UNIVERSITY OF MINNESOTA
DEPARTMENT OF AGRICULTURE

and

VOCATIONAL DIVISION
MINNESOTA DEPARTMENT OF EDUCATION

Cooperating

ANNUAL REPORT

of the

FARM MANAGEMENT SERVICE FOR VETERANS TAKING ON-THE-FARM TRAINING

in

NORTHWESTERN MINNESOTA

Cooperator: _____

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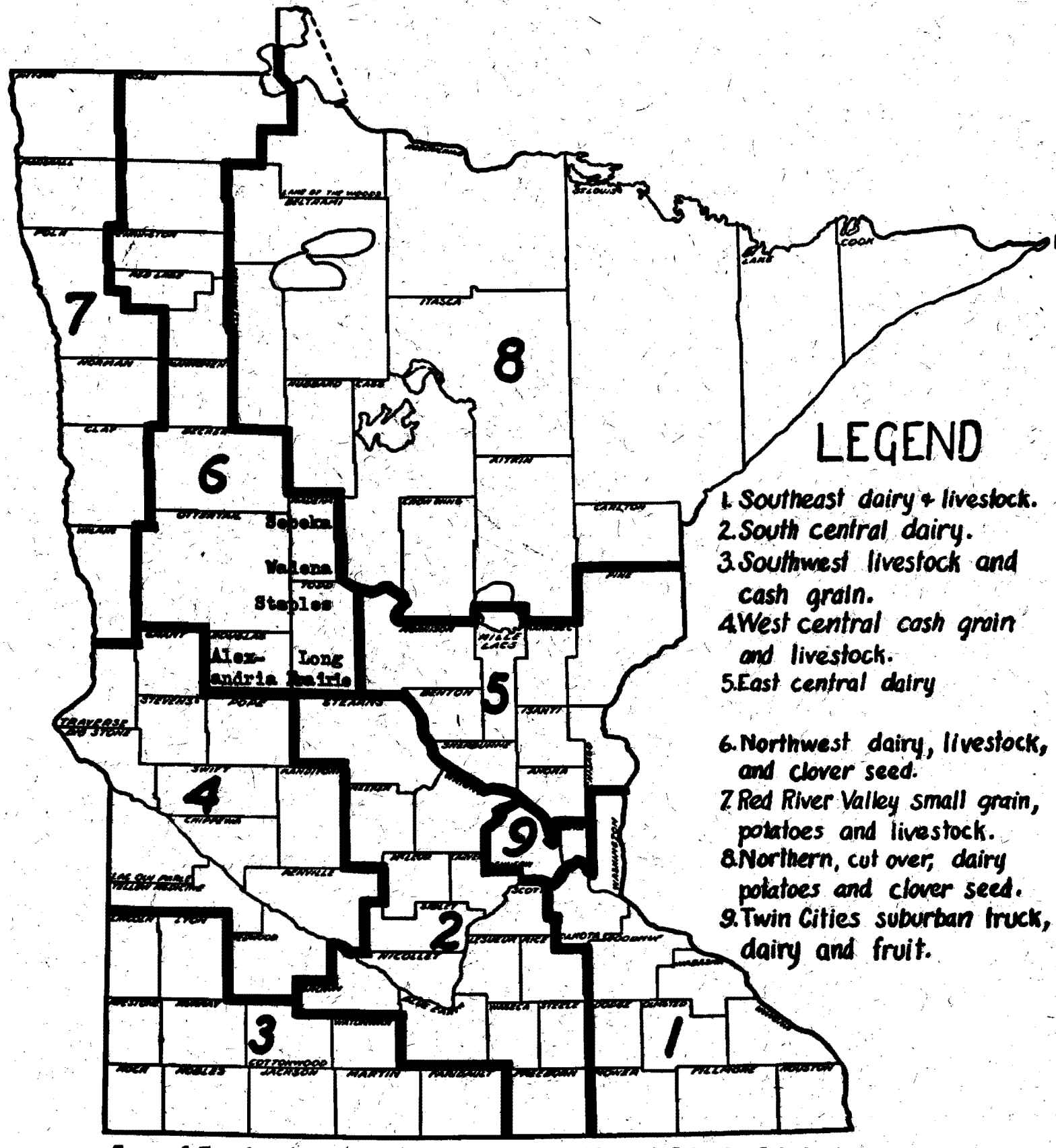

Type of Farming Areas in Minnesota and Location of Schools Submitting Farm Records for this Report.

