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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
Dodge County

21 Jan 1929

By

W.P. Ranney and G.A. Pond
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M.L. Armour, County Agent

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

First Annual Report of the Dodge County Better Farming Club
for the Year 1928

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

INDEX

	Page
Introduction.....	1
Summary of Farm Earnings.....	4
Summary of Farm Inventories.....	5
Statement of Amount of Livestock.....	5
Statement of Gross Returns from Livestock.....	6
Statement of Expenses for Buildings, Machinery and Equipment.....	6
Statement of Miscellaneous Items.....	6
Effect of Well Balanced Efficiency on Farm Profits.....	7
Measures of Farm Organization and Management Efficiency.....	8
Prices Received for Products Sold.....	12
Factors of Cost in Dairy Production.....	13
Feed Costs and Returns from Dairy Cows.....	14
Feed Costs and Returns from Young Cattle.....	15
Feed Costs and Returns from Dairy Herd.....	16
Factors of Cost in Pork Production.....	17
Feed Costs and Returns from Poultry.....	18
Feed Costs for Horses.....	19

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 eighteen farmers in Dodge County, Minnesota, have been cooperating during the year 1928 in a farm account project, known as the Better Farming Club of Dodge County. This report includes the records of five farmers of the Club in Goodhue County, which adjoins Dodge County on the north. Due to the fact that there was not a sufficient number of cooperators in Goodhue County, a separate report was not made for that county. The five farms resemble the farms of the Dodge County cooperators in type of farming.

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; A.T. Hoverstad and D.C. Mumford, who aided in the organization work late in the year 1927; and Wm. Dankers, who aided in securing and closing Goodhue County records. Hearty support and assistance has been rendered by M.L. Armour, county agricultural agent of Dodge County, and Preston Hale, county agricultural agent of Goodhue County. The work was started January 1, 1928 along with similar clubs in nearby counties, viz., Freeborn, Rice, Steele and Waseca counties.

Type of Farming in Dodge County

The farms selected for the study are livestock farms on which dairy cattle are the principal source of income. Although some milk is sold for manufacture into cheese, 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 skim-milk 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 is grown to a limited extent as a cash crop. 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 hogs sales more than one-fifth of the average cash income for the 21 cooperators in Dodge and Goodhue counties.

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 of 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 then 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 operator to know the returns for his labor and management, the returns to capital and family labor, and the actual 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 21 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 21 farms in this report averaged 191 acres in size and had an average farm inventory of \$23,721, which does not include the value of the house in which the operator lived. Fifty-five per cent of the average farm inventory consisted of land; 17 per cent of permanent improvements; 7 per cent of feeds and supplies; 8 per cent of all machinery and equipment; and 13 per cent of live-stock, of which almost one-half or an average of \$1300 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 \$4593. In addition farm produce to the value of \$346 was consumed by the farm family and there was an average inventory increase of \$189 per farm. The total average receipts per farm is the sum of these three items or \$5128. The average total expense per farm, \$2398, includes \$2283 cash expense and an estimated allowance of \$115 for the board of hired labor. The difference between the total income and total expense figures is \$2730. This is the return which the farmer receives 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, \$1184, for the services of capital there remains \$1546 for the services of the farmer and his family. The average value of family labor used, if computed at hired man's wages was \$392. The average operator's labor earning is the family earnings less their allowance of \$392, or \$1154. This is the return to the farmer for his labor and management over and above a 5 per cent return for his capital and going wages for other members of the family.

