Report #30

Report 30

UNIVERSITY OF MINNESOTA
Department of Agriculture
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Economics
Cooperating

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FIRST ANNUAL REPORT
of the
Better Farming Club
of
Freeborn County

1928

By

W.P. Ranney and G.A. Pond
R.C. Bevan, Field Agent
W.M. Lawson, County Agent

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Division of Farm Management and Agricultural Economics
University Farm
St. Paul, Minn.
May 1929

First Annual Report of the Freeborn County Better Farming Club For the Year 1928

Prepared by W.P. Ranney and G.A. Pond

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INTRODUCTION

The Division of Farm Management and Agricultural Economics and the Division of Agricultural Extension of the University of Minnesota, the Bureau of Agricultural Economics of the United States Department of Agriculture and twenty-five farmers in Freeborn County, Minnesota, have been cooperating during the year 1928 in a farm account project, known as the Better Farming Club of Freeborn County.

The Project has been under the direction of G.A. Pond of the Division of Farm Management and Agricultural Economics, University of Minnesota, with the assistance of other members of the same department: W.P. Ranney, one of the authors of this report; and R.L. Donovan of the Division of Agricultural Extension, who aided in closing the books at the end of the year, 1928. Hearty support and assistance has been rendered by W.M. Lawson, county agricultural agent of Freeborn County. The work was started January 1, 1928, along with similar clubs in nearby counties, viz., Dodge, Goodhue, Rice, Steele and Waseca counties.

Type of Farming in Freeborn County

The farms selected for the study are livestock farms on which dairy cattle are the principal source of income. Cream for manufacture into butter is the principal dairy product sold. This is marketed through farmer owned cooperative creameries specializing in the manufacture of high quality butter. The skimmilk is retained on the farm and fed to hogs and poultry. These two classes of livestock are also an important source of income.

The principal crops grown are corn, oats, barley and hay. These crops are raised primarily as livestock feed altho a seasonal surplus may be sold. However, due to the short crops in 1927, more than the normal amount of feed was purchased in 1928. Wheat, potatoes and flax are grown to a limited extent as cash crops. These farms are fairly typical of the system of dairy farming prevailing in southeastern Minnesota. This report shows that the receipts from the sales of dairy products constitute approximately one-third and receipts from hog sales more than one-fourth of the average cash income from the 25 cooperators in Freeborn County.

Records Kept

The records kept by the cooperators included inventories at the beginning and end of the year, cash receipts and expenses, a report of feed fed to the various classes of livestock, and a record of farm produce used by the farm family. Supplementary information was also secured during the year regarding crop and livestock production and practices.

The cooperators were assisted and supervised in keeping their records by the field agent, Mr. R.C. Bevan, who visited each farm in the six counties several times during the year. In addition to securing the supplementary information, the field agent's duties included numerous services, viz., securing a monthly list of prices of farm products prevailing in the area, helping the farmer to place uniform values on real estate and equipment, checking the cash and feed records, and answering any questions that might arise as to how the entries should be made in the account book. The supervision resulted in uniformity in the type of records secured, in the inventory valuations and in the prices at which feed and farm produce were charged.

At the end of the year each farm was visited by a representative of the University who checked the records for completeness and accuracy. The books were than taken to the central office at University Farm, where every entry was again checked and omissions were noted. Any discrepancies found were referred back to the farmers for correction. This double checking insured a high degree of accuracy and completeness in each individual record.

Purpose of Project

The Better Farming Club renders assistance to the cooperators in keeping such records as will enable each cooperator to know the returns for his labor and management, the returns to capital and family labor, and the acutal earnings from the farm that the family had to spend for living and personal use. The main purpose of the Club is to secure such data and information, which when compared with that secured on other farms will enable the cooperator to increase his efficiency in various enterprises and to organize his farm on a more profitable basis. For the latter purpose it was necessary for all the cooperators, tenants as well as owner operators, to include the whole farm business in order that the results would be on a comparative basis. The earnings as shown in this report are computed on an owner basis for the purposes of comparison, but each tenant was supplied a statement of his earnings on the basis of the rental system under which he was operating. Altho there is some variation in prices paid for feeds bought, uniform prices were used in making up the feed summaries and in placing values on the inventories of feed and farm products.

Analysis of the Farm Business

On page 4 is presented a financial summary of the year's business, showing the average results for the 20 farms on which the work was completed for the twelve months period, January 1, 1928 to December 31, 1928, and the high and low figure for each item. In the "your farm column" the results of each individual farm business is inserted in the copy sent to the farmer in order that he may compare his figures with the average.

The data on page 4 and the remaining pages, which set up the ranking in the various measures of efficiency, should suggest to each cooperator some possibilities for improvement in his organization of the various enterprises and of his business as a whole. Altho each farm is an individual problem, and has its particular advantages and limitations, the type of farming is fairly uniform in the county and undoubtedly is adapted to the present general conditions. This study should bring out trends that may be taking place toward more profitable combinations of enterprises, and to the more efficient methods of management within the enterprises.

Capital Investment in Farm Business

The 20 farms in this report averaged 180 acres in size and had an average farm inventory of $26,759, which does not include the value of the house in which the operator lived. Fifty-seven per cent of the average farm inventory consisted of land; 16 per cent of permanent improvements; 7 per cent of feeds and supplies; 6 per cent of all machinery and equipment; and 14 per cent of livestock, of which almost two-fifths or an average of $1488 consists of the average cow inventory. The importance of cows is also brought out in a study of the sources of the operator's income.

