1959 Annual Report

FARM MANAGEMENT PROGRAM
NORTHEASTERN MINNESOTA

Iron Range Resources and Rehabilitation Commission

In Cooperation with

Minnesota Department of Education
Vocational Division

and

University of Minnesota
Institute of Agriculture

and

Area Vocational – Technical School
Duluth, Minnesota

April, 1960

F O R E W A R D

We wish to dedicate this report in the memory of August Neubauer who passed away October 24, 1959. Mr. Neubauer has served as an Agricultural Fieldman for this department for more than seven years and much credit can be given to him for the success of the Farm Management Program.

This report completes the fourth year of this program. Through analysis reports, individual farmers have been aided in the study of their farm business and has provided information that can be used by farmers and farm groups to study their farm problems.

We also want to give special recognition to Mr. Leo Keskinen, Vocational Agriculture Instructor, at the Duluth Area Vocational-Technical School who is director and supervisor in the preparation of this summary report and the work on the analysis of the farm records.

Assistance has been provided to farm participants in this program by Vocational Agriculture Instructors, Instructors of Veterans Agriculture, County Agents and County Rural Development Agents.

We present this report in the hope that it will aid all of the farmers of the area toward a sounder and more prosperous agriculture.

Kaarlo J Otava

KAARLO J. OTAVA, Commissioner

1959 REPORT OF THE VOCATIONAL AGRICULTURE FARM MANAGEMENT PROGRAM IN NORTHEASTERN MINNESOTA

Leo Keskinen
Duluth Area Vocational School

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INTRODUCTION

The main purposes of the program of farm analysis are: (1) to give assistance to instructors and county agents in the mechanics of farm record supervision, (2) to assist instructors, county agents, and cooperating farmers in farm accounting techniques, (3) to aid individual farmers in the study of their farm business through analysis reports, and (4) to provide case study materials that can be used by farmers and farm groups to study farm management problems.

The report and analysis of records were completed under the direction of Leo Keskinen, Vocational Agriculture Instructor, Duluth Area Vocational-Technical School. Clerical assistants were: Mrs. Nellie Hopper, Mrs. Ruby Naslund, Mrs. Marjorie Barron, and Mrs. Gertrude Kobus. Directing in a supervisory capacity were: Alvin T. Stolen, Superintendent of Duluth Public Schools; George Campaigne, Director of the Duluth Area Vocational-Technical School; G. R. Cochran, State Supervisor of Agricultural Education; and S. K. Wick, Director of the Vocational Division, State Department of Education. Promotional and other assistance was provided by Milo Peterson, Head Professor of Agricultural Education, University of Minnesota. Acknowledgement is also made of the excellent professional assistance rendered by Truman Nodland of the Institute of Agriculture, University of Minnesota.

Special acknowledgement is made for the direction, interest, and financial assistance provided by the Iron Range Resources and Rehabilitation Commission with Kaarlo Otava, Commissioner, and Hyrom Sorenson, Assistant Commissioner. The IRRRC Grant has financed the cost of the entire analysis project with the exception of several cooperators from an area not under IRRRC jurisdiction. These farmers have paid a set fee to cover their part of the analysis. The area covered by this report is outlined on the map inside of the front cover.

Agriculture Instructors submitting 1959 records for analysis were:

SCHOOL	INSTRUCTOR
Alango	Leo Wilenius
Barnum	Robert Johnson
Blackduck	Raymond Collen
Bemidji	Dalton Seeling
Clarissa	Elmer Fragodt
Embarrass	Ed Takala
Littlefork	Wilho Kemp
Meadowlands	Raymond White
Moose Lake *	Sherrill Robinson
Northome	Clayton Bray
Park Rapids	Robert Underwood
Pillager	Martin Klingenberg
Staples	William Guelker
Willow River	Erwin Pracher

* Veterans' Ag Instructor

County Agricultural Agents and Rural Development Agents submitting records were:

COUNTY	AGENT
Beltrami	Kenneth Hallbach
Hubbard	John Eix
Itasca	George Saksa
Lake of the Woods	Otto Lee

The above cooperating centers submitted records from ten counties for analysis with some centers having participating farmers in more than one county. The number of farm records submitted from each county is shown below:

Beltrami	5	Koochiching	15
Carlton	13	Lake of the Woods	2
Cass	8	Pine	3
Hubbard	17	St. Louis	8
Itasca	3	Todd *	5
		TOTAL	79

* Not IRRRC Area

The records submitted included farm inventories, cash receipts, and expenses. Also included were feed consumed by the various classes of livestock, family living from the farm, household and personal expenses and receipts, and the operators' liabilities and assets other than farm capital.

FARM INVENTORIES

The capital investment per farm varied from $5677 to $73664. The average investment for all farms included in this report and for the one-third high and the one-third low in operators' labor earnings is shown in TABLE I.

FARM EARNINGS

Operators' earnings are a measure of relative financial success of a farmer as compared with other farmers and represents the returns above all farm expenses and a charge for the use of farm capital and family labor other than that of the operator.

There are two methods of computing labor earnings. TABLE II shows the earnings statement on a cash basis while TABLE III shows the earnings on an enterprise or accrual basis. The principal difference in the two statements is in the method of handling the net increase or decrease in farm capital. In the cash statement, the net increase or decrease in farm capital is entered as one item. In the enterprise statement the net change in the inventory has been included in eash enterprise in order to compute "total returns and net increases", or "total expenses and net decreases" by enterprises.

A portion of the farm income in Northeastern Minnesota is obtained from the sale of forestry products. Sixteen farms out of the 79 represented in this report indicated some form of forestry income ranging from a low of $110 to a high of $3891 per farm. The average forestry income per farm (average of all 79 farms) amounted to $232, or 2.6% of the total farm income received. Forestry income is included as farm income in this report.

NON-FARM INCOME

Numerous Northeastern Minnesota farmers, in addition to their farm income, are earning additional income by employment in full or part time work not related to farming. Records submitted for this report cannot be considered as completely reliable in respect to non-farm income as this entry can be frequently omitted from the farm account books. However, 30 farms of the 79 did show outside income in addition to farm labor earnings ranging from a low of $8 to a high of $4567 per farm involved. For those cooperators who showed non-farm income, the average non-farm income per farm (30 farms) was $926, or 10% of total income received by this group. This non-farm income is not included in this report as farm labor earnings.