REPORT OF THE FARM MANAGEMENT SERVICE FOR VETERANS TAKING ON-THE-FARM TRAINING IN NORTHWESTERN MINNESOTA, 1948

T. R. Nodland and G. A. Pond

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INTRODUCTION

In the fall of 1946, the Vocational Division of the Minnesota Department of Education asked the University of Minnesota to set up a farm management service for veterans taking on-the-farm training in the public schools throughout the state. The service was initiated on January 1, 1947. The cooperating agencies are the Division of Agricultural Economics, University of Minnesota, and the Vocational Division, Minnesota Department of Education representing the public schools.

The purpose of the project as far as the schools are concerned is (1) to give assistance to the instructors in the mechanics of keeping farm records and (2) to aid in the analysis of the farm business through the use of records as a basis for vocational guidance. Schools with an on-the-farm training program can enroll their students in the farm management service. The enrollment is on a voluntary basis insofar as the number of schools participating and the number of veterans enrolled in the service are concerned.

The analysis of the records and the preparation of the reports are handled by the Division of Agricultural Economics under the direction of G. A. Pond and T. R. Nodland. The State Department of Education was represented by G. R. Cochran, State Supervisor of Agricultural Education.

This report deals with the veterans enrolled by five schools located in northwestern Minnesota (Type-of-Farming Area 6)[1]. The map on the inside front cover shows the location of the schools. The following tabulation shows by schools the number of farm records submitted in 1948.

Alexandria	39	Staples	20
Long Prairie	6	Wadena	5
Sebeka	10	Total	80

The records kept by the enrollees included farm inventories at the beginning and at the end of the year, cash farm receipts and expenses, feed consumed by the various classes of livestock, family living received from the farm, liabilities and assets other than the farm capital and household and personal cash expenses and receipts.

Only records from actual farm operators are included in this report. All types of tenure arrangements from full owners to partnerships in which the operator furnishes little or no capital are represented.

FARM INVENTORIES

The capital investment per farm varied from $3527 to $33768. The average investment for all farms included in this report and for the one-fifth high and the one-fifth low in operator's labor earnings is shown in Table 1.

Landlords or partners supplied some capital in 47 out of the 80 cases included in this report. The landlord's investment has been included in Table 1 in order to show the total amount used per farm.

FARM EARNINGS

Operator's labor earnings is a measure of the 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. For purposes of comparison, the earnings are presented on a full-owner basis.

There are two methods of computing operator's labor earnings. Table 2 shows the earnings statement on a cash basis and Table 3 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 the value of 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 each enterprise in order to compute "total returns and net increases", or "total expenses and net decreases" by enterprises.

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[1] For a description of the area, see Engene, S. A. and Pond, G. A. "Agricultural Production and Types of Farming in Minnesota." Minn. Agri. Expt. Sta. Bul. 347, May, 1940.

Table 1. Summary of Farm Inventories, 1948*

Items	Your farm Jan. 1	Your farm Dec. 31	Average of 80 farms Jan 1	Average of 80 farms Dec. 31
Size of farm (acres)			167	
Size of business (work units)**			259	
Dairy and dual purpose cows			$1013	$ 1159
Other dairy & dual purpose cattle			507	574
Beef cattle			42	47
Hogs			254	328
Sheep			68	70
Poultry			119	110
Productive livestock (total)			2003	2288
Horses			79	88
Crop, seed, and feed			1185	1361
Power mach. (farm share)			1003	1143
Crop & general mach. (farm share)			745	957
Livestock equipment & supplies			237	246
Mach. & equipment (total)			1985	2346
Misc.			1	2
Buildings, fences, etc.			3709	3803
Land			4268	4268
Total farm capital			13230	14156