Returns to Operators for Their Labor and Management

The average cash receipts per farm were $4992. In addition farm produce to the value of $317 was consumed by the farm family and there was an average inventory increase of $527 per farm. The total average receipts per farm is the sum of these three items or $5836. The average total expense per farm, $2675, includes $2577 cash expense and an estimated allowance of $98 for board of hired help. The difference between the total income and total expense figure is $3161. This is the return which the farmer received for his own labor and management; the services of members of his family and the use of his capital. After deducting a charge of 5 per cent on the average inventory valuation, $1338, for the services of capital, there remains $1823 for the services of the farmer and his family. The average value of family labor used, if computed at hired man's wages was $277. The average operator's labor earning is the family earnings less their allowance of $277, or $1546. This is the return to the farmer for his labor and management over and above 5 per cent return for his capital and going wages for other members of the family.

Summary of Farm Earnings - 1928

CASH EXPENSES	Your farm	Average	High farm	Low farm
Tractor(new & exp.)		$89	$561	-
Truck(new & exp.)		31	133	-
Auto(new & exp.)(farm share)*		143	756	-
Gas engine(new & exp.)(farm share)		17	66	-
Light plant or bill(new & exp.)(farm share)		66	764	-
Machinery & equipment(new)		124	496	-
Machinery & equipment(exp.)		82	248	4
Bdlgs., fences, tiling(new)		47	364	-
Bldgs., fences, tiling(exp.)		45	177	-
Hired labor		296	920	-
All feeds for livestock		663	1916	47
Other expense for livestock		66	185	-
Horses bought		49	343	-
Cows bought		92	1553	-
Other cattle bought		88	598	-
Hogs bought		80	383	-
Poultry bought		43	141	-
Sheep bought		9	170	-
Crop(seed, twine, spray)		193	492	68
Taxes and insurance		331	671	115
General farm		23	86	-
(1) Total cash expense		2577	5646	660
(2) Decrease in farm inventory		-	456	-
(3) Board for hired labor		98	300	-
(4) Total expense(Sum of 1, 2 & 3)		2675	5846	864
CASH RECEIPTS				
Horses		54	665	-
Cows		280	1183	-
Dairy products		1773	3707	538
Other cattle		505	1452	-
Sheep		41	408	-
Hogs		1436	3243	277
Poultry		131	543	-
Eggs		308	1375	18
Small grain		94	485	-
Corn		17	308	-
Hay		27	120	-
Other crops		58	486	-
Miscellaneous		83	429	-
Outside		185	1094	-
(5) Total cash receipts		4992	8757	1923
(6) Increase in farm inventory		527	2077	-
(7) Farm produce used in house		317	495	105
(8) Total receipts(sum of 5,6 & 7)		5836	10127	2146
Total Expense(4)		2675	5846	864
(9) Return to capital & family labor(8-4)		3161	5572	1281
(10) Interest on farm inventory		1339	2498	539
(11) Family labor earnings(9-10)		1822	3749	534
(12) Unpaid family labor		277	1140	-
(13) Operator's labor earnings(11-12)		1546	2704	215

*Farm share based on farmer's estimate of amount used for farm purposes only.

Summary of Farm Inventories

Items	Your farm	Average	High farm	Low farm
Size of farm(acres)		177	340	70
Size of farm business(Prod.man work units)(1)		632	1138	261
Average farm inventory(without house)		$26759	$49959	$10782
Land		15303	30325	8625
Farm improvements		4083	8471	1152
Machinery & equipment(total)		1740	3499	391
General machinery & equipment		1242	2730	289
Tractor		181	613	-
Truck		48	275	-
Auto(farm share)		135	630	-
Gas engine(farm share)		32	103	-
Electric equipment(farm share)		102	493	-
Feeds and seeds		1800	3215	788
Miscellaneous supplies		20	224	-
Horses(total)		567	1415	215
Horses		510	1088	215
Colts		57	328	-
Productive livestock		3246	7800	836
Cows		1488	2800	450
Other cattle		885	3230	15
Hogs		635	1776	125
Sheep		85	720	-
Poultry		182	371	79

Statement of Average Number of Animal Units (2)

Total horse units	6.12	9.25	3.00
Horses	5.78	8.50	3.00
Colts	.34	1.75	-
Total productive livestock units	35.00	82.67	9.21
Cows	14.91	22.67	6.00
Other cattle	8.23	23.00	.54
Hogs	9.09	29.70	1.27
Sheep	1.09	11.76	-
Poultry(hens)	1.68	5.30	.53

1. Productive man work units are a measure of size of business based on the average amount of man labor required per head of productive livestock and per acre of crops. They may also be used as a measure of labor efficiency. The units used were computed from data presented in Minn. Tech. Bul. 44, "A Study of Dairy Farm Organization in Southeastern Minnesota."

2. An animal unit represents an average mature horse, cow or the equivalent in other livestock, based upon the amount of feed eaten and manure produced. The above units are computed as an average of the monthly units.