TABLE 1. SUMMARY OF FARM INVENTORIES, 1959

Items	Your farm Jan. 1	Your farm Dec. 31	Average 79 farms Jan. 1	Average 79 farms Dec. 31
Size of farm (acres)	———		280	
Size of business (work units)	———		354	
Dairy and dual purpose cows	———	———	$ 2706	$ 2820
Other dairy & dual purpose cattle	———	———	1375	1594
Beef cattle (incl. feeders)	———	———	134	253
Hogs	———	———	473	381
Sheep (incl. feeders)	———	———	139	145
Poultry	———	———	18	29
PRODUCTIVE LIVESTOCK (TOTAL)	———	———	$ 4845	$ 5221
Horses	———	———	20	13
Crop, seed and feed	———	———	1998	2161
Power machinery (farm share)	———	———	2064	2054
Crop and general machinery	———	———	2375	2409
Livestock equipment	———	———	1171	1099
MACHINERY AND EQUIPMENT (TOTAL)	———	———	$ 5609	$ 5562
Miscellaneous	———	———	-	-
Land	———	———	4813	4899
Buildings, fences, etc.	———	———	4445	4557
TOTAL FARM CAPITAL	———	———	$21731	$22413

Items	26 most profitable Jan. 1	26 most profitable Dec. 31	26 least profitable Jan. 1	26 least profitable Dec. 31
Size of farm (acres)	302		269	
Size of business (work units)	446		314	
Dairy and dual purpose cows	$ 3778	$ 3975	$2286	$ 2400
Other dairy & dual purpose cows	1595	2059	1499	1577
Beef cattle (incl. feeders)	168	168	12	376
Hogs	346	219	618	603
Sheep (incl. feeders)	25	26	275	261
Poultry	15	10	23	67
PRODUCTIVE LIVESTOCK (TOTAL)	$ 5927	$ 6457	$ 4713	$ 5284
Horses	10	10	34	23
Crop, seed and feed	2145	2815	2170	1734
Power machinery (farm share)	2140	2232	2178	2188
Crop and general machinery	2392	2458	2400	2340
Livestock equipment	1536	1389	934	872
MACHINERY AND EQUIPMENT (TOTAL)	$ 6068	$ 6079	$ 5512	$ 5400
Miscellaneous				
Land	5280	5417	4610	4682
Buildings, fences, etc.	5623	5599	4496	4650
TOTAL FARM CAPITAL	$25053	$26377	$21535	$21773

TABLE II. SUMMARY OF FARM EARNINGS (CASH STATEMENT), 1959

	Your farm	Average of 79 farms	26 most profitable farms	26 least profitable farms
FARM RECEIPTS				
Dairy and dual-purpose cattle	____	$ 1322	$ 1430	$1201
Dairy Products	____	5106	7202	3895
Beef cattle (incl. feeders)	____	65	101	-
Hogs	____	941	635	1166
Sheep and wool (incl. feeders)	____	123	45	190
Horses	____	8	-	13
Poultry	____	12	25	6
Eggs	____	42	27	54
Corn and small grain	____	240	208	409
Other crops	____	121	216	84
Forestry products	____	232	465	211
Mach. & eq.sold & gas tax refund	____	156	154	114
Income from work off the farm	____	262	332	285
Miscellaneous	____	206	204	221
(1) Total farm sales	____	8836	11044	7849
(2) Increase in farm capital	____	682	1324	238
(3) Family living from the farm	____	348	413	275
(4) Total farm receipts (1)+(2)+(3)	____	$ 9866	$12781	$ 8362
FARM EXPENSES				
Dairy & dual-purpose cattle bought	____	$ 283	$ 488	$ 159
Beef cattle bought (incl. feeders)	____	101	-	304
Hogs bought	____	35	10	85
Sheep bought (incl. feeders)	____	8	1	14
Horses bought	____	2	5	-
Poultry bought	____	10	7	22
Misc. livestock expense	____	229	337	194
Feed bought	____	1305	1244	1396
Fertilizer	____	211	309	180
Other crop expenses	____	304	347	271
Custom work hired	____	526	719	458
Gas, oil & grease bought (farm share	____	548	640	507
Repair of mech. power (farm share)	____	292	356	288
Repair & upkeep of real estate	____	104	97	108
Repair & upkeep crop & gen. machy.	____	163	193	167
Repair & upkeep livestock equip.	____	57	55	49
Wages of hired labor	____	265	430	207
Electricity expense (farm share)	____	208	252	194
Real estate & Pers. property tax	____	280	287	301
General farm expense	____	138	146	139
(5) total cash operating expense	____	5069	5923	5043
(6) Cap.purch.mech.power (farm sh)	____	501	558	624
(7) " " "crop & gen. mach.	____	494	550	399
(8) " " "livestock equip.	____	67	47	41
(9) " " "bldgs. & fencing	____	461	397	567
(10)Total farm purch. (5) to (9)	____	6592	7475	6674
(11) Decrease in farm capital	____			
(12) Interest on farm capital	____	1104	1286	1083
(13) Unpaid family labor	____	413	301	558
(14) Board furnished hired labor	____	37	91	16
(15) Total farm exp. (10) to (14)	____	8146	9153	8331
(16) Labor earnings (4) - (15)	____	$ 1720	$ 3628	$ 31