- 4 -
Summary of Farm Earnings - 1928

<u>CASH EXPENSES</u>	Your farm	Average	High farm	Low farm
Tractor(new & exp.)		\$87	\$533	-
Truck (new & exp.)		52	205	-
Auto (new & exp.)(farm share)*		114	603	2
Gas engine (new & exp.)(farm share)		16	96	-
Light plant or bill (new & exp.)(farm share)		2	12	-
Machinery & equipment(new)		177	1315	-
Machinery & equipment(expense)		86	312	12
Bldgs., fences, tiling(new)		107	800	-
Bldgs., fences, tiling(expense)		45	125	-
Hired labor		291	1397	-
All fed for livestock		432	810	74
Other expense for livestock		73	145	17
Horses bought		39	375	-
Cows bought		110	553	-
Other cattle bought		55	250	-
Hogs bought		43	134	-
Poultry bought		31	88	-
Sheep bought		11	182	-
Crop(seed, twine, spray)		188	300	28
Taxes and insurance		293	640	110
General farm		31	80	5
(1) Total cash expense		2283	4976	551
(2) Decrease in farm inventory		-	535	-
(3) Board for hired labor		115	453	-
(4) Total expense (1,2 & 3)		2398	5429	551
<u>CASH RECEIPTS</u>				
Horses		36	450	-
Cows		279	815	-
Dairy products		1633	2728	541
Other cattle		365	993	67
Sheep		77	350	-
Hogs		967	4300	35
Poultry		194	471	-
Eggs		240	647	-
Small grain		440	2535	-
Corn		30	394	-
Hay		44	522	-
Other crops		31	308	-
Miscellaneous		65	612	-
Outside		192	1473	-
(5) Total cash receipts		4593	11281	1239
(6) Increase in farm inventory		189	1401	-
(7) Farm produce used in house		346	498	185
(8) Total receipts (5,6 & 7)		5128	13363	1738
Total expense (4)		2398	5429	551
(9) Return to capital & farm labor(8-4)		2730	7934	313
(10) Interest on farm inventory		1184	3724	285
(11) Family labor earnings(9-10)		1546	4210	-592
(12) Unpaid family labor		392	1500	30
(13) Operator labor earnings(11-12)		1154	4030	-952

*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)		108.8	450.	80.
Size of farm business(prod. man work units)(1)		506.	1272.	197.
Average farm inventory(without house)	\$23721	\$74480	\$5699	
Land	13086	40275	3350	
Farm improvements	3937	12027	643	
Machinery & equipment (total)	1927	-	-	
Gen. machinery & equipment	1425	7129	343	
Tractor	180	1650	-	
Truck	81	855	-	
Auto(farm share)	120	420	-	
Gas engine(farm share)	70	307	-	
Elec. equip.(farm share)	51	625	-	
Feeds and seeds	1754	5187	441	
Miscellaneous supplies	33	356	-	
Horses (total)	571	-	-	
Horses	491	1240	190	
Colts	80	287	-	
Productive livestock	2413	-	-	
Cows	1281	2812	407	
Other cattle	528	1243	99	
Hogs	353	1353	79	
Sheep	108	776	-	
Poultry	143	293	-	

Statement of Average Number of Animal Units (2)

Total Horse Units	6.22	12.55	3.00
Horses	5.59	10.15	3.00
Colts	.63	2.88	-
Total productive animal units*	28.36	72.28	9.26
Cows	13.94	29.25	6.42
Other cattle	6.25	15.09	1.71
Hogs	5.16	17.33	.08
Sheep	1.47	9.02	-
Poultry(hens)	1.52	2.89	-

*Includes one farm with .34 turkey units

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)

Item	Your farm	Average	High farm	Low farm
All productive livestock		\$4137	\$10467	\$1543
Cows		2140	4229	785
Other cattle		522	1422	143
Hogs		942	3821	46
Sheep		87	670	-
Poultry		446	896	-

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

Buildings and fences	\$177	\$620	-
General machinery & equipment	220	864	38
Total power equipment	272	888	17
Tractor	91	570	-
Truck	56	248	-
Auto (farm share)	98	253	2
Gas engine(farm share)	21	78	-
Electric equipment(farm share)	6	62	-

Statement of Miscellaneous Items

Total farm power expense(5)	\$669	\$1847	\$155
Net increase in feeds and grains(6)	384	2513	-
Net decrease in horses(6)	39	430	-
Gross returns per \$100 expense(7)	222	330	98

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 tractor and truck expense and farm share of auto, gas engine and electrical expense. No attempt was made to allocate a 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	1		.2	5.0	-		18.0	18.0	-
Oats	18		19.2	75.0	7.0		39.5	60.0	19.0
Barley	14		16.1	67.0	2.0		34.2	40.8	26.9
Rye	1		0.4	9.0	-		8.0	8.0	-
Flax	5		3.9	25.0	11.0		10.5	14.0	6.0
Wheat & oats	9		10.0	105.0	3.7		26.7	37.0	18.8
Oats & barley	14		16.6	53.0	6.5		37.1	60.0	21.0
Other grains & mixtures	5		1.6	10.0	3.0		-	-	-
Total grain			68.0	189.0	12.5				
Corn, grain	21		19.4	86.0	3.0		37.0	53.0	25.0
Corn, silage	19		13.8	33.0	4.0		8.3	9.0	3.1
Corn fodder	6		1.5	10.0	1.0		2.6	3.5	1.0
Potatoes	4		.1	1.0	0.5		161.6	250.0	110.0
Total cultivated crops			34.8	126.0	12.0				
Alfalfa	12		3.4	14.0	1.5		2.5	4.0	1.0
Clover & clover mixtures	13		12.4	54.0	2.0		1.6	2.0	0.9
Other legumes	1		0.1	1.5	-		2.6	2.6	-
Timothy	8		5.1	26.0	2.0		.9	1.5	0.5
Annual hay crops	2		0.1	2.0	1.0		1.8	2.5	1.0
Wild hay	4		1.7	20.0	3.0		1.0	1.5	0.4
Total hay			82.8	68.0	6.0				
Total crop acreage			125.6	347.0	50.0				
Pasture	21		43.0	91.0	16.0				
Timber(not pasture)	3		1.8	30.0	3.0				
Roads and waste	21		5.1	20.0	1.0				
Farmstead	21		6.3	14.0	1.5				
Total acres in farm	21		181.8	450.0	80.0				