Statement of Returns from Livestock (3)

Items	Your farm	Average	High farm	Low farm
All productive livestock		$4887	$8489	$1676
Cows		2187	3696	600
Other cattle		751	2961	137
Hogs		1408	3602	153
Sheep		58	588	-
Poultry		473	1890	74

Statement of Expenses for Buildings, Machinery & Equipment(4)

Buildings and fences	$149	$338	-$40
General machinery & equipment	196	517	39
Total power equipment	263	726	53
Tractor	108	599	-
Truck	40	157	-
Auto(farm share)	74	318	-
Gas engine(farm share)	23	71	-
Electric equipment(farm share)	18	71	-

Statement of Miscellaneous Items

Total farm power expense(5)	$672	$1178	$340
Net increase in feeds & grains(6)	25	999	-1418
Net increase in horses(6)	7	153	-95
Gross returns per $100 expense(7)	255	428	184

3. Gross Returns from livestock are the sum of cash receipts and farm products used in the house or on the farm, and adjusted for increases or decreases in inventory.

4. Expenses in connection with buildings and machinery are the cash expenses adjusted for increases or decreases in inventory, less any receipts from sales or hire.

5. Total farm power expense is a sum of horse expense and horse feed cost, and tractor and truck expense and farm share of auto, gas engine and electrical expense. No attempt was made to allocate part of the auto and truck expense to vehicles, or a part of the electrical expense to lighting farm buildings.

6. An increase in horses and in feeds and grain is calculated with gross returns, and a decrease with expenses.

7. In calculating gross returns per $100 expense for the farm as a whole, any produce used on the farm is not included with gross returns. But all produce used in the house and any miscellaneous cash receipts are included. In addition to building and machinery costs mentioned in (3) above expenses include all other cash expense, board for hired labor and unpaid family labor.

Utilization of Land and Yield of Crops - 1928

Crop	Number of farms growing this crop	Acres per Farm			Yield per Acre		
		Your farm	Average	Highest	Lowest	Your farm	Average	Highest	Lowest
Wheat	3		2.0	25.0	4.0		25.4	37.5	17.0
Oats	12		13.2	60.0	9.0		48.4	68.2	29.0
Barley	14		12.5	32.0	3.0		38.4	72.3	18.3
Flax	4		1.3	12.0	4.0		6.5	9.1	4.3
Wheat and oats	7		8.4	50.0	7.0		44.4	62.8	15.9
Oats and barley	11		16.3	76.0	12.0		41.2	61.5	31.6
Other grains and mixtures	3		2.3	28.0	4.0		28.5	33.9	15.0
Total grain			56.0	120.0	12.0				
Corn, grain	19		33.9	77.5	1.0		40.6	56.0	19.2
Corn, silage	20		12.8	25.0	5.0		8.1	15.0	3.8
Corn, fodder	6		1.8	12.0	2.0		3.3	4.0	2.2
Potatoes	11		1.4	10.0	.4		142.6	225.0	30.0
Total cultivated crops			105.9	102.5	15.0				
Alfalfa	15		8.5	31.0	4.0		2.7	4.4	1.3
Clover and clover mixtures	8		2.8	12.0	5.0		2.3	3.2	1.0
Other legumes	2		.9	11.0	6.0		2.5	3.1	2.0
Timothy	2		1.0	15.0	4.0		1.5	2.3	.7
Annual hay crops	4		1.3	10.0	2.5		2.5	4.6	.5
Wild hay	13		6.8	20.0	5.0		1.1	2.1	.5
Total hay			21.3	51.0	11.0				
Total crop acreage	20		127.2	257.5	46.4				
Pasture	20		35.0	72.0	4.0				
Timber(not pasture)	3		.8	10.0	2.0				
Roads and waste	17		5.8	36.5	1.0				
Farmstead	19		8.1	20.0	4.0				
Total acres in farm			176.9	340.0	70.0				

EFFECT OF WELL BALANCED EFFICIENCY ON FARM PROFITS

It is quite evident from this report that few farmers have a monopoly on efficiency. Quite often farm operators show efficient management in one part of the farm business, which is offset by poor results in other phases of the business. These farmers get medium returns while those who fall down all along the line get the lowest returns, and those few who can manage a large volume of business with high all around efficiency are well paid for their labor and management.

To determine correctly the factors which have the most influence on farm earnings, some method of mathematical correlation should be used. Further studies will be made, as time permits, to determine the most important factors. However, data secured in the Steele County cost route 1920 to 1924 inclusive, and a careful observation of the data secured in this report indicate that the following factors have a noticeable effect on the farm earnings.

1. Pounds of butterfat per cow.
2. Gross returns for all productive livestock per $100 of feed.
3. Number of productive livestock units per 100 acres.
4. Index of crop yield.
5. Productive man work units per worker.
6. Equipment and farm power expense(buildings, fencing, all machinery, horse feed and miscellaneous expense) per productive man work unit.
7. Size of business(total number of productive man work units).

In Chart 1 is shown the effect of the number of the above factors in which the farmer excels on his lagor earnings. The eleven farmers who excelled in four or more factors had average earnings of about $1440 above the average of three farmers who did not excel in more than one factor.

Chart 1. Relation of Operator's Labor Earnings to the Number of Factors in which Farmer is above the Average in Efficiency.