Items	16 most profitable farms Jan 1	16 most profitable farms Dec.31	16 least profitable farms Jan 1	16 least profitable farms Dec 31
Size of farm (acres)	187		180	
Size of business (work units)**	325		230	
Dairy & dual purpose cows	$ 1346	$ 1392	$ 824	$ 804
Other dairy & dual purpose cattle	720	813	426	409
Beef cattle	41	22	52	129
Hogs	252	430	274	300
Sheep	20	18	66	52
Poultry	148	160	139	134
Productive livestock (total)	2527	2835	1781	1828
Horses	81	72	79	98
Crop, seed, and feed	1889	2100	1055	1237
Power mach. (farm share)	1102	1475	987	1094
Crop & general mach.	981	1194	638	726
Livestock equipment & supplies	300	299	217	222
Mach. & equipment (total)	2383	2968	1842	2042
Misc.	2	2	-	8
Buildings, fences, etc.	4093	4212	4027	4061
Land	5851	5851	4355	4355
Total farm capital	16826	18040	13139	13629

*For the purpose of comparison, all the data shown in this report with the exception of Tables 6 and 7 are presented on a full-owner basis. The assets, expenses and receipts of the landlord were included in the records from rented farms.

** See page 13 for an explanation of "work units."

Table 2. Summary of Farm Earnings (Cash Statement), 1948

Items	Your farm	Average of 80 farms	16 most profitable farms	16 least profitable farms
FARM RECEIPTS				
Dairy and dual-purpose cows	____	$ 376	$ 469	$ 284
Dairy products	____	1587	2367	973
Other dairy & dual-purpose cattle	____	404	608	333
Beef cattle	____	82	58	8
Hogs	____	687	979	455
Sheep and wool	____	69	22	40
Poultry	____	77	114	84
Eggs	____	457	601	496
Horses	____	16	44	5
Corn	____	85	151	29
Small grain	____	422	817	236
Other crops	____	109	152	195
Machinery & equip. sold	____	185	199	114
Agricultural adjustment payments	____	24	22	17
Income from work off the farm	____	105	33	99
Miscellaneous	____	13	14	12
(1) Total farm sales	____	4698	6650	3380
(2) Increase in farm capital	____	926	1214	490
(3) Family living from the farm	____	471	510	458
(4) Total farm receipts (1)+(2)+(3)	____	6095	8374	4328
FARM EXPENSES				
Dairy and dual-purpose cows bought	____	$ 262	$ 112	$ 204
Other dairy and dual-pur. cattle bot	____	125	233	44
Beef cattle bought	____	18	9	51
Hogs bought	____	59	59	36
Sheep bought (inc. feeders)	____	9	-	4
Poultry bought (including turkeys)	____	46	70	58
Horses bought	____	33	31	38
Misc. livestock expense	____	42	54	24
Misc. crop expenses	____	220	218	155
Feed bought	____	490	527	516
Custom work hired	____	192	242	170
Mech. power mach. (farm share)(new)	____	401	613	370
Mech. power mach. (farm share)(upkp.)	____	174	179	181
Mech. power (f.share)(gas,oil,etc.)	____	401	503	335
Crop and general mach. (new)	____	375	354	232
Crop and general mach. (upkeep)	____	84	77	58
Livestock equipment (new)	____	64	79	51
Livestock equipment (upkeep)	____	19	20	14
Buildings and fencing (new)	____	277	269	288
Buildings and fencing (upkeep)	____	105	91	140
Hired labor	____	103	187	73
Taxes	____	151	172	141
General farm and insurance	____	38	41	30
(5) Total farm purchases	____	3688	4140	3213
(6) Decrease in farm capital	____	-	-	-
(7) Interest on farm capital	____	685	872	669
(8) Unpaid family labor	____	411	344	504
(9) Board furnished hired labor	____	46	95	20
(10) Total farm exp. (sum of (5) to (8)	____	4830	5451	4406
(11) Oper. labor earnings (4) - (10)	____	1265	2923	-78