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. Index of 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. Index of productive man work units per worker.
6. Index of equipment and farm power expense (buildings, fencing, all machinery, horse feed and miscellaneous expense).
7. Size of business (total number of productive units).

In Chart 1 is shown the effect of the number of the above factors in which the farmer excels on his labor earnings. The twelve farmers who excelled in four or more factors had average earnings of more than \$1400 above the average of two 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	12		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	\$1574
Two or three	7		XXXXXXXXXXXXXXXXXXXX	863
One or more	2		XXX	139

The array in Chart 1 suggests that it will be worthwhile for each cooperator to study carefully his ranking on page 8, 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 12 to 19 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 next to lowest in respect to operator's labor earnings, is above the average in three factors, but is so far below the average in two factors that these offset the effect of the other four and reduce 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	Return per \$1.00 of feed					Eggs per hen	Index of crop yield	Percent of crop acres in legumes	Gross returns per \$100 expense
			Cows	Hogs	Other cattle	Poultry	Sheep				
1193	349.3	201	\$2.89	\$1.14	\$.57	\$1.62	\$3.38	52	109	20	\$241
1071	196.1	234	1.96	1.18	.92	-	-	-	122	18	305
1191	184.1	387	2.03	1.34	1.55	2.14	-	145	138	11	276
1131	164.3	328	2.46	1.34	.74	2.95	11.49	117	96	17	313
1011	139.1	178	4.65	1.03	1.25	.97	6.59	23	96	13	282
1192	135.8	296	2.26	1.40	.86	1.12	16.50	76	78	3	223
1402	117.2	280	1.65	1.53	.52	2.17	.00	78	116	8	181
1031	115.6	288	2.37	1.24	1.00	1.81	-	109	97	6	216
1051	106.6	223	1.93	1.02	.87	3.27	-	118	91	22	253
1321	100.8	311	2.55	1.47	.94	2.00	2.12	162	92	11	169
1231	84.9	271	2.42	1.43	.81	2.22	-	97	93	31	178
1081	74.7	207	2.61	1.16	.60	2.32	-	133	83	-	330
1911	73.4	243	2.23	1.20	.56	3.00	-	124	100	4	176
1151	69.2	293	3.24	1.33	1.67	3.67	-	112	88	6	259
1161	51.1	203	3.20	.53	.55	3.46	-	96	106	-	220
1802	49.7	273	1.89	1.04	.79	.84	2.32	39	100	8	167
1132	49.3	292	1.75	1.43	.55	2.60	3.83	106	80	-	171
1041	46.1	217	1.76	.89	1.03	2.33	-	55	84	-	247
1401	43.4	250	2.69	1.09	.65	3.25	1.18	46	114	12	184
1032	31.9	161	1.84	1.14	.72	2.53	2.93	152	87	18	185
1121	-82.5	215	2.43	.16	.56	1.81	-	77	80	24	98
Avg.	100.0	255	2.42	1.14	.84	2.32	5.03	96	98	11	223
High	349.3	387	4.65	1.53	1.67	3.67	16.50	152	138	31	330
Low	-82.5	161	1.65	.16	.52	.84	.00	46	78	0	98