Number of factors in which farm excels	No. of farms	Your farm	The length of the shaded lines are in proportion to the average operator's labor earnings	Average operator's labor earnings
Four or more	11		xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	$2012
Three	3		xxxxxxxxxxxxxxxxxxxxxxxx	1349
Two	3		xxxxxxxxxxxxxxxxx	1006
One	3		xxxxxxxxxx	575

The array in Chart 1 suggests that it will be worth while for each co-operator to study carefully his ranking on page 9, and note how he stands in respect to each of the above factors and other related factors and measures of efficiency. A further study of pages 13 to 20 may show him the reasons for his ranking in these various measures.

Each cooperator should bear in mind that the amount by which he is above or below the average may be as important as the number of factors in which he is high or low. For example, one farm that ranks considerably below the average in respect to operator's labor earnings, is just above the average in six factors, but is so far below the average in one factor that this offsets the effect of the other six and reduces his earnings to the low point.

Measures of Farm Organization and Management Efficiency

Farm No.	Index of operator's earnings	Lbs. B.F. per cow	Returns per $1.00 of Feed				Eggs per hen	Index of crop yield	Per cent of crop acres in legumes	Gross returns per $100 expense
			Cows	Hogs	Other cattle	Poultry				
-2121	174.9	198	$2.18	$1.18	$.91	$1.81	76	85	14	$259
-2082	168.8	221	1.87	1.38	1.23	2.39	114	118	11	250
-2199	166.4	290	3.17	1.26	1.59	1.96	54	104	9	273
-2061	151.8	265	2.46	1.12	1.92	1.60	98	130	7	339
-2051	131.0	198	1.86	1.36	1.74	3.30	103	84	10	357
-2162	122.2	199	1.62	1.11	1.30	1.31	67	125	21	428
-2101	122.1	201	1.79	1.53	1.51	.63	49	97	11	264
-2021	118.0	246	1.65	1.22	1.79	1.56	112	115	8	184
-2201	113.6	289	2.15	1.01	1.50	.77	86	101	-	200
-2196	109.1	275	1.51	1.03	1.45	1.53	113	122	28	188
-2131	96.4	276	2.60	1.08	.95	2.59	98	106	-	230
-2197	89.3	225	1.66	.72	1.82	1.75	63	111	6	199
-2192	82.0	329	1.77	1.50	1.64	1.67	99	109	5	229
-2182	75.1	273	1.76	.88	1.56	2.13	117	101	37	226
-2062	63.0	268	2.22	1.19	1.47	1.74	92	77	16	232
-2161	61.8	215	1.88	.78	1.11	2.01	191	120	19	197
-2181	60.2	237	1.35	.84	7.17	1.97	95	79	26	339
-2191	42.9	262	2.63	1.31	.79	1.23	74	92	-	253
-2198	37.6	195	1.38	.69	1.25	1.37	41	76	3	220
-2122	13.8	137	2.04	1.05	.85	1.18	29	60	10	194
Avg.	100	240	1.98	1.11	1.68	1.72	89	100	12	253
High	174.9	329	3.17	1.53	7.17	3.30	191	130	37	428
Low	13.8	137	1.35	.69	.79	.63	29	60	-	184

Measure of Farm Organization and Management Efficiency - Con'd

Farm No.	Index of product. man work units per worker	Crop Acres per Horse With tractor	Crop Acres per Horse Without tractor	Index of farm power expense**	Index of gen. machy. & equip. expense**	Index of bldg. & fencing expense**	No. of cows per 100 acres	No. of product. livestock per 100 acres	Lbs. of pork produced per feed crop acre*	Total No. product. man work units
2121	142	27	-	81	82	63	7	28	227	1136
2082	87	18	-	78	93	160	11	25	224	889
2199	94	28	-	91	134	139	6	17	202	725
2061	74	-	23	76	68	114	8	18	338	513
2051	135	-	16	56	72	51	12	24	128	580
2162	134	27	½	65	93	34	10	22	262	550
2101	140	-	26	84	51	122	7	17	219	803
2021	86	22	-	153	196	143	7	19	269	832
2201	103	34	-	108	162	97	6	14	166	1010
2196	84	15	-	63	24	-29	24	42	452	597
2131	113	15	-	80	86	126	8	17	298	614
2197	98	24	-	110	203	72	9	20	141	880
2192	86	24	-	193	822	55	5	16	146	554
2182	109	-	15	73	96	181	20	39	186	438
2062	94	-	17	125	55	164	7	14	146	451
2161	98	12	-	99	134	114	24	38	104	561
2181	54	-	11	121	82	88	8	12	51	261
2191	84	-	19	120	96	147	7	21	220	359
2198	105	45	-	134	110	118	3	9	71	453
2122	78	-	23	90	93	42	7	13	108	448
Avg.	100	24	19	100	100	100	10	21	198	632
High	142	45	26	193	203	181	24	42	452	1136
Low	54	12	11	63	24	-29	3	9	51	261

*Corn for grain, oats, barley and mixed small grains.

**An index of expense is a comparison of each farmer's expense with the average of the 20 farms. The power, machinery and building expense are calculated as so much expense per productive man work unit.