Table 3. Summary of Farm Earnings (Enterprise Statement) 1948*

Items	Your farm	Average of 80 farms	16 most profitable farms	16 least profitable farms
RETURNS AND NET INCREASES				
Dairy and dual purpose cows	_____	$1924	$2862	$1124
Other dairy & dual pur. cattle	_____	573	815	378
Beef cattle	_____	29	18	34
Hogs	_____	805	1181	484
Sheep - farm flock	_____	62	20	22
Poultry	_____	524	714	561
All productive livestock	_____	3917	5610	2603
Crops, seed, and feed	_____	55	409	73
Agricultural conservation payments	_____	24	22	17
Income from labor off the farm	_____	52	15	73
Miscellaneous	_____	109	131	109
(1) Total returns & net increases	_____	4157	6187	2875
EXPENSES AND NET DECREASES				
Horses	_____	$ 68	$ 53	$ 83
Tractor	_____	324	337	326
Truck	_____	35	28	29
Auto (farm share)	_____	271	319	284
Gas engine and elect. exp.(f.shr)	_____	49	70	30
Hired power	_____	83	118	51
Total power	_____	830	925	803
Crop and general machinery	_____	214	223	228
Livestock equipment	_____	68	90	57
Buildings, fencing, and tiling	_____	239	183	345
Misc. productive livestock exp.	_____	41	54	17
Labor	_____	626	704	663
Real estate taxes	_____	124	138	121
Personal property tax	_____	27	34	20
Insurance	_____	19	10	10
General farm	_____	19	31	20
Interest on farm capital	_____	685	872	669
(2) Total expenses & net decreases	_____	2892	3264	2953
(3) Oper. labor earnings (1)-(2)	_____	1265	2923	-78

* 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 labor earnings are the same as those on page 4.

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 expenses 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 4 amounts to 7.9 per cent of the total farm receipts on these 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.

The rental value of the dwelling is calculated by taking 10 per cent of the average inventory value of the dwelling.

Table 4. Family Living From the Farm, 1948

Items	Your farm	Average 80 farms	16 most profitable farms	16 least profitable farms	Your farm	Average 80 farms	16 most profitable farms	16 least profitable farms
Adult equiv.- family	____	2.4	2.3	2.2				
- others	____	.1	.3	.1				
Whole milk	____	504 qts.	523	351	____	$ 52.04	$ 56.11	$ 39.35
Skim milk	____	158 qts.	207	196	____	3.78	3.63	7.80
Cream	____	148 pts.	161	108	____	30.48	23.75	29.36
Farm made butter	____	10 lbs.	10	10	____	8.39	8.00	9.99
Beef	____	243 lbs.	276	173	____	41.42	42.41	29.69
Hogs	____	316 lbs.	385	171	____	68.32	82.01	38.90
Poultry	____	56 lbs.	61	52	____	12.35	16.03	11.53
Eggs	____	88 doz.	108	95	____	32.51	41.59	32.83
Potatoes	____	9 bu.	10	10	____	13.99	15.25	18.87
Vegetables & fruits					____	24.87	20.24	47.98
Farm fuel	____	8 cds.	8	8	____	37.75	24.39	46.13
Rental vl. of house					____	143.28	176.27	142.08
Misc.					____	1.97	-	3.75
Total					____	471.15	509.68	458.26

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 5. These farmers spent an average of $111 per month for family living in addition to the food, fuel and housing furnished by the farm.

Most of the personal receipts were in the form of veterans' compensation payments. Disabled veterans received somewhat larger compensation payments than the other enrollees and they were not subject to any limitations on earnings.