Measure of Farm Organization and Management Efficiency - Con'd

Farm No.	Index of productive man work units per worker	Crop Acres per Horse With tractor	Without tractor	Index of farm power expense	Index of general machinery & 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. productive man work units
1193	158	42	-	114	170	148	6.5	16.1	163	1272
1071	104	-	17	65	60	105	8.8	14.9	143	526
1191	63	-	12	118	30	48	9.4	17.6	181	317
1131	104	-	14	84	140	33	10.0	23.0	219	315
1011	149	-	19	100	55	87	10.0	19.1	114	563
1192	121	27	-	63	108	51	5.9	18.2	192	608
1402	79	-	22	133	83	96	9.2	20.0	133	620
1031	106	26	-	141	100	81	6.6	13.8	122	535
1051	103	25	-	183	50	135	8.6	15.2	107	491
1321	75	25	-	183	165	145	5.0	12.9	80	769
1231	78	-	16	82	63	163	11.2	19.3	197	432
1081	71	-	17	108	70	30	8.0	11.6	13	197
1911	108	-	17	129	172	148	7.2	14.9	155	625
1151	58	-	18	55	65	114	8.2	12.9	68	221
1161	108	-	20	93	98	120	8.1	16.0	71	327
1802	96	23	-	91	95	109	10.7	17.8	166	532
1132	100	29	-	88	73	108	5.9	13.3	129	529
1041	146	-	22	87	130	-51	4.7	9.9	153	442
1401	74	-	12	84	103	226	14.1	27.6	82	318
1032	110	-	22	66	100	117	9.0	17.6	152	500
1121	82	29	-	95	170	87	7.1	14.7	58	433
Avg.	100	28	18	100	100	100	8	16	128	503
High	158	42	22	183	172	226	14.1	27.6	219	1272
Low	58	23	12	55	30	-51	15.0	9.9	13	197

*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 21 farms. The power, machinery and building expenses are calculated as so much expense per productive man work unit.

Index of operator's earnings	Lbs. of B. F. per cow	Measure of Farm Organization and Management Efficiency					Eggs per hen	Index of crop yield	Percent of crop acres in legumes	Gross returns per \$100 expense
		Returns per \$1.00 of Feed								
		Cows	Hogs	Other cattle	Poultry	Sheep				
250	405	\$4.84	\$1.85	\$1.75	\$4.72	\$17.00	156	122	29	\$315
225	380	4.39	1.75	1.60	4.32	15.00	146	118	26	300
200	355	3.94	1.65	1.45	3.92	13.00	136	114	23	385
175	330	3.49	1.55	1.30	3.52	11.00	126	110	20	270
150	305	3.04	1.45	1.15	3.12	9.00	116	106	17	255
125	280	2.59	1.35	1.00	2.72	7.00	106	102	14	240
100	255	2.14	1.25	.85	2.32	5.00	96	93	11	225
75	230	1.69	1.15	.70	1.92	3.00	86	94	8	210
50	205	1.24	1.05	.55	1.52	2.00	76	90	5	195
25	180	.79	.95	.40	1.12	1.00	66	86	2	180
0	155	.34	.85	.25	.72	.50	56	82	-	165

Measure of Farm Organization and Management Efficiency - Cont'd

Index of productive man work units per worker	<u>Crop Acres per Horse</u>		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. units per 100 acres	Lbs. of pork produced per feed crop acres	Total No. product. man work units
	With tractor	Without tractor							
160	40	24	-	10	-	14	28	248	1100
150	38	23	-	25	-	13	26	228	1000
140	36	22	20	40	-	12	24	208	900
130	34	21	40	55	25	11	22	188	800
120	32	20	60	70	50	10	20	168	700
110	30	19	80	85	75	9	18	148	600
100	28	18	100	100	100	8	16	128	500
90	26	17	120	115	125	7	14	108	400
80	24	16	140	130	150	6	12	88	300
70	22	15	160	145	175	5	10	68	200
60	20	14	180	160	200	4	8	48	100

Prices Received for Products Sold - 1928

Farm number	Butterfat per lb.	Eggs per dozen	Hogs per 100 lbs.
1193	54¢	27¢	\$8.77
1071	52	-	8.24
1191	53	27	9.36
1131	51	27	8.56
1011	56	26	8.41
1192	53	27	8.00
1402	51	27	9.54
1031	53	27	8.75
1051	52	32	8.18
1321	51	28	7.95
1231	54	27	8.43
1081	50	27	8.50
1911	50	26	8.36
1151	54	27	7.70
1161	62	32	6.54
1802	53	27	9.10
1132	52	27	8.37
1041	52	27	7.92
1401	51	25	8.25
1032	52	27	8.79
1121	54	29	7.47
Average	53	27	8.34
Highest	62	32	9.54
Lowest	50	25	7.47