Measure of Farm Organization and Management Efficiency

Index of operator's earnings	Lbs. of B.F. per cow	Returns per $1.00 of Feed				Eggs per dozen	Index of crop yield	Per cent of crop acres in legumes	Gross returns per $100 expense
		Cows	Hogs	Other cattle	Poultry				
220	360	$3.18	$1.71	$3.48	$3.52	209	160	30	$433
200	340	2.98	1.61	3.18	3.22	189	150	27	403
180	320	2.78	1.51	2.88	2.92	169	140	24	373
160	300	2.58	1.41	2.58	2.62	149	130	21	343
140	280	2.38	1.31	2.28	2.32	129	120	18	313
120	260	2.18	1.21	1.98	2.02	109	110	15	283
100	240	1.98	1.11	1.68	1.72	89	100	12	253
80	220	1.78	1.01	1.38	1.42	69	90	9	223
60	200	1.58	.91	1.08	1.12	49	80	6	193
40	180	1.38	.81	.78	.82	29	70	3	163
20	160	1.18	.71	.48	.52	9	60	-	133

Measure of Farm Organization and Management Efficiency -- Con'd

Index of product. man work units per worker	Crop Acres per House With tractor	Crop Acres per House Without tractor	Index of farm power expense	Index of gen. machy. & equip. expense	Index of bldg. & fencing expense	No. of cows per 100 acres	No. of product. livestock units per 100 acres	Lbs. of pork produced per feed crop acre	Total No. product. man work units
160	42	31	-20	-20	-20	22	39	498	1232
150	39	29	-	-	-	20	36	446	1132
140	36	27	20	20	20	18	33	398	1032
130	33	25	40	40	40	16	30	348	932
120	30	23	60	60	60	14	27	298	832
110	27	21	80	80	80	12	24	248	732
100	24	19	100	100	100	10	21	198	632
90	21	17	120	120	120	8	18	148	532
80	18	15	140	140	140	6	15	98	432
70	15	13	160	160	160	4	12	48	332
60	12	11	180	180	180	2	9	-	232

Prices Received for Products Sold - 1928

Farm No.	Butterfat per lb.	Eggs per dozen	Hogs per 100 pounds
2121	53¢	32¢	$8.19
2082	53	29	8.24
2199	53	24	8.76
2197	54	35	8.14
2061	50	32	7.70
2051	55	39	8.36
2162	53	25	8.19
2101	53	23	8.28
2021	53	25	8.09
2201	-	31	8.12
2196	55	26	9.82
2131	54	32	8.12
2192	52	27	7.89
2182	53	26	7.78
2062	51	27	8.00
2161	54	26	8.44
2181	55	28	8.22
2191	52	25	8.56
2198	53	25	7.83
2122	54	29	7.93
Average	53	28	8.23
High	55	39	9.82
Low	50	23	7.70

Factors of Cost in Dairy Production - 1928 (Per cow basis)

Farm No.	B.F. per cow	Feed per Cow - Lbs.												Total digest. nutri. per lb. B.F.	Nutri-tive ratio	% cows fresh Sept. to Dec. incl.	Per cent calves born
		Corn	Small grains	Mill feeds	Oil-meal	Tame hay	Wild hay	Alfalfa	Corn fodder	Silage	Total concen.	Total digest. rough.	Total digest. nutri.				
2192	329	-	2956	9	-	-	-	1967	983	17699	2965	2950	6585	20.0	1:7.9	60	98
2199	290	-	1530	-	-	1799	104	417	-	7952	1530	2320	3599	12.4	1:8.7	81	118
2201	289	-	1656	226	5	878	157	2730	-	96	1887	3765	4461	15.4	1:6.2	87	112
2131	276	-	780	656	33	-	-	2349	652	9393	1469	3001	4011	14.5	1:6.4	84	85
2196	275	869	2053	103	316	931	-	3207	-	12415	3341	4138	6728	24.5	1:6.4	85	109
2182	273	269	515	1195	121	141	-	3105	-	10444	2100	3246	4935	18.1	1:5.8	91	85
2062	268	45	1544	328	302	1125	-	562	-	11246	2219	1687	4327	16.1	1:6.7	81	103
2061	265	85	1226	461	8	2642	226	-	-	5584	1800	2868	3595	13.5	1:8.6	66	91
2191	262	52	1721	186	-	699	-	-	-	8625	1959	699	3296	12.5	1:8.8	62	93
2021	246	332	1621	576	-	-	-	2879	-	13797	2505	2879	5649	22.9	1:6.2	25	96
2181	237	218	1165	-	-	1713	-	1713	1402	13084	1383	4828	5589	23.5	1:8.2	100	78
2197	225	507	1493	362	208	2355	-	-	-	10816	2570	2355	4076	18.1	1:7.2	80	91
2082	221	-	1212	35	75	1632	-	2294	-	6970	1322	3926	4138	18.7	1:6.4	37	119
2161	215	387	976	570	-	1713	-	524	681	8229	1933	2918	4241	19.7	1:8.4	86	115
2101	201	179	1928	70	12	522	-	1622	-	7536	2189	2144	4007	19.9	1:7.0	50	104
2162	199	-	1547	40	-	-	-	4326	320	9600	1587	4640	5160	25.9	1:6.0	75	128
2121	198	220	1594	126	141	-	-	2925	-	3328	2081	2925	3559	17.9	1:5.1	59	111
2051	198	239	681	181	69	-	-	3360	-	6454	1170	3360	3668	18.5	1:5.6	50	96
2198	195	-	234	-	-	-	67	333	250	38	234	650	4844	24.8	1:6.1	80	83
2122	137	-	247	-	10	1265	94	1499	-	7123	257	2858	2824	20.5	1:6.9	36	103
Avg.	240	168	1334	257	65	871	32	1790	214	8501	1825	2908	4465	18.9	1:6.9	69	101