Table 5. Household and Personal Expenses and Receipts for Those Farmers Who Kept Complete Accounts of These Items, 1948

Items	Your farm	Average of 79 farms	16 most profitable farms	15 least profitable farms
Number of persons in family	____	3.2	3.1	2.8
Number of adult equivalents in family	____	2.4	2.3	2.3
Number of other adult equivalents*	____	.1	.3	.1
EXPENSES				
Food and meals bought	$____	$ 432	$ 514	$ 330
Operating and supplies	____	143	179	72
Clothing and clothing materials	____	150	177	104
Personal care, personal spending	____	88	94	57
Furnishings and equipment	____	173	277	89
Education, recreation, and development	____	47	52	49
Medical care and health insurance	____	96	118	65
Church, welfare, gifts	____	90	129	79
Personal share of auto expense	____	58	61	71
Household share of elect. & gas eg. exp.	____	17	24	17
H.H. & pers.shr. of new auto. & motors bot.	____	40	33	26
Total	____	$1334	$1658	$959
State and federal income tax	____	4	10	3
Insurance	____	43	56	44
Total household and pers.cash exp.	____	1381	1724	1006
Feed furnished by the farm	____	245	288	211
Fuel furnished by the farm	____	32	21	36
House rental	____	127	173	103
Total cash expenses and perquisites	____	1785	2206	1356
Investments	____	107	375	23
RECEIPTS				
Sale of investments	____	8	9	-
Income from outside investments	____	1	-	-
Veterans compensation	____	1144	1239	1062
Misc. income	____	5	11	7

* 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 for owners, cash and crop shared renters and livestock share partnerships is presented in Table 6. 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 6. Net Worth Statement for Those Farmers Who Kept a Complete Record of All Assets and Liabilities, 1948 (Operator's Share)

	Your farm		34 Owners	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Total acres in farm	———		128.9	
Owned	———		128.9	
Rented	———		-	
Total farm capital	———	———	$9240	$10116
Accounts receivable.	———	———	91	109
Stocks and bonds	———	———	58	36
Life insurance	———	———	85	94
Outside real estate	———	———	15	12
Other outside investments	———	———	6	11
Total outside investments	———	———	164	153
Cash on hand and in bank	———	———	135	138
Other household & personal assets	———	———	733	892
Total cash, household & personal assets	———	———	868	1030
TOTAL ASSETS	———	———	10363	11408
Federal Land Bank Mortgage	———	———	139	130
Other mortg. on land operated	———	———	2106	1813
Mortgage on outside real estate	———	———	-	-
Production credit	———	———	62	28
Other chattel mortgages	———	———	651	478
Notes payable	———	———	609	552
Accounts payable	———	———	204	275
TOTAL LIABILITIES	———	———	3771	3276
Farmers's net worth	———	———	6592	8132
Grain in net worth		———		+1540

	17 cash & crop share renters		16 partnerships	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Total acres in farm	185.6		205.6	
Owned	-		16.8	
Rented	185.6		188.8	
Total farm capital	$4960	$5868	$3019	$3760
Accounts receivable	26	3	252	275
Stocks and bonds	165	283	277	267
Life insurance	134	147	75	83
Outside real estate	-	-	-	375
Other outside investments	20	15	8	15
Total outside investments	319	445	360	740
Cash on hand and in bank	213	304	323	185
Other household and personal assets	886	984	1022	1215
Total cash, household & personal assets	1099	1288	1345	1400
TOTAL ASSETS	6404	7604	4976	6175
Federal Land Bank Mortgage	-	-	37	25
Other mortg. on land operated	-	-	40	38
Mortgages on outside real estate	-	-	-	175
Production credit mortgage	122	127	95	66
Other chattel mortgages	678	468	221	170
Notes payable	359	228	27	-
Accounts payable	421	312	4	-
TOTAL LIABILITIES	1580	1135	424	474
Farmer's net worth	4824	6469	4552	5701
Gain in net worth		+1645		+1149

Table 7. Summary of Farm Earnings by Tenure, 1948 (Operator's Share)