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

Farm No.	B. F. per cow	Feed per Cow - Lbs.									Total concen- trates	Total dry rough.	Total digest. nutri.	Total digest. nutri. per lb. B. F.	Nutri- tive ratio	% cows fresh. Sept. to Dec. incl.	Per cent calves born
		Corn	Small grain	Mill feeds	Oil- meal	Tame hay	Wild hay	Alflafa	Corn fodder	Silage							
1191	387	-	2938	631	350	-	-	3292	-	9452	3919	3292	6109	15.8	1:6.1	44	96
1131	328	-	1263	933	257	2466	-	-	1715	6646	2453	4181	4757	14.5	1:7.3	45	117
1231	311	269	975	-	113	864	-	2305	-	6817	1357	3169	3746	12.0	1:6.2	56	89
1192	296	275	1980	278	112	1684	-	702	140	9544	2645	2526	4808	16.2	1:8.5	64	112
1151	293	349	782	124	115	608	152	1140	456	9652	1370	2356	3846	13.1	1:7.4	60	76
1132	292	444	1322	-	-	2566	-	-	453	11321	1766	3019	5198	17.8	1:7.3	90	75
1031	288	399	1323	342	-	2710	-	-	741	11004	2064	3451	4988	17.3	1:9.4	82	120
1402	280	-	2946	370	136	326	-	2198	-	6841	3452	2524	5025	17.9	1:6.3	71	92
1802	273	46	1456	612	120	1468	-	1153	349	10221	2242	2970	4802	17.6	1:8.2	40	87
1231	271	246	753	760	134	2777	-	-	417	5894	1693	3194	3939	14.5	1:7.9	50	75
1401	250	219	562	645	-	1156	-	1333	-	2044	1426	2489	2612	10.5	1:6.1	54	98
1911	243	-	836	291	116	-	-	1747	-	6057	1243	1747	2803	11.5	1:5.9	75	70
1071	234	-	1847	259	152	2566	-	-	1002	6914	2258	3568	4059	17.3	1:8.2	63	109
1051	223	-	700	134	-	1374	-	-	-	6652	834	1374	2400	10.8	1:9.4	58	87
1041	217	-	1342	-	-	5360	-	-	-	13722	1342	5360	5924	27.3	1:10.1	75	86
1121	215	133	573	238	84	1619	-	365	-	5913	1028	1984	2621	12.2	1:7.5	25	141
1081	207	820	728	-	-	2430	-	-	3039	-	1548	5469	3704	17.9	1:10.1	29	109
1161	203	929	1361	-	12	2327	-	-	-	4457	2302	2327	3595	17.7	1:8.9	17	74
1193	201	59	1005	178	7	2243	-	137	342	7385	1249	2722	2910	14.5	1:8.6	49	85
1011	178	-	113	23	-	455	-	-	1536	6542	136	1991	1978	11.1	1:12.4	15	74
1032	161	617	715	97	-	1837	-	-	756	9084	1429	2593	3791	36.7	1:10.1	60	69
Avg.	255	229	1215	281	82	1755	7	684	521	7436	1807	2967	4458	16.4	1:8.1	53	92

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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 Produce per Cow						Gross returns per \$100 feed	% voluntary sales	% fresh heifers are of total cows	
		Concen.	Rough.	Pasture	Total cost		B.F. sales	Dairy prod. used in house	Milk to other live-stock	Apprec.	Total	Deprec.				Net value of prod.
1191	387	\$68.50	\$43.74	\$5.37	\$117.61	30	\$186.77	\$9.83	\$33.99	\$8.50	\$239.09	-	\$239.09	\$2.03	21	42
1131	328	43.85	32.58	7.23	83.66	26	155.25	8.00	32.49	9.65	205.39	-	205.39	2.46	-	32
1231	311	28.21	42.28	6.81	73.27	24	151.58	5.23	29.09	1.23	187.13	-	187.13	2.55	22	17
1192	296	42.46	33.30	7.11	82.87	28	140.02	10.02	31.17	5.97	187.19	-	187.19	2.26	28	0
1151	293	19.41	32.82	5.21	57.44	20	144.35	11.87	22.27	7.89	186.38	-	186.38	3.24	15	0
1132	292	44.15	38.22	5.06	87.44	30	139.39	11.55	19.31	-	170.25	17.38	152.87	1.75	23	23
1031	288	31.20	38.71	6.23	76.14	26	139.17	9.07	25.49	6.99	180.72	-	180.72	2.37	28	42
1402	280	55.26	31.73	6.10	93.09	33	128.54	10.88	12.15	1.79	153.36	-	153.36	1.65	11	5
1802	273	39.20	40.61	7.17	86.98	32	133.66	9.61	23.03	-	166.30	1.89	164.41	1.89	-	23
1231	271	33.57	29.22	6.14	68.93	25	128.47	13.86	18.19	6.33	166.85	-	166.85	2.42	37	22
1401	250	24.07	20.17	6.52	50.76	20	107.35	18.70	8.64	1.78	136.47	-	136.47	2.69	-	0
1911	243	24.16	24.34	6.18	54.68	22	116.10	4.28	13.00	-	133.38	8.18	125.20	2.28	-	0
1071	234	39.92	31.57	5.89	77.40	33	109.49	11.95	24.77	5.29	151.50	-	151.50	1.96	11	17
1051	223	13.02	47.69	6.33	67.04	30	102.77	8.38	17.31	.72	129.18	-	129.18	1.93	7	7
1041	217	22.42	56.91	6.30	85.63	39	100.59	9.70	23.84	16.29	150.42	-	150.42	1.76	21	0
1121	215	17.66	23.52	6.29	47.47	22	85.67	22.05	25.01	-	132.73	17.10	115.63	2.43	62	0
1081	207	17.76	22.36	6.77	46.89	22	84.29	14.99	17.53	5.45	122.26	-	122.26	2.61	-	16
1161	203	25.40	24.85	5.57	55.82	27	132.58	7.22	6.92	32.13	178.85	-	178.85	3.20	50	0
1193	201	22.76	29.42	6.02	58.20	29	91.82	5.58	18.21	28.98	144.59	-	144.59	2.89	25	34
1011	178	1.88	18.97	7.12	27.97	16	78.00	6.06	31.22	14.73	130.01	-	130.01	4.65	23	22
1032	161	19.79	29.62	5.63	55.04	34	75.26	6.29	16.10	3.50	101.15	-	101.15	1.84	42	35
Avg.	255	30.03	32.98	6.24	69.25	27	120.53	10.24	21.42	7.49	159.68	2.12	157.56	2.42	20	16