TABLE III. SUMMARY OF FARM EXPENSES (ENTERPRISE STATEMENT) 1959

	Your farm	Average of 79 farms	26 most profitable farms	26 least profitable farms
RETURNS AND NET INCREASES				
Dairy and dual-purpose cows	____	$ 5384	$ 7515	$ 4034
Other dairy & dual-purpose cattle	____	1410	1693	1317
Beef breeding herd	____	42	9	3
Feeder cattle	____	53	102	50
Hogs	____	857	522	1103
Sheep -farm flock	____	114	44	162
Chickens	____	76	63	106
ALL PRODUCTIVE LIVESTOCK	____	$ 7936	9948	6775
Value of feed fed to livestock	____	3882	4498	3684
Return over feed from livestock	____	4054	5450	3091
Crop seed, and feed	____	2779	4110	2107
Income from labor off the farm	____	261	332	282
Agricultural conserv. payments	____	75	114	39
Miscellaneous	____	132	91	182
(1) Total returns & net increases	____	$ 7301	$10097	$ 5701
EXPENSES AND NET DECREASES				
Horses	____	$ 2	$ 5	$ 1
Truck	____	296	353	329
Auto	____	274	260	271
Tractor	____	751	823	785
Elec. & gas engine exp.(farm sh)	____	117	162	92
Hired power	____	526	719	458
TOTAL POWER	____	$1966	$2322	$1936
Crop and general machinery	____	604	645	638
Livestock equipment	____	196	244	152
Buildings, fencing & tiling	____	350	380	447
Misc. productive livestock exp.	____	229	337	194
Labor	____	714	822	780
Real estate taxes	____	168	157	196
Personal property taxes	____	112	130	105
Insurance	____	63	72	66
General Farm	____	75	74	73
Interest on farm capital	____	1104	1286	1083
(2) Total expenses and net decreases	____	$5581	$6469	$5670
(3) LABOR EARNINGS (1) - (2)	____	$1720	$3628	$ 31

* Cash receipts and expenses are adjusted for changes in inventory for each enterprise and for each item of expense in order to show total receipts and net increases, and total expenses and net decreases. The operator's earnings are the same as those on page 5.

FAMILY LIVING FROM THE FARM

The family living from the farm is the estimated value of the farm produce used in the house and shelter furnished the farmer and his family by the farm. It is a part of the income of the farm and a part of the expense of operating the household even though cash transactions are not involved. The omission of the farm produce used in the home results in an incomplete record of both farm income and personal expense.

The value of the family living as shown in Table IV amounts to 3.4 per cent of the total farm receipts on those farms. The values assigned are a conservative market price on the farm. If these products had been purchased, the amount paid out would have been considerably higher.

TABLE IV. FAMILY LIVING FROM THE FARM, 1959

Items	Your farm	Avg. 46 farms	Your farm	Avg. 46 farms
Adult equiv. - family	_____	3.3		
- others	_____	.1		
Whole milk	_____	1433 qts.	$ _____	$ 94
Skim milk	_____	29 qts.	_____	1
Cream	_____	22 pts.	_____	5
Butter	_____	4 lbs.	_____	2
Beef	_____	506 lbs.	_____	104
Hogs	_____	136 lbs.	_____	23
Lamb and mutton	_____	6 lbs.	_____	1
Poultry	_____	25 lbs.	_____	11
Eggs	_____	2 doz.	_____	7
Potatoes	_____	7 bus.	_____	6
Vegetables and fruit	_____	--	_____	63
Farm fuel	_____	--	_____	51
TOTAL			$ _____	$368

*46 farmers reported complete records on family living from the farm.

HOUSEHOLD AND PERSONAL EXPENSES AND RECEIPTS

Household and personal accounts are important if the family is to manage its financial affairs wisely. The household and personal expenses and receipts are presented in TABLE V. These farmers spent an average of $180 per month for family living in addition to the food, fuel and housing furnished by the farm.

TABLE V. HOUSEHOLD AND PERSONAL EXPENSES FOR THOSE FARMS WHICH KEPT COMPLETE ACCOUNTS OF THESE EXPENSES, 1959

Items	Your farm	Average of 46 farms	15 most profitable farms	15 least profitable farms
Number of persons - family	_____	4.7	6.4	3.6
Number of adult equiv. - family	_____	3.3	4.2	2.8
other*	_____	.1	-	.1
Food and meals bought	_____	$ 786	$ 954	$ 766
Operating and supplies	_____	141	172	129
Furnishings and equipment	_____	144	165	124
Clothing and clothing materials	_____	204	242	227
Personal care, personal spending	_____	54	44	74
Education, recreation & development	_____	168	209	169
Gifts and special events	_____	70	81	85
Medical care & health insurance	_____	258	280	263
Church, welfare	_____	57	46	70
Personal share of auto expense	_____	142	165	163
Operator's share upkeep on dwelling	_____	28	15	37
Household share of electric exp.	_____	102	125	111
TOTAL CASH LIVING EXPENSE	_____	2154	2498	2218
H. H. & pers. share of new auto	_____	135	185	194
New dwelling	_____	284	504	344
Taxes and other deductions	_____	120	135	176
Life insurance	_____	83	122	74
Other savings and investments	_____	104	286	16
TOTAL HOUSEHOLD & PERS.CASH EXP.	_____	2880	3730	3022
Total family living from the farm	_____	368	477	295
TOTAL CASH EXP. & PERQUISITES	_____	$ 3248	$ 4207	$ 3317
Receipts:				
Return to Capital & family labor	_____	$ 3110	$ 5227	$ 1649
Miscellaneous income	_____	279	57	423
Income from investments	_____	35	—	11

* Hired help or others boarded

NET WORTH

A net worth statement includes a listing of all the assets and liabilities as of a given date. The difference between the farmer's total assets and his liabilities is his net worth. A net worth statement is presented in Table VI. Both the farm and personal assets and liabilities are included.

The difference between the operator's net worth at the beginning and at the end of the year shows the gain in net worth. It represents the financial progress that has been made during the year.

TABLE VI. NET WORTH STATEMENT FOR THOSE FARMERS WHO KEPT A COMPLETE RECORD OF ALL ASSETS AND LIABILITIES, 1959

Items	Your farm		57 Owners	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Total acres in farm	____	____	270	
Owned	____	____	239	
Rented	____	____	31	
Total farm capital	____	____	$21065	$21804
Stocks and bonds	____	____	172	188
Life insurance	____	____	400	437
Accounts receivable	____	____	62	71
Shares in mkting. organizations	____	____	77	79
Outside real estate	____	____	-	50
Total outside investments	____	____	$ 711	$ 825
Cash on hand and in bank	____	____	504	464
Other H. H. & personal assets	____	____	1620	1792
Dwelling	____	____	3196	3196
Total non-farm assets	____	____	$ 6031	$ 6277
TOTAL ASSETS	____	____	$27096	$28081
Federal Land Bank Mortgage	____	____	$ 1213	$ 1167
Other mortgage on farm operated	____	____	1013	946
Loans on other real estate	____	____	-	-
P. C. A. Loans	____	____	139	270
Chattel mortgage	____	____	1695	1998
Notes payable	____	____	838	807
Accounts payable	____	____	288	365
TOTAL LIABILITIES	____	____	$ 5186	$ 5553
Farmers' net worth	____	____	$21910	$22528
Gain in net worth		____		$ 618

The return to capital and family labor represents the amount available to the operator for living expenses, payment on indebtedness, and savings.