	Your farm	34 Owners	17 cash & shr. renters	cr. 16 partnerships
FARM RECEIPTS				
Dairy and dual purpose cows	____	$ 311	$ 414	$ 137
Dairy products	____	1380	1375	1070
Other dairy and dual purpose cattle	____	283	440	178
Beef cattle	____	106	59	17
Hogs	____	528	773	396
Sheep and wool	____	79	74	17
Poultry	____	71	105	19
Eggs	____	437	475	226
Horses	____	13	11	-
Corn	____	24	86	20
Small grain	____	156	324	271
Other crops	____	70	55	28
Machinery & equipment sold	____	142	349	51
Agricultural adjustment payments	____	25	18	7
Income from work off the farm	____	54	173	90
Misc.	____	17	12	5
(1) Total farm sales	____	3696	4743	2532
(2) Increase in farm capital	____	876	908	741
(3) Family living from the farm	____	371	484	399
(4) Total farm rec. (1)+(2)+(3)	____	4943	6135	3672
FARM EXPENSES				
Dairy and dual purpose cows bought	____	$ 216	$ 273	$ 65
Other dairy & dual pur. cattle bot	____	84	134	45
Beef cattle bot.(including feeders)	____	28	-	-
Hogs bought	____	44	83	20
Sheep bot (including feeders)	____	10	21	1
Poultry bot (including turkeys)	____	44	52	29
Horses bought	____	35	28	18
Misc. livestock expenses	____	39	45	32
Misc. crop expenses	____	190	229	107
Feed bought	____	515	609	246
Custom work hired	____	171	184	108
Mech. power mach. (farm share)(new)	____	369	487	100
Mech. power mach. (farm share)(upkp)	____	122	239	165
Mech. power (farm share)(gas, oil etc)	____	318	418	367
Crop and general mach. (new)	____	301	611	241
Crop and general mach. (upkeep)	____	64	107	65
Livestock equipment (new)	____	75	79	29
Livestock equipment (upkeep)	____	20	15	12
Land, buildings & fencing (new)	____	302	-	94
Buildings and fencing (upkeep)	____	120	28	40
Hired labor	____	70	105	114
Taxes (real estate & pers. property)	____	110	17	31
General farm and insurance	____	34	36	21
Cash rent	____	-	371	24
Interest paid	____	116	56	20
(5) Total farm purchases	____	3397	4232	1994
(6) Decrease in farm capital	____	-	-	-
(7) Interest on farm capital	____	368	215	149
(8) Unpaid family labor	____	159	399	92
(9) Board furnished hired labor	____	28	66	84
(10) Total farm exp. (Sum of (5) to (9)	____	3952	4912	2319
(11) Operator's labor earn. (4)-(10)	____	991	1223	1353
(12) Ret.cap. & family lab.(7)+(8)+(11)	____	1518	1837	1594

RETURNS TO CAPITAL AND FAMILY LABOR

The return to capital and family labor represents the amount available to the operator for living expenses, payment on indebtedness, and savings. The landlord's expenses and receipts are not included.

The average return to capital and family labor for 34 owners, 17 cash and crop share renters, and 16 livestock share partnerships is shown in Table 7. The statement includes only the veterans share of the earnings of the partnership. The earnings as shown in Table 7 are on an actual basis as compared to the full-owner basis in Tables 2 and 3.

MANAGEMENT FACTORS AND THEIR RELATION TO EARNINGS

Every study of farm earnings shows a wide variation in earnings among farmers in a given year. The average labor earnings of these farmers ranking in the upper 20 per cent of the range according to earnings was $2923 and of those in the lower 20 per cent was $-78. This is a range of $3001 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 and their relationships with earnings are presented in the following tables. These factors vary from year to year in their relative influence on earnings.[1]

Crop Yields. The measure of crop yields used is the crop yield index. It is a comparison of the yield per acre of all crops on a given farm with the average yields for all farms included in the study. High crop yields make their maximum contribution to earnings if they are the result of good crop selection, the use of adapted varieties, skill and timeliness in performing the operations.