Feed Costs and Returns from Young Cattle - 1928

Farm No.	Feeds Used per Head					Feed Cost 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			
1151	438.9	153.4	153.4	217.8	4155.5	\$6.79	\$1.38	\$16.35	\$2.30	\$26.82	\$44.94	\$1.67	-
1191	73.4	858.6	2289.6	597.4	1402.4	.82	11.02	15.10	2.68	29.62	45.79	1.55	14
1011	-	1380.0	3609.3	1598.7	507.1	-	10.89	32.30	3.52	46.71	58.27	1.25	21
1041	465.7	3999.5	9998.8	710.9	3490.7	8.40	41.99	22.88	3.79	77.06	79.42	1.03	-
1031	160.0	405.9	3659.3	237.8	1121.8	2.60	8.81	7.30	3.46	22.17	22.21	1.00	18
1321	207.1	666.7	7778.4	186.7	600.0	2.99	19.89	5.12	2.99	30.99	29.08	.94	-
1071	520.1	1915.4	2532.6	686.5	1351.5	9.29	15.12	17.36	2.11	43.90	40.66	.92	-
1051	74.7	456.0	2736.0	618.0	2574.9	1.42	18.92	13.43	2.85	41.62	36.37	.87	-
1192	400.5	363.6	1545.3	265.4	1824.4	6.78	5.14	9.85	1.76	23.53	20.19	.86	-
1231	318.5	1906.3	1988.7	256.4	2688.2	4.57	14.78	13.23	2.77	35.35	28.71	.81	-
1802	474.9	1549.9	4286.9	247.3	3756.8	8.02	16.83	13.94	2.46	41.25	32.60	.79	-
1131	272.1	1529.7	3039.4	267.5	2997.4	4.51	12.64	12.95	2.78	32.88	24.41	.74	-
1032	520.6	447.7	3760.3	241.0	1368.0	8.31	10.03	7.68	2.67	28.69	20.78	.72	45
1401	538.7	1116.7	257.7	274.9	884.8	9.18	6.83	9.61	-	25.62	16.70	.65	34
1081	206.5	5162.3	-	591.8	4044.3	2.36	22.96	22.18	3.09	50.59	30.60	.60	-
1193	55.3	414.8	5755.9	611.9	738.4	1.04	13.76	13.72	3.56	32.08	18.41	.57	7
1121	682.7	917.4	1900.0	428.0	1382.7	11.89	8.75	12.62	.25	33.51	18.89	.56	20
1911	151.8	934.6	2699.8	113.0	850.9	2.75	10.54	4.33	2.92	20.54	11.60	.56	16
1161	634.4	272.5	681.3	784.8	-	7.17	2.86	15.22	2.32	27.57	15.22	.55	-
1132	689.6	1043.3	3278.9	133.5	2831.4	10.51	12.30	9.80	2.64	35.25	19.06	.55	30
1402	570.6	1102.4	1850.4	283.5	1908.2	9.75	10.55	12.68	.74	33.72	17.62	.52	24
Avg.	355.5	1266.5	3034.4	444.1	1927.6	5.67	13.14	13.94	2.46	35.21	30.07	.84	11