RANGE IN EARNINGS

Every study of farm earnings shows a wide variation in earnings among farmers in a given year. The average operator's earnings of farmers ranking in the upper third of the range according to earnings was $3628 and of those in the lower third was $31. This is a range of $3597 between the average earnings of these two groups. Some of the causes for these differences in earnings, such as weather, may be beyond the control of the individual farmer. Other factors are within his control. The more important management factors affecting earnings are as follows: These factors vary from year to year in their relative influence on earnings. 1/

1. Crop yields 2. Choice of crops 3. Return from livestock 4. Amount of livestock 5. Size of business 6. Work units per worker 7. Control over expenses.

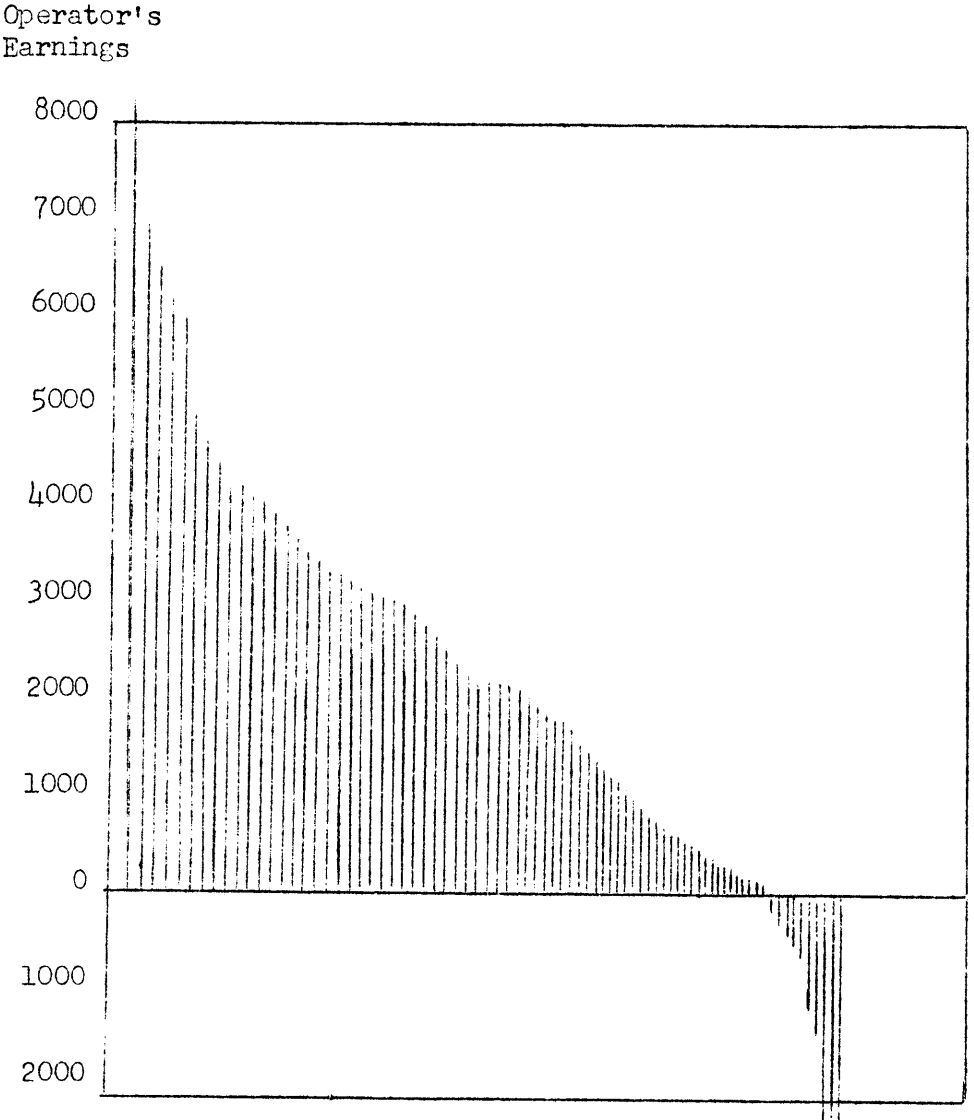

Fig. 1. Range in operator's earnings. Each line represents the earnings of one farmer.

1/ See Pond, G. A. "Why Farm Earnings Vary". Minn. Agri.Expt.Sta.Bul. 386 June, 1945

EXPLANATION OF "WORK UNITS"

The total "work units" for any one farm is a measure of the size of that farm business, a work unit as used in this report is the average accomplishment of a farm worker, in a ten hour day, working on crops and productive livestock at an average efficiency, or ten hours of work off the farm for pay. The number of work units for each class of livestock and each acre of crop are presented in Table VII below.

TABLE VII. NUMBER OF WORK UNITS FOR EACH CLASS OF LIVESTOCK AND CROP ACRE

Item	No. of Work Units
Dairy and dual purpose cows	10.0 per cow
Other dairy and dual purpose cattle	3.5 per animal unit*
Beef Breeding herd	3.5 per animal unit*
Feeder cattle	.25 per cwt.
Sheep - farm flock	1.5 per animal unit*
Sheep - feeders	.3 per cwt.
Hogs	.2 per cwt.
Turkeys	.5 per cwt.
Hens	20.0 per 100 hens
Canning peas	.5 per acre
Soybeans for grain	.5 per acre
Potatoes	4.0 per acre
Small grain	.5 per acre
Sugar beets	1.5 per acre
Sweet corn	.7 per acre
Corn, husked	.7 per acre
Corn, hogged	.4 per acre
Corn, shredded	1.5 per acre
Corn silage	1.0 per acre
Corn fodder	1.0 per acre
Silage, other than corn	1.0 per acre
Alfalfa hay	.6 per acre
Soybean hay	.8 per acre
Other hay crops	.4 per acre

* Animal unit represents one dairy cow or bull, two other dairy cattle, $1\frac{1}{4}$ beef cows or bull, 1 feeder steer or heifer, 3 1/3 other beef cattle, 7 sheep, 14 lambs, $2\frac{1}{2}$ hogs, 5 pigs, 50 hens, or 1,100 lbs. of turkeys produced.