Feed Costs and Returns for Dairy Cows - 1928 (per cow basis)

Farm No.	B.F. per cow	Feed per Cow				Feed cost per lb. B.F. cents	Value of Product per Cow							Gross return per $1.00 feed	% volun-tary sales	% fresh hiefers are of total cows
		Concen.	Rough.	Pasture	Total cost		B.F. sales	Dairy prod. used in house	Milk to other live-stock	Apprec.	Total	Depr.	Net value of prod.			
2192	329	$47.83	$53.88	$6.50	$108.21	32.9	$150.13	$8.74	$32.46	-	$191.33	-	$191.33	$1.77	-	-
2199	290	22.04	29.01	5.38	56.43	19.5	141.07	7.18	28.58	1.87	178.70	-	178.70	3.17	29	29
2201	289	30.35	44.75	5.91	81.01	28.0	174.47	3.06	18.06	-	195.59	21.65	173.94	2.15	14	26
2131	276	25.10	38.03	5.42	68.55	24.8	137.65	7.63	25.91	7.19	178.38	-	178.38	2.60	33	39
2196	275	50.74	54.01	6.21	110.96	40.3	139.45	5.14	21.92	1.03	167.54	-	167.54	1.51	93	10
2182	273	37.53	44.32	5.91	87.76	32.1	133.38	8.96	11.10	1.21	154.65	-	154.65	1.76	14	28
2062	268	38.42	33.74	6.23	78.39	29.3	128.72	2.94	21.19	20.08	173.93	-	173.93	2.22	37	28
2061	265	29.31	27.92	6.62	63.85	24.1	136.99	4.62	21.94	-	163.55	6.49	157.06	2.46	6	-
2191	262	32.49	21.21	6.34	60.04	22.9	112.61	17.83	24.46	2.95	157.85	-	157.85	2.63	47	23
2021	246	38.92	49.19	6.19	94.30	38.3	124.19	3.46	24.09	4.10	155.84	-	155.84	1.65	-	36
2181	237	24.53	51.26	6.50	82.09	34.6	109.86	17.48	8.98	-	136.32	25.23	111.09	1.35	16	-
2197	225	42.23	34.06	6.56	82.85	36.8	115.53	3.18	20.66	-	139.37	1.41	137.96	1.66	18	36
2082	221	21.45	40.47	6.60	68.52	31.0	105.82	10.19	21.06	-	137.07	5.65	131.42	1.87	-	18
2161	215	27.95	32.79	5.93	66.67	31.0	106.48	4.16	16.55	-	127.19	1.68	125.51	1.88	21	16
2101	201	33.29	30.14	6.99	70.42	35.0	98.39	9.36	19.04	2.03	125.82	-	125.82	1.79	-	29
2162	199	23.71	52.48	6.32	82.51	41.5	97.24	4.74	21.55	10.00	133.53	-	133.53	1.62	16	16
2121	198	32.63	28.24	6.13	67.00	33.8	94.25	6.29	18.83	26.69	146.06	-	146.06	2.18	30	40
2051	198	17.75	37.12	7.18	62.05	31.3	94.95	6.43	17.53	-	118.91	3.57	115.34	1.86	-	11
2198	195	39.29	38.42	7.08	84.79	43.5	89.61	11.93	14.36	.04	116.74	-	116.74	1.38	-	-
2122	137	3.09	34.21	6.79	44.09	32.2	66.38	4.63	17.93	1.06	90.00	-	90.00	2.04	28	9
Avg.	240	30.92	38.76	6.34	76.02	32.25	117.76	7.40	20.31	3.95	149.42	3.28	146.14	1.98	20	20

Feed Costs and Returns from Young Cattle - 1928

Farm No.	Feeds Used per Head					Feed Costs per Head					Net value of product per head	Net value of product per $1.00 feed	% death loss
	Concen.	Hay & fodder	Silage	Whole milk	Skim-milk	Concen.	Rough.	Milk	Pasture	Total			
2181	853	-	-	1333	-	$16.04	-	$27.20	-	$43.24	$310.00	$7.17	-
2061	525	970	1803	139	1406	8.96	$10.06	6.34	$2.87	28.23	54.09	1.92	14
2197	847	743	2704	135	3467	13.90	9.56	11.43	3.31	38.20	69.66	1.82	7
2021	472	922	2634	158	2015	7.01	10.60	8.34	3.38	29.33	52.41	1.79	3
2051	226	669	1493	370	1486	3.28	7.41	11.27	3.53	25.49	44.33	1.74	5
2192	2565	1757	-	996	1419	31.98	8.20	26.35	-	66.53	109.20	1.64	-
2199	251	757	2973	204	1558	3.78	10.18	8.25	2.52	24.73	39.41	1.59	-
2182	9	1219	3771	93	1787	.13	16.27	6.82	2.75	25.97	40.52	1.56	17
2101	308	552	3448	193	1804	4.23	10.48	8.45	3.71	26.87	40.59	1.51	21
2201	564	1634	3652	434	2735	7.66	17.48	15.69	2.78	43.61	65.59	1.50	10
2062	577	234	3187	261	1099	9.87	7.87	8.08	2.81	28.63	42.23	1.47	9
2196	501	2370	4444	441	441	7.60	17.48	9.65	2.82	37.55	54.53	1.45	7
2162	423	2657	4286	421	3388	7.52	28.00	17.28	3.02	55.82	72.53	1.30	43
2198	80	3491	94	76	748	1.50	19.89	3.42	3.15	27.96	34.81	1.25	-
2082	183	1835	1553	405	1895	2.75	15.07	14.42	2.77	35.01	42.99	1.23	28
2161	217	977	2931	345	1886	2.96	11.27	13.14	2.90	30.27	33.63	1.11	14
2131	30	1340	2681	268	2396	.55	13.60	11.46	2.87	28.48	26.96	.95	7
2121	360	1600	89	111	910	4.36	7.60	4.82	3.25	20.03	18.20	.91	2
2122	290	1185	2789	649	544	4.84	13.81	14.59	2.80	36.04	30.48	.85	14
2191	51	316	5055	524	504	.60	11.85	11.96	3.02	27.43	21.67	.79	-
Avg.	467	1271	2476	378	1574	6.98	12.33	11.95	2.71	33.97	60.19	1.68	10