Table 8. Relation of Crop Yields to Farm Earnings

Index of crop yields		No. of	Average operator's
Range	Average	farms	labor earnings
Below 70	61	11	$ 948
70 - 129	98	58	1224
130 and above	148	11	1844

Choice of Crops. Over a period of years certain crops have a definite advantage over others. The crops are classified on page 16 as A, B, C, or D crops on the basis of their average net returns per acre. The relation of choice of crops to earnings is shown in Table 9. The relationship is not marked because of the small crop acreage on many of these farms.

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

Table 9. Relation of Choice of Crops to Farm Earnings

Percent of tillable land in high return crops		No. of farms*	Average operator's labor earnings
Range	Average		
Below 25.0	22.4	19	$1118
25.0 - 35.7	30.4	27	1289
35.8 and above	43.6	24	1335

* 10 farms on which work units comprised less than 20 per cent of the total work units were omitted from this table.

Return from Livestock. Seventy-three of the 80 farmers maintained dairy or dual purpose cattle, 58 maintained poultry, 55 had hogs, 9 had sheep, 4 had feeder cattle, 2 had a beef breeding herds, and one farmer did not keep any livestock. Ordinarily there is a marked relationship between the return received from livestock and earnings. However, in 1948, the records from these farms did not show this relationship.

Amount of Livestock. This factor measures the importance of livestock in the farm business. It is the amount of livestock units per 100 acres in the farm other than land in timber, roads, waste and farmstead. Livestock are important in that they add to the size of business. They provide employment throughout the year and aid in maintaining or building up the fertility of the land.

Table 10. Relation of Amount of Livestock to Farm Earnings

Livestock units per 100 acres		No. of farms	Average operator's labor earnings
Range	Average		
Below 8.0	4.8	15	$ 650
8.0 - 18.9	12.4	46	1353
19.0 and above	22.0	19	1564

Size of Business. Productive man work units are a measure of size of business. The relationship of size of business to farm earnings is shown in Table 11. Average farm earnings tend to increase with an increase in size of business if size is accompanied by good management. For farmers operating their farms at a loss, the larger the volume of business, the larger will be the loss. Normally a large business has an advantage over a small business because they utilize more efficiently and to better advantage available labor, power, machinery, equipment and buildings.

Table 11. Relation of Size of Business to Farm Earnings

Work units Range	Average	No. of farms	Average operator's labor earnings
Below 175	146	18	$ 920
175 - 349	246	47	1127
350 and above	439	15	2145

Work Accomplished Per Worker. The work accomplished per worker is determined by dividing the total man work units by the number of workers on the farm during the year. An increase in the productive work accomplished per worker reduces the labor charge per unit of business. Planning of the farm work and economical use of labor-saving machinery help to increase the output of work per worker.

Table 12. Relation of Work Accomplished Per Worker to Farm Earnings

Work units per worker Range	Average	No. of farms	Average operator's labor earnings
Below 135	113	17	$ 890
135 - 219	176	47	1126
220 and above	257	16	2102

Control Over Expenses. The depreciation and cash cost of upkeep for power, machinery, equipment and buildings per unit of work is used as a measure of the efficiency of their use on a farm. Some farmers lack power, machinery, and buildings for satisfactory operation. In case of others, an excessive investment in these items may constitute an important factor limiting earnings.

Table 13. Relation of Expenses to Farm Earnings

Expenses per work unit Range	Average	No. of farms	Average operator's labor earnings
$7.00 and above	$8.36	18	$ 802
$3.75 - $6.99	5.17	46	1159
Below $3.75	2.88	16	2121

CUMULATIVE EFFECT OF EXCELLING IN A NUMBER OF MANAGEMENT FACTORS

The relation of several management factors to operator's labor earnings has been shown in the preceding section. Because of the large number of interrelationships between these factors the exact relationship between one factor and earnings can not be determined. The combined or cumulative influence of the seven management factors on earnings is shown in Table 14. Insofar as these factors are within the farmer's control, he may be well paid for his efforts to improve his efficiency as measured by them.

