392	1.75	0.94
1969	108	8	29	13	433	359	-0.25	0.80
1968	99	8	29	13	425	327	0.54	0.87
1967	94	9	29	11	367	329	0.74	0.90
1966	89	8	28	11	354	304	0.51	0.91

* Value of calf excluded

DAIRY COWS, 1970
COSTS AND RETURNS PER DAIRY COW
2145 cows on 19 Cost Account Farms

Item	Average per cow	
<u>COSTS:</u>		
Depreciation-----		\$ 48
Feed - 5059 lbs of dry grain-----	\$ 191	
0.4 tons of high moisture corn-----	12	
1.0 tons of hay-----	24	
2.9 tons of hay crop silage-----	32	
10.2 tons of corn silage-----	97	
Pasture and all other feed-----	5	
Total feed cost per cow-----		361
Labor - 54 hours-----		153
Bedding-----	4	
Tractor, truck-----	16	
Equipment-----	36	
Interest on value of cow-----	25	
Building use-----	42	
Breeding fees-----	9	
Vet and medicine-----	17	
Milk hauling-----	29	
Milk testing-----	5	
Insurance-----	1	
Utilities-----	10	
Supplies-----	10	
All other-----	28	
Total other than depreciation, feed, labor		232
TOTAL COSTS		\$ 794
<u>RETURNS:</u>		
13,464 pounds of milk sold-----	\$ 840	
125 pounds of milk used on farm-----	7	
Calves-----	30	
TOTAL RETURNS		\$ 877
PROFIT-----		\$ 83
Cost of producing 100 pounds of milk		\$5.62
Returns for 100 pounds of milk		6.23
Milk produced per hour of labor		250 lb
Return per hour of labor		\$4.34
Return per dollar of cost		1.10

Factors from 19 DAIRY COW Enterprises
 19 Cost Account Farms, 1970
 (Arranged by number of cows)

Farm number	Herd size no	Milk per cow lb	Labor per cow hr	Milk per hr of labor lb	Feed per Cow					Vet med cost/ cow \$
					Dry grain lb	High mstr corn tn	Hay tn	Hay crop silg tn	Corn silg tn	
812	251	15,000	42	357	6,837	---	0.6	3.7	7.9	31
834	166	13,639	60	228	4,650	0.1	---	5.7	9.8	7
806	159	15,428	52	297	4,956	---	1.3	---	13.7	14
813	140	14,994	36	413	6,939	---	0.4	7.1	9.4	9
827	138	13,907	57	230	3,148	2.6	0.9	1.8	6.7	22
830	128	14,124	49	287	4,315	---	3.4	---	16.0	14
824	128	13,987	59	239	3,056	2.8	0.5	4.9	6.4	30
811	119	11,710	37	315	4,962	---	---	---	17.1	12
804	118	13,856	43	319	3,936	---	0.8	2.3	9.5	8
821	113	12,972	45	291	5,674	---	0.9	---	13.0	13
107*	101	11,920	49	244	2,812	---	1.6	1.9	11.2	12
835	93	15,272	53	290	7,802	1.4	1.1	6.7	3.9	29
805*	88	13,328	64	207	5,854	---	1.7	---	10.0	18
817*	84	10,603	67	158	5,694	1.4	---	8.5	11.4	13
133*	82	8,518	67	127	4,436	---	0.4	1.6	8.7	14
114*	78	13,790	94	147	4,181	---	1.5	1.9	8.6	10
820	73	12,957	49	264	5,873	---	1.1	1.1	14.6	18
828*	45	12,733	111	115	4,232	---	1.8	5.0	6.8	22
836*	42	14,007	85	164	5,385	---	3.0	---	6.3	7

1970 Group Averages, according to number of cows:

Thirds

High	164	14,515	49	302	5,141	0.4	1.1	3.0	10.6	16
Med	109	13,292	50	272	4,871	0.6	0.9	2.3	10.2	17
Low	67	12,101	79	162	4,967	0.2	1.3	3.0	9.4	14

Annual Averages, all farms, weighted by number of cows:

1970	113	13,589	54	250	5,059	0.4	1.0	2.9	10.2	17
1969	101	14,075	55	258	5,622	0.5	1.2	2.5	10.7	18
1968	97	13,444	54	248	5,133	0.7	0.9	1.8	11.7	15
1967	88	13,003	59	219	5,031	0.2	1.3	1.3	10.9	13
1966	87	12,662	60	210	5,079	---	1.5	1.0	10.4	12

* Stanchion barns

Factors from 19 DAIRY COW Enterprises
19 Cost Account Farms, 1970
(Read across both pages)

Avg cost per cow for		Average per cwt of milk		Average per cow			Return per		Profit on enter- prise	Farm number
Feed	Labor	Cost	Return	Cost	Return	Labor return	Hour of labor	Dollar of cost		
\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
389	152	5.52	6.18	861	959	250	5.95	1.11	24,511	812
319	176	5.15	6.18	726	866	316	5.30	1.19	23,294	834
384	136	5.00	6.69	810	1070	396	7.61	1.32	41,307	806
452	148	5.33	5.92	844	933	237	6.54	1.11	12,480	813
296	214	5.69	6.18	815	884	282	4.67	1.08	9,523	827
389	104	4.95	6.25	737	920	287	5.84	1.25	23,511	830
360	121	5.06	5.86	743	855	233	3.98	1.15	14,247	824
384	141	6.44	6.15	778	745	108	2.90	0.96	- 3,981	811
312	125	5.16	6.56	742	936	319	7.34	1.26	22,996	804
363	109	5.86	6.49	787	868	190	4.27	1.10	9,198	821
308	132	5.56	5.94	680	726	178	3.65	1.07	4,608	107
462	120	5.79	5.81	917	920	123	2.34	1.00	314	835
399	138	6.15	6.40	846	880	172	2.68	1.04	3,022	805
365	155	8.59	6.74	932	736	- 42	-0.63	0.79	-16,572	817
290	161	7.98	7.36	695	643	109	1.63	0.92	- 4,260	133
294	264	5.21	6.02	750	861	376	4.00	1.15	8,615	114
375	122	5.52	6.08	758	831	196	3.98	1.10	5,319	820
318	272	6.29	5.99	839	800	233	2.10	0.95	- 1,731	828
285	264	5.60	5.99	816	870	317	3.72	1.07	2,245	836

1970 Group Averages, according to number of cows:

										Thirds
372	155	5.27	6.23	799	939	295	5.98	1.18	22,438	High
370	127	5.72	6.17	785	847	189	3.88	1.08	7,201	Med
321	206	6.53	6.36	798	790	198	2.47	1.00	- 1.064	Low

Annual Averages, all farms, weighted by number of cows:

361	153	5.62	6.23	794	877	236	4.34	1.10	9,402	1970
375	148	5.27	6.02	773	878	253	4.64	1.14	10,581	1969
343	134	4.95	5.75	694	802	242	4.46	1.16	10,420	1968
330	123	4.91	5.35	667	724	180	3.03	1.08	4,967	1967
329	110	4.84	5.12	646	681	146	2.41	1.05	3,081	1966