TABLE VIII. MEASURES OF FARM ORGANIZATION AND MANAGEMENT EFFICIENCY, 1959

Measures used in chart on page 13	Your farm	Average of 79 farms	26 most profitable farms	26 least profitable farms
Operator's labor earnings	____	$1720	$3628	$ 31
(1) Crop Yields *	____	100	108	97
(2) % till. land in high return crops	____	37.9	43.5	33.3
(3) Ret. per $100 feed to prod. livestock***	____	$100	$103	$97
(4) Prod. livestock units per 100 acres****	____	21.5	20.8	20.5
(5) Size of business - work units	____	354	446	314
(6) Work units per worker	____	247	291	222
(7) Power, mach., equip., & bldg. expense per work unit	____	$9.04	$8.33	$10.09
Items related to some of the above measures:				
(3) Index of return for $100 feed from:				
Dairy cattle (see pp 18-19)	____	100		
Beef cattle-breeding herd (p20)	____	100		
Hogs (see page 17)	____	100		
Sheep-farm flock (see p 20)	____	100		
Chickens (see page 21)	____	100		
(4) Number of animal units	____	37	41	35
(5) Work units on crops	____	94	128	85
Work units on prod. livestock	____	234	285	202
Other work units	____	26	33	27
(6) Number of family workers	____	1.3	1.3	1.4
Number of hired workers	____	.1	.3	-
Total number of workers	____	1.4	1.6	1.4
(7) Power expense per work unit	____	$5.66	$5.35	$6.16
Crop mach. expense per work unit	____	1.81	1.55	2.04
Livestock equip. exp. per work unit	____	.55	.57	.50
Bldg. & fencing exp. per work unit		1.02	.86	1.39

* Given as a percentage of the average.

**Crops are marked in Table IX as (A), (b), (C) and (D). All of acres in (A) crops, one half of acres in (B) crops, and one-fourth of acres in (C) crops are used in calculating per cent of tillable land in high return crops.

*** An index weighted by the animal units of livestock.

****Acres in timber not pastured, roads, waste and farmstead not included.

THERMOMETER CHART

Using your figures from page 12, locate your standing with respect to the various measures of farm organization and management efficiency. The averages for the farms included in this summary are located between the dotted lines across the center of the page.