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

Farm No.	B.F. per cow	Percent cow of cattle units	Feed Cost per Animal Unit				Value Production per Animal Unit			Returns per \$1.00 feed cost
			Concen- trates	Rough.	Pasture	Total	Dairy products	Sales and appreciation	Total	
1191	387	70	\$48.08	\$36.12	\$51.12	\$89.32	\$152.58	\$36.56	\$189.14	\$2.12
1131	328	58	29.00	23.74	6.36	64.10	103.80	67.02	170.82	2.66
1321	311	66	17.83	40.75	5.92	64.50	118.50	24.02	142.52	2.21
1192	296	55	29.28	22.81	5.44	57.53	91.86	25.48	117.34	2.04
1151	293	78	17.71	26.06	4.93	48.70	132.50	22.98	155.48	3.19
1132	292	65	31.68	32.82	5.01	69.51	103.30	19.04	122.34	1.76
1031	288	62	21.24	30.34	6.34	57.92	102.77	45.29	148.06	2.56
1402	280	73	45.05	28.35	4.81	78.21	103.87	22.52	126.39	1.62
1802	273	74	33.00	38.62	6.50	78.18	115.09	28.96	144.05	1.84
1231	271	74	26.94	28.51	5.83	61.28	112.37	16.57	128.94	2.10
1401	250	77	22.12	18.06	5.00	45.18	99.54	27.41	126.95	2.81
1911	243	63	17.14	22.75	6.46	46.35	80.84	18.12	98.96	2.14
1071	234	73	33.47	29.94	5.28	68.69	99.59	24.70	124.29	1.81
1051	223	78	10.75	44.49	6.03	61.27	73.92	20.27	114.19	1.86
1041	217	85	21.08	58.75	6.28	86.11	107.63	34.46	141.99	1.65
1121	215	59	19.58	20.58	3.88	44.04	68.01	8.13	76.14	1.73
1081	207	72	14.86	27.62	6.65	49.13	80.96	36.25	117.21	2.38
1161	203	80	22.97	20.96	5.31	49.24	112.02	49.60	161.62	3.28
1193	201	66	15.69	28.39	6.29	50.37	67.31	51.19	118.50	2.35
1011	178	79	1.48	19.56	7.11	28.15	77.28	28.94	106.22	3.77
1032	161	72	19.09	26.78	5.52	51.39	65.69	24.23	89.92	1.75
Avg.	255	71	23.72	30.05	5.72	59.49	99.49	30.08	129.57	2.25

Factors of Cost in Pork Production - 1928

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	Return per \$100 of feed
		Corn	Small grain	Mill feeds	Total grain	Tank.	Skim-milk	Grain & mill feeds	Tank. & skim-milk	Pasture	Total			
1321	15557	131	72	-	203	-	1028	\$2.56	\$2.57	\$.30	\$5.43	8	6.5	\$147
1151	1379	228	52	-	280	-	1032	3.17	2.58	-	5.75	0	0	133
1231	8282	174	124	30	328	-	417	4.78	1.04	.09	5.91	4	8	143
1132	12199	227	159	-	386	-	305	4.97	.76	.21	5.94	12	6.6	143
1192	21452	259	115	2	376	3	389	4.51	1.06	.41	5.98	17	6.1	140
1402	13893	159	197	46	402	-	151	5.50	.38	.29	6.17	10	5.6	153
1131	8113	278	62	11	351	-	663	4.39	1.65	.16	6.20	8	4.6	134
1031	11575	11	317	-	328	-	750	4.14	1.87	.29	6.30	12	5.2	124
1191	8679	232	80	27	339	2	899	4.23	2.32	.24	6.79	6	7.8	134
1911	14583	194	131	43	373	3	367	5.67	1.05	.21	6.93	7	7.6	120
1032	11388	267	166	3	436	4	468	5.60	1.18	.19	6.97	7	6.0	114
1081	555	202	161	-	363	-	1072	4.44	2.68	-	7.12	0	0	116
1401	2770	319	269	-	588	-	327	7.15	.82	-	7.97	2	8.5	109
1051	9260	481	129	-	610	5	315	7.35	.99	.18	8.52	8	3.5	102
1011	10350	239	171	48	458	-	948	6.02	2.37	.26	8.65	5	6.0	103
1071	11660	283	186	6	480	4	763	6.66	2.05	-	8.71	6	6.7	118
1193	38045	268	284	16	568	7	143	7.79	.61	.38	8.78	20	7.8	114
1802	9136	196	267	-	463	11	914	6.39	2.33	.26	8.98	6	5.3	104
1121	3525	520	128	3	651	13	777	7.43	2.38	-	9.81	2	8.0	16
1041	11170	275	354	4	633	4	487	8.63	1.35	-	9.98	7	6.1	89
1161	3694	586	503	-	1089	9	-	12.38	.32	.80	13.50	9	5.2	33
Avg.	10822	263	187	12	462	3	582	5.89	1.54	.20	7.63	7.4	6.4	114