Feed Costs and Returns per Animal Unit from Dairy Herd - 1928
(Both cows and young cattle included)

Farm No.	B.F. per cow	% cow of cattle units	Feed Cost per Animal Unit				Value Prod. per Animal Unit			Returns per $1.00 feed cost
			Concen.	Rough.	Pasture	Total	Dairy products	Sales & apprec.	Total	
2192	329	72	$50.02	$42.87	$4.69	$97.58	$125.33	$52.93	$178.26	$1.83
2199	290	59	15.94	25.02	5.13	46.09	98.01	31.65	129.66	2.81
2201	289	67	25.21	41.00	5.70	71.91	122.03	26.14	148.17	2.06
2131	276	67	17.06	34.11	5.46	56.63	106.48	22.25	128.73	2.27
2196	275	73	40.94	48.37	5.97	95.28	116.71	28.58	145.29	1.52
2182	273	61	22.80	38.97	5.63	67.40	87.74	31.01	118.75	1.76
2062	268	65	31.20	26.89	5.85	63.94	94.20	40.27	134.47	2.10
2061	265	63	24.69	24.57	6.16	55.42	99.02	33.11	132.13	2.38
2191	262	73	24.05	21.87	6.26	52.18	106.67	13.83	120.50	2.31
2021	246	52	26.75	35.45	6.39	68.59	70.67	51.54	122.21	1.78
2181	237	92	24.17	47.29	6.00	77.46	122.81	10.13	132.94	1.72
2197	225	59	35.66	27.45	6.43	69.54	72.63	53.84	126.47	1.82
2082	221	75	17.37	37.41	6.12	60.90	93.36	16.02	109.38	1.80
2161	215	71	21.42	29.38	5.78	56.58	82.99	17.14	100.13	1.77
2101	201	69	25.42	26.88	6.98	59.88	80.51	24.94	105.45	1.78
2162	199	77	21.58	52.69	6.19	80.46	88.01	39.13	127.14	1.58
2121	198	46	19.70	21.06	6.25	47.01	50.20	31.48	81.68	1.74
2051	198	65	13.69	29.01	7.01	49.71	69.44	27.42	96.86	1.95
2198	195	58	24.10	37.96	6.58	68.64	64.97	27.65	92.62	1.35
2122	137	72	4.59	31.44	6.27	42.30	57.21	15.57	72.78	1.72
2201	240									
Avg.	240	67	24.32	33.98	6.04	64.34	90.45	29.73	120.18	1.90

Factors of Cost in Pork Production - 1928

F Farm No.	Lbs. of pork produced	Lbs. of Feed per 100 Lbs. of Pork						Value of Feed per 100 Lbs.				Total No. of litters	Average No. of pigs per litter	Returns per $1.00 of feed
		Corn	Small grains	Mill feeds	Total grains	Tank.	Skim-milk	Grain & mill feeds	Tank. skim-milk	& Pasture	Total			
2101	28787	226	106	22	354	-	286	$4.50	$.72	$.29	$5.51	17	6.1	$1.53
2192	14488	340	22	1	363	-	394	4.40	.98	-	5.38	12	6.0	1.50
2082	24245	292	109	2	403	-	376	5.04	.95	.19	6.18	15	7.1	1.38
2051	8220	304	149	15	468	-	386	6.10	.97	.59	7.66	14	5.3	1.36
2191	11900	282	109	23	414	-	429	5.07	1.07	.55	6.69	10	7.2	1.31
2199	26478	380	90	-	470	-	355	6.00	.89	.27	7.16	13	7.9	1.26
2021	29425	333	96	28	457	5	196	5.83	.67	.27	6.77	19	5.4	1.22
2062	9955	335	180	2	517	7	488	5.98	1.48	.28	7.66	10	6.3	1.19
2121	37305	539	79	1	619	2	187	7.41	.54	.26	8.21	29	6.2	1.18
2061	16211	370	104	12	486	-	469	5.96	1.17	.21	7.34	12	6.5	1.12
2162	17355	448	113	12	573	1	313	7.35	.81	.22	8.38	14	5.4	1.11
2131	16725	346	119	5	470	2	433	5.95	1.17	.38	7.50	12	6.3	1.08
2122	7730	253	209	23	485	1	449	6.47	1.17	.19	7.83	6	3.3	1.05
2196	13110	619	62	6	687	-	824	8.33	2.06	.21	10.60	9	6.1	1.03
2201	31058	402	95	12	509	3	99	6.35	.35	.28	6.98	31	4.7	1.01
2182	2798	314	295	21	630	-	583	7.78	1.46	.27	9.51	5	3.2	.88
2181	1275	448	402	-	850	-	496	13.15	1.22	-	14.37	-	-	.84
2161	1987	175	362	-	537	-	1784	6.16	4.46	.31	10.93	2	4.5	.78
2197	17587	544	250	13	807	2	227	10.67	.63	.18	11.48	12	4.7	.72
2198	9108	131	618	6	755	-	219	10.78	.55	-	11.33	9	5.3	.69
Avg.	16287	354	179	10	543	1	449	6.96	1.17	.25	8.38	12.5	5.4	1.11