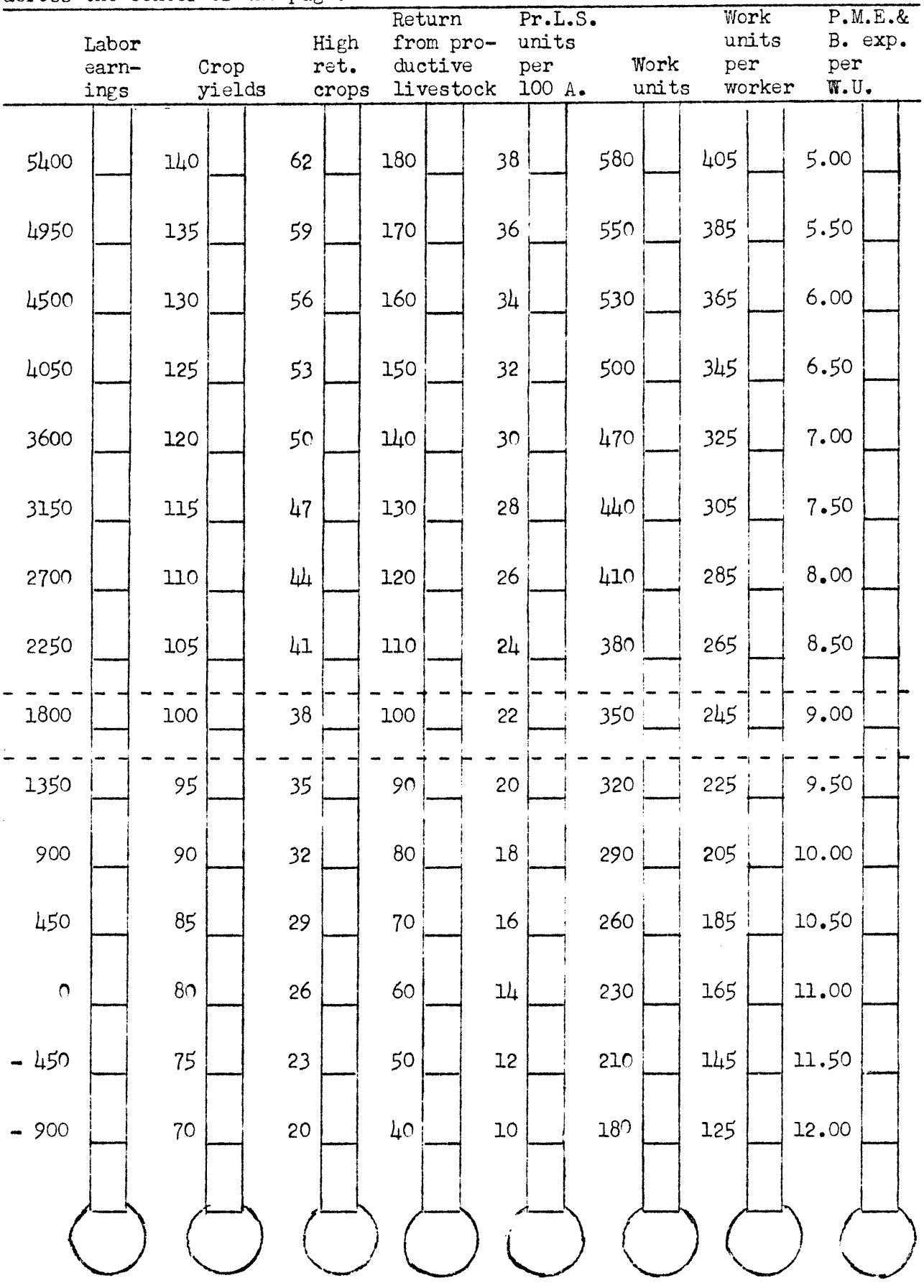

TABLE IX. DISTRIBUTION OF ACRES IN FARM, 1959

	Crop Ratings*	Your farm	Average 79 farms
Soybeans	C		.1
Flax	C		.6
Barley	C		.8
Oats	C		23.0
Oat silage	B		4.7
Wheat	C		.8
Rye	D		.4
TOTAL SMALL GRAIN			30.4
Garden-Seed potatoes	A		-
Potatoes	B		.3
Corn and sorghum silage	B		8.6
Corn fodder	D		.2
Corn grain	D		17.7
TOTAL CULTIVATED CROPS			26.8
Alfalfa and mixtures	A		26.2
Other legumes and mixtures	B		25.0
Legumes for seed	C		1.8
Timothy for seed	C		.2
Timothy and/or brome hay	D		.2
Other annual hay	D		7.4
Wild hay on till. land	D		.6
Grass silage	B		2.4
TOTAL TILLABLE LAND IN HAY			63.8
Alfalfa & alfalfa mixture past.	A		.8
Other legume & mixture pasture	B		.6
Other tillable pasture	D		14.1
TOTAL TILLABLE PASTURE			15.5
Soil Bank	C		3.9
Tillable land not cropped	D		6.4
TOTAL TILLABLE LAND			146.8
Wild hay - non-tillable			3.7
Non-tillable pasture			49.2
Timber (not pastured)			56.9
Roads and waste			19.0
Farmstead			4.6
TOTAL ACRES IN FARM			280.2
Per cent of land tillable			52.0
Per cent of land in high return crops			38.1

* The crops are classified as A, B, C, or D crops on the basis of their average net return per acre.

TABLE X CROP YIELDS PER ACRE, 1959

Crop	Your farm	Number growing	Average of farms growing each crop
Soybeans, bu.	____	1	9.0
Flax, bu.	____	2	8.5
Barley, bu.	____	7	32.8
Oats, bu.	____	47	43.6
Oat silage, ton	____	12	5.6
Wheat, bu.	____	2	17.1
Rye, bu.	____	2	13.0
Potatoes, bu.	____	4	128.4
Corn silage, ton	____	27	6.0
Corn fodder, ton	____	1	4.9
Corn grain, bu.	____	23	35.6
Legume silage, ton	____	2	10.0
Grass silage, ton	____	7	6.8
Alfalfa hay, ton	____	33	1.9
Other legumes & mixtures, ton	____	33	1.3
Legumes for seed, lbs.	____	8	241.2
Timothy for seed, lbs.	____	1	64.0
Timothy or brome hay, ton	____	2	2.0
Other annual hay, ton	____	9	1.3
Wild hay, ton	____	3	1.1
Oat hay, ton	____	4	1.9

POWER AND MACHINERY EXPENSES

Power and machinery expense per crop acre is an indication of the economy with which capital is invested in these items. Expenses are high on the farms with a small acreage. In some cases low expense for labor might be offset by higher equipment costs. The farmer is interested in operating at the lowest cost for power, machinery, and labor combined.

TABLE XI. POWER AND MACHINERY EXPENSES PER CROP ACRE, 1959

	Your farm	Avg. of 79 farms	26 Most prof. farms	26 Least prof.
Crop acres per farm	____	144	167	134
Tractor & horse exp. per crop acre	____	$6.54	$6.09	$7.54
Crop & gen. mach. exp. per crop acre	____	6.84	5.49	10.23

AMOUNT OF LIVESTOCK

A large proportion of the farmers maintained some dairy cattle with smaller number maintaining hogs and poultry.

TABLE XII. AMOUNT OF LIVESTOCK, 1959

	Your farm	Avg. of 79 farms	26 Most prof. farms	26 Least prof. farms
Number of milk cows	____	17.8	22.9	14.4
Number of other dairy cattle	____	19.8	23.8	17.8
Number of beef cattle	____	1.6	2.2	.6
Number of sheep	____	10.1	2.9	17.0
Number of hens	____	23.0	10.8	45.7
Litters of pigs raised	____	7.7	4.5	11.3
Pounds of hogs produced	____	5834	4006	6718

TOTAL FEED COSTS AND RETURNS FROM YOUR LIVESTOCK ENTERPRISES

The total "return over feed costs" for each class of livestock is shown in TABLE XIII. This differs from the "return over feed" shown in the enterprise statement in that it is the total for each class of livestock instead of a return "per head", "per unit", or "per 100 lbs.". These data indicate the relative importance of different classes of livestock as a source of income and as a market for feed. The total return is the same as the returns and net increases shown on p. 6. The return over feed is not a net return, but rather the amount available from the gross income after paying the feed bill, to cover the outlay for hired labor, power, equipment, taxes, insurance, interest, and veterinary bills and to provide a return for the use of family labor and capital.

TABLE XIII. TOTAL FEED COSTS AND RETURNS FROM YOUR LIVESTOCK ENTERPRISES, 1959

	Dairy or dual purpose cattle			Beef
	Cows	Other	All	Breeding
Total returns				
Total feed cost				
Total return over feed				

	Hogs	Sheep	Chickens
Total returns			
Total feed cost			
Total return over feed			

Feed is the largest single item of cost for all classes of livestock. However, the proportion of the total cost represented by feed varies between classes of livestock. Feed makes up approximately 45 per cent of the total costs of maintaining dairy cattle and poultry, 50 per cent for sheep, and 75 to 90 per cent for hogs, feeder cattle, and feeder lambs. Consequently, it is necessary to secure a relatively higher return over feed from dairy cattle and poultry than from the other livestock enterprises in order to be able to cover all the costs other than feed.

HOGS

The return over feed cost per cwt. of hogs produced varied from a minus $2.20 for those farmers in the lower one-third in feeding efficiency to a return of $11.63 for those in the highest one-third. Responsible factors affecting return over feed were:

1. Quantity of feed required to produce 100 pounds of pork.
2. Price received.
3. Number of pigs born per litter.
4. Number of pigs weaned per litter.