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- trates	Skim- milk	Concen- trates	Skim- milk	Total	Eggs	Poultry	Total		
1151	5978	18437	\$98.33	\$46.10	\$144.43	\$249.52	\$280.41	\$529.93	\$3.67	112
1161	8490	-	98.57	-	98.57	247.45	93.94	341.39	3.46	96
1051	8919	15449	143.69	38.60	182.29	306.34	290.27	596.61	3.27	118
1401	10256	2663	166.71	6.65	173.36	146.13	417.11	563.24	3.25	68
1911	7200	1988	137.05	4.96	142.01	272.25	153.77	426.02	3.00	124
1131	9276	5397	162.84	13.49	176.33	261.10	259.68	520.78	2.95	117
1132	12590	8870	240.14	22.17	262.31	237.45	445.35	682.80	2.60	106
1032	11647	3547	229.70	8.87	239.25*	346.52	258.80	605.32	2.53	152
1231	7284	7440	101.59	18.60	120.19	216.11	75.12	291.23	2.42	97
1041	4624	3556	77.15	8.89	86.04	120.64	79.56	200.20	2.33	55
1081	10060	6976	192.47	17.43	209.90	294.82	191.96	486.78	2.32	133
1402	9535	2975	126.34	7.44	133.78	177.41	112.68	290.09	2.17	78
1191	6238	18620	86.83	46.55	133.38	328.24	43.10	285.14	2.14	145
1321	11733	10244	190.23	25.61	215.84	382.99	69.10	452.09	2.09	162
1031	7146	3529	43.54	.55	44.50*	243.62	12.32	255.94	1.81	109
1121	4038	4515	81.16	14.50	95.66	185.89	12.02	173.07	1.81	77
1193	7284	7440	101.59	18.60	120.19	117.13	87.09	204.22	1.62	52
1192	5608	5350	122.26	13.38	135.64	169.69	18.03	151.66	1.12	76
1011	12900	1500	207.88	3.75	211.63	51.72	154.35	206.07	.97	23
1802	10309	7952	166.12	19.88	186.00	88.12	67.90	156.02	.84	39
Avg.	8556	6822	138.71	16.80	155.57*	222.16	148.77	370.93	2.32	97

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		
1151	0	691	2333	333	\$9.47	\$9.00	\$2.29	\$20.76	18	No
1121	10.4	934	3035	-	14.53	17.17	3.60	35.30	29	Yes
1192	49.0	1207	2477	-	18.02	12.61	4.83	35.46	27	Yes
1132	18.2	1474	2963	148	21.74	15.78	-	37.52	29	Yes
1161	0	2267	1113	-	29.85	6.25	2.01	38.11	20	No
1081	0	1717	1333	1167	27.87	9.58	4.55	42.00	17	No
1191	0	2654	-	1200	39.42	4.80	2.81	47.03	12	No
1071	0	1520	54	5213	24.44	20.31	3.92	48.67	17	No
1131	0	1950	2500	1500	31.27	18.00	3.37	52.64	14	No
1041	10.2	1859	3404	-	32.41	18.72	1.82	52.95	22	No
1321	32.1	1754	4302	-	25.13	27.97	3.26	56.36	25	Yes
1911	37.9	2380	1934	193	42.01	11.80	4.23	58.04	17	No
1231	16.7	1168	5260	3273	18.91	39.20	1.15	58.26	16	No
1032	0	2514	3200	620	37.19	19.13	2.50	58.82	22	No
1802	0	2451	2500	100	41.67	13.50	4.33	59.50	23	Yes
1031	40.0	3093	-	3673	42.30	14.51	3.69	60.50	26	Yes
1401	0	3004	2875	-	45.23	16.19	2.45	63.87	12	No
1011	0	2376	4362	1869	32.40	31.93	-	64.33	19	No
1402	21.3	2499	4658	342	38.28	28.60	4.28	71.16	22	No
1051	3.5	3228	5108	-	47.32	29.66	2.46	79.44	26	Yes
1193	9.2	4242	6971	2286	63.18	42.17	1.14	106.49	42	Yes
Avg.	11.8	2142	2875	1044	32.46	19.38	2.79	54.63	22	-