Feed Costs and Returns for Poultry - 1928

Farm No.	Total Feed per 100 Hens		Cost of Feed per 100 Hens			Value per 100 Hens			Returns per $1.00 feed cost	Eggs laid per hen
	Concen.	Skim-milk	Concen.	Skim-milk	Total	Eggs	Poultry	Total		
66										
2051	7942	11439	$120.23	$28.60	$148.83	$282.88	$207.86	$490.74	$3.30	103
2131	3981	6383	72.41	15.96	88.37	252.34	-23.70	228.64	2.59	98
2082	9158	3175	141.55	7.94	149.49	271.49	85.05	356.54	2.39	114
2182	6399	8432	110.57	21.09	131.66	256.71	24.13	280.84	2.13	117
2161	15813	8827	210.31	22.07	232.38	423.94	43.37	467.31	2.01	191
2181	18794	15306	261.12	38.27	299.39	221.48	367.48	588.96	1.97	95
2199	4879	1029	62.31	2.57	64.88	109.07	18.27	127.34	1.96	54
2121	6421	8230	98.80	20.58	119.38	198.44	17.14	215.58	1.81	76
2197	12530	4364	192.11	10.91	203.02	158.99	195.80	354.79	1.75	63
2062	16758	8915	264.18	22.29	286.47	232.75	294.03	497.78	1.74	92
2192	12155	5534	233.23	13.83	247.06	229.76	181.62	411.38	1.67	99
2061	18297	3088	246.02	7.72	253.74	246.76	160.35	407.11	1.60	98
2021	9746	1012	164.54	2.53	167.07	238.62	31.96	260.58	1.56	112
2196	7485	6108	187.14	14.07	201.21	244.48	63.77	308.25	1.53	113
2198	8420	3460	115.37	8.65	124.02	84.26	85.89	170.15	1.37	41
2162	7349	1916	109.75	4.79	114.54	138.40	11.65	150.05	1.31	67
2191	7342	2790	108.19	6.98	115.17	158.79	-16.87	141.92	1.23	74
2122	6582	-	99.92	-	99.92	67.86	49.79	117.65	1.18	29
2201	25466	-	383.87	-	383.87	216.32	78.29	294.61	.77	86
2101	9572	-	139.01	-	139.01	105.81	-17.80	88.01	.63	49
Avg.	10754	5000	166.03	12.44	178.47	205.51	92.40	297.91	1.72	89

Feed Cost for Horses - 1928

Farm No.	% colts are of horses	Feed per Horse			Feed Costs per Horse				Crop acres per horse	Tractor used for field work
		Grain	Tame hay & alfalfa	Wild hay & fodder	Grain	Rough.	Pasture	Total		
2131	24.8	77	2825	3390	$1.18	$32.88	$4.94	$39.00	15	Yes
2182	-	-	4556	1111	-	40.78	-	40.78	15	No
2051	-	1180	3333	-	16.48	23.67	4.50	44.65	16	No
2161	10.4	1825	2268	-	25.86	14.37	5.83	46.06	12	Yes
2181	-	3789	1357	-	18.93	24.93	4.47	48.33	11	No
2122	27.4	2095	993	3808	31.35	23.51	3.11	57.97	23	No
2121	19.5	2474	1708	1081	37.97	17.50	4.42	59.89	27	Yes
2062	14.3	2292	2231	923	36.46	19.39	4.32	60.17	17	No
2201	31.8	3116	2090	505	45.46	14.77	4.19	54.42	34	Yes
2082	6.8	1666	4946	-	27.11	33.53	4.02	64.66	18	Yes
2199	25.3	2649	1806	2673	39.61	22.69	3.61	65.91	28	Yes
2061	-	2300	2000	3000	35.18	31.00	-	66.18	23	No
2197	11.3	3515	2401	-	53.19	13.93	4.90	72.02	24	Yes
2191	-	3595	2667	-	55.07	13.33	3.76	72.16	19	No
2196	-	3380	3000	2500	50.24	22.75	3.13	76.12	15	Yes
2101	-	3872	3571	-	55.04	22.57	4.50	82.11	26	No
2162	-	2764	4905	1090	44.69	37.05	4.54	86.28	27	Yes
2021	25.6	3520	2588	5882	53.37	39.69	3.53	96.59	22	Yes
2192	-	3660	4333	2667	62.19	33.17	3.12	98.48	24	Yes
2198	-	4784	1961	2206	72.93	24.51	3.65	101.09	45	Yes
Avg.	9.9	2629	2777	1542	38.11	25.30	3.73	67.14	22	