TABLE XIV. FEED COSTS AND RETURNS FROM HOGS, 1959

Items	Your farm	Avg. of 35 farms	12 farms highest in ret. above feed	12 farms lowest in ret. above feed
Feed per cwt.hogs produced, lbs.				
Corn	_____	330	380	364
Small grains	_____	204	257	250
Commercial feeds	_____	68	29	111
TOTAL CONCENTRATES	_____	602	666	725
Skim milk & buttermilk	_____	325	81	561
Alfalfa & silage	_____	33	12	83
Feed cost per cwt.hogs produced:				
Concentrates (incl.alf.& silage)	$ _____	$ 12.86	$ 15.16	$ 14.16
Skim milk & buttermilk	_____	1.96	1.97	3.09
Pasture	_____	.25	.39	.22
TOTAL FEED COSTS	$ _____	$ 15.07	$ 17.52	$ 17.47
Net increase in value per cwt. hogs produced	$ _____	$ 19.38	$ 29.15	$ 15.27
RETURNS ABOVE FEED COST PER CWT. HOGS PRODUCED	$ _____	$ 4.31	$ 11.63	- $ 2.20
RETURNS FOR $100 OF FEED	$ _____	$128.00	$166.00	$ 87.00
Price received per cwt.hogs sold	$ _____	$ 16.76	$ 17.36	$ 16.60
No. of spring litters raised	_____	10	10	8
No. of fall litters raised	_____	6	7	4
Total no. of litters raised	_____	16	17	12
No. of pigs born per litter	_____	8.2	8.7	7.8
No. of pigs weaned per litter	_____	6.8	7.7	6.2
POUNDS OF HOGS PRODUCED	_____	13,468	12,318	11,641

DAIRY AND DUAL PURPOSE CATTLE

The quantity of feed consumed, value in feeds and returns from dairy cattle are presented in TABLES XV, XVI, and XVII. The statements include several herds which were classified as dual purpose cattle. The return over feed cost per cow varied from $6 to $304 among the herds covered by this study. Some of the important factors that affected the return over feed were:

1. Rate of production (pounds butterfat & milk produced per cow)
2. Price received for butterfat
3. Feeding efficiency
4. Economy of ration (Feed cost per pound butterfat)

TABLE XV. FACTORS OF COSTS AND RETURNS FROM DAIRY COWS, 1959

Items	Your farm	Average of 71 farms	24 farms highest in butter-fat per cow	24 farms lowest in butterfat per cow
Pounds of milk per cow	_____	8482	9946	6492
Pounds of butterfat per cow	_____	315	384	249
Price rec. per lb. B.F. sold (cents)	_____	.90	.96	.85
Feed per cow, lbs.:				
Corn	_____	716	694	423
Small grain	_____	1044	941	1151
Commercial feeds	_____	904	1637	453
Legume hay	_____	4067	3195	4454
Other Hay	_____	2010	3125	1622
Fodder and Stover	_____	65	7	81
Total concentrates, lbs.	_____	2664	3272	2027
Total dry roughage, lbs.	_____	6142	6327	6157
Silage	_____	6264	7562	3321
Feed cost per cow:				
Concentrates	_____	$ 62.74	$ 79.65	$ 44.49
Roughages	_____	66.17	75.20	57.33
Pasture	_____	6.64	6.71	6.71
TOTAL FEED COST	_____	$135.55	$161.56	$108.53
Value of produce per cow:				
Butterfat sales	_____	$273.49	$358.31	$200.68
Dairy produce used in house	_____	6.52	5.10	7.46
Milk fed to livestock	_____	8.55	5.72	9.16
Net increases in value of cows	_____	5.22	3.93	2.88
TOTAL VALUE PRODUCED	_____	$293.78	$373.06	$220.18
RETURNS ABOVE FEED COST PER COW	_____	$158.23	$211.50	$111.65
RETURNS FOR $100 SPENT FOR FEED	_____	$217	$231	$203
Feed cost per lb. B.F. (¢)	_____	43	42	43
Number of cows*	_____	19.5	23.2	17.5

*All dairy cows which have at some time in the past freshened are included in the dairy herd, and affect the average number of cows used in computing this table. There is some variation in the number of months of dry period per cow; however, this variation is small for the majority of farms.

TABLE XVI. FEED COSTS AND RETURNS FROM OTHER DAIRY AND DUAL PURPOSE CATTLE, 1959

Items	Your Farm	Average of 74 Farms	25 farms highest in butter-fat per cow	25 farms lowest in butterfat per cow
Feeds per head, lbs.:				
Concentrates	_____	423	425	385
Hay and fodder	_____	2643	2618	2683
Silage	_____	1910	2357	1326
Milk	_____	423	201	447
Feed cost per head:				
Concentrates	_____	$11.31	$12.42	$ 9.71
Roughages	_____	24.35	24.38	22.50
Milk	_____	6.32	5.65	5.55
Pasture	_____	3.29	3.58	3.31
TOTAL FEED COST PER HEAD	_____	$45.27	$46.03	$41.07
Net increase in value of other cattle	_____	$77.59	$88.13	$68.27
RETURNS ABOVE FEED COST PER HEAD	_____	$32.32	$42.10	$27.20
RETURNS FOR $100 OF FEED	_____	$171	$191	$166
Number of head of other cattle	_____	20.5	21.2	19.3

TABLE XVII. FEED COSTS AND RETURNS FROM ALL DAIRY AND DUAL PURPOSE CATTLE, 1959

Feeds per animal unit, lbs.				
Concentrates	_____	2059	2505	1574
Hay and fodder	_____	5827	5939	5889
Silage	_____	5446	6550	3382
TOTAL FEED COSTS PER ANIMAL UNIT	_____	$116.16	$135.88	$ 94.77
Value of produce per animal unit:				
Dairy products	_____	$190.06	$254.06	$137.14
Net increase in value	_____	50.85	49.38	47.03
TOTAL VALUE PRODUCED	_____	$240.91	$303.44	$184.17
RETURNS ABOVE FEED PER ANIMAL UNIT	_____	$124.75	$167.56	$ 89.40
RETURNS FOR $100 OF FEED	_____	$207	$223	$194
Animal units of cattle	_____	29.8	33.8	27.2

TABLE XVIII. FEED COST AND RETURNS FROM BEEF BREEDING HERD, 1959

Items		Your farm
Beef breeding herd: No. of farms		_____
Feeds per animal unit, lbs:		
Concentrates		_____
Legume hay		_____
Other hay		_____
Silage		_____
Whole Milk		_____
Feed cost per animal unit:		
Concentrates	$	_____
Roughages		_____
Pasture		_____
Milk		_____
TOTAL FEED COST	$	_____
Value of produce per animal unit:		
Dairy products	$	_____
Net increase in value of animals		_____
TOTAL VALUE PRODUCED	$	_____
RETURNS ABOVE FEED COST PER ANIMAL UNIT	$	_____
RETURNS FOR $100 OF FEED	$	_____
Number of animal units in the herd		_____

TABLE XIX. FEED COST AND RETURNS FROM SHEEP, 1959

Items		Your farm	Average of 10 farms
Feeds per head, lbs. *			
Concentrates		_____	36
Legume hay		_____	105
Other hay		_____	398
Silage		_____	348
Fodder		_____	-
Feed cost per head:			
Concentrates	$	_____	$ .77
Roughages	$	_____	4.65
Pasture	$	_____	1.53
TOTAL FEED COSTS	$	_____	$ 6.95
Value of produce per head:			
Wool	$	_____	$ 3.28
Net increase in value of sheep	$	_____	10.10
TOTAL VALUE PRODUCED	$	_____	13.38
RETURNS ABOVE FEED COST PER HEAD	$	_____	$ 6.43
RETURNS FOR $100 OF FEED	$	_____	$ 193
Number of head of sheep *		_____	67.8

* Two lambs under six months of age considered as one head.

CHICKENS

Eleven farmers raising chickens submitted reports with enough detail for analysis. Information on chicks raised, death loss, and pounds produced was too incomplete to be included in the averages. Table XX shows the averages for the eleven farmers.

Some of the important factors that affect the return over feed are:

1. Quantity of feed required per hen.
2. Price received per dozen eggs sold.
3. Eggs laid per hen.
4. Per cent of hens that are pullets.
5. Percentage death loss of hens

TABLE XX. FEED COSTS AND RETURNS FROM CHICKENS, 1959 *

Items	Your farm	Avg. of 11 farms	4 farms highest in return over feed	4 farms lowest in return over feed
Feed per hen, lbs.:				
Grain	____	65	50	95
Commercial feeds	____	39	30	47
TOTAL CONCENTRATES	____	104	80	142
Milk	____	5	15	-
TOTAL FEED COST PER HEN	$ ____	$3.24	$2.39	$3.86
Value of produce per hen:				
Eggs sold and used in house	$ ____	$2.75	$2.23	$3.12
Net increase in value of chickens	$ ____	$ .53	$1.34	$-.27
TOTAL VALUE PRODUCED	$ ____	$3.28	$3.57	$2.85
RETURNS ABOVE FEED COST PER HEN	$ ____	$ .04	$1.18	$ -1.01
RETURNS FOR $100 OF FEED	$ ____	$ 101	$ 149	$ 74
Price rec'd. per doz. eggs sold(cents)	____	25¢	22¢	25¢
Eggs laid per hen	____	123	96	146
Average number of hens during year	____	125	66	74

*Includes feed and returns from laying flock and rearing flock.

LABOR EARNINGS CORRELATED WITH EXCELLED FACTORS

The thermometer chart on page 13 shows seven major management factors that influence farm earnings within a given year. These seven factors are: 1. Crop yields 2. Choice of crops 3. Returns from livestock 4. Amount of livestock 5. Size of business 6. Work units per worker and 7. Control over expenses. The combined effect of these management factors as related to farm earnings is shown below. Attention is called to the fact that farmers exceeding the average in most of the seven management factors are also those reporting the highest labor earnings.

TABLE XXI

No. of factors in which farmers excelled	No. of farms	0 | 1000 | 3000 | 5000 |
0 or 1	17	$ 656
2 or 3	28	1082
4 or 5	29	2724
6 or 7	5	3827

TABLE XXII. COMPARISON OF FARM EARNINGS BY YEARS.

Items	1956	1957	1958	1959
Number of farms	28	82	101	79
FARM RECEIPTS				
Dairy & dual-purpose cattle	$ 698	$ 971	$1370	$1322
Dairy products	3250	4470	4831	5106
Beef cattle (incl. feeders)	-	88	234	65
Hogs	581	495	1118	941
Sheep and wool (incl. feeders)	39	69	89	123
Horses	-	12	10	8
Poultry	18	10	16	12
Eggs	92	54	52	42
Corn and small grain	182	247	159	240
Other crops	109	243	204	121
Forestry Products	-	-	286	232
Mach. & eq. sold & gas tax refund	88	177	191	156
Income from work off the farm	206	463	304	262
Miscellaneous	106	114	123	206
(1) Total farm sales	$5369	$7413	$8987	$8836
(2) Increase in farm capital	1692	713	821	682
(3) Family living from the farm	341	355	385	348
(4) Total farm receipts (1) + (2) + (3)	$7402	$8481	$10193	$9866
FARM EXPENSES				
Dairy & dual-purpose cattle bought	$ 236	$ 240	$ 214	$ 283
Beef cattle bought (inc.feeders)	6	-	31	101
Hogs bought	48	62	64	35
Sheep bought (inc. feeders)	-	19	16	8
Horses bought	-	2	3	2
Poultry bought	12	6	6	10
Misc. livestock expense	111	160	186	229
Feed bought	846	876	1141	1305
Fertilizer	174	137	225	211
Other crop expense	183	307	312	304
Custom work hired	273	403	486	526
Gas, Oil, grease bought (farm sh)	404	524	593	548
Repair of mech. power (farm sh)	222	245	280	292
Repair & upkeep of real estate	87	92	84	104
Repair & upkeep crop & gen. mach.	131	153	155	163
Repair & upkeep livestock equip.	37	54	62	57
Wages of hired labor	66	223	253	265
Electricity expense (farm sh.)	113	156	175	208
Real estate & Per. prop. taxes	179	250	262	280
General farm expense	90	111	115	138
(5) total cash operating exp.	$3218	$4020	$4663	$5069
(6) Cap.pur.mech.power (farm)	398	450	340	501
(7) " crop & gen. mach.	413	460	507	494
(8) " livestock equip.	320	120	97	67
(9) " bldgs. & fencing	429	303	602	461
(10) Total farm purch.(5)to (9)	$4778	$5353	$6209	$6592
(11) Decrease in farm cap.	-	-	-	-
(12) Interest on farm capital	741	959	1063	1104
(13) Unpaid family labor	145	236	458	413
(14) Board furnished hired labor	5	29	44	37
(15) Total farm exp.(10) to (14)	$5669	$6577	$7774	$8146
(16) Labor earnings (4)-(15)	1733	1904	2419	1720