Table 14. Relation of Operator's Labor Earnings to the Number of Factors in Which the Farmer Excels

No. of factors in which farmer excels	No. of farms	Your farm	The length of the lines is in proportion to the average operator's labor earnings	Average operator's labor earnings
None or 1	11	____	xxxxx	$ 569
2 or 3	34	____	xxxxxxxxxx	1092
4 or 5	3	____	xxxxxxxxxxxxxxx	1610
6 or 7	2	____	xxxxxxxxxxxxxxxxxxxxxxxxxx	2584

The array in Table 14 suggests that it may be well worth while for each cooperator to study carefully his ranking on pages 14 and 15, and learn his standing in respect to each of the seven factors as indicators of elements of strength and weakness in his farm business.

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 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 15.

Table 15. Number of Work Units for Each Class of Livestock and Each Acre of Crop

Item	No. of work units	Item	No. of work units
Dairy and dual pur. cows	14.0 per cow	Small grain	.7 per acre
Other dairy & du.pur.cattle	4.0 per an. unit*	Corn, husked	1.1 per acre
Beef breeding herd	4.0 per an. unit*	Corn, hogged	.7 per acre
Feeder cattle	.35 per 100 lbs.	Corn, shredded	2.2 per acre
Sheep - farm flock	1.8 per an. unit*	Corn silage	1.7 per acre
Hogs	.3 per 100 lbs.	Corn fodder	1.0 per acre
Turkeys	.7 per 100 lbs.	Alfalfa hay	.9 per acre
Hens	22.0 per 100 hens	Soybean hay	1.4 per acre
Soy beans for grain	.7 per acre	Other hay crops	.6 per acre

* Animal unit represents one cow, one bull, one feeder steer or heifer, two head of other cattle, seven head of sheep, fourteen lambs, five hogs, ten pigs, 100 hens or 1400 pounds of turkeys produced.

Table 16. Measures of Farm Organization and Management Efficiency, 1948

Measures used in chart on page 15	Your farm	Average of 80 farms	16 most profitable farms	16 least profitable farms
Operator's labor earnings	$____	$1265	$2923	$-78
(1) Crop yields*	____	100	113	92
(2) % of tillable land in high ret. crops**	____	32.5	35.6	31.7
(3) Ret. for $100 feed to prod. livestock***	____	100	91	96
(4) Prod. livestock units per 100 acres****	____	13.2	13.7	11.6
(5) Size of business - work units	____	259	325	230
(6) Work units per worker	____	185	217	153
(7) Pow., mach., equip., & bldg. exp. per work unit	$____	$5.43	$4.72	$6.35
Items related to some of the above measures:				
(3) Index of return for $100 feed from				
Dairy cattle (See pages 20 and 21)	____	100	91	96
Beef breeding herd	____	100	-	-
Beef cattle - feeders	____	100	-	-
Hogs (See page 23)	____	100	84	94
Sheep - farm flock (See page 25)	____	100	-	-
Chickens (See page 24)	____	100	111	76
(4) Number of animal units	____	16.4	20.1	12.9
(5) Work units on crops	____	81	103	78
Work units on productive livestock	____	168	219	134
Other work units	____	10	3	18
(6) Number of family workers	____	1.3	1.3	1.4
Number of hired workers	____	.1	.2	.1
Total number of workers	____	1.4	1.5	1.5
(7) Power expense per work unit	$____	$3.37	$3.15	$3.54
Crop machinery expense per work unit	____	.86	.74	1.04
Livestock equip. expense per work unit	____	.25	.25	.26
Bldgs. & fencing exp. per work unit	____	.95	.58	1.51

*Given as a percentage of the average.

**Crops are marked in Table 17 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 were not included.

Thermometer Chart

Using your figures from page 14, locate your standing with respect to the various measures of farm organization and management efficiency. The averages for the 80 farms included in this summary are located between the dotted lines across the center of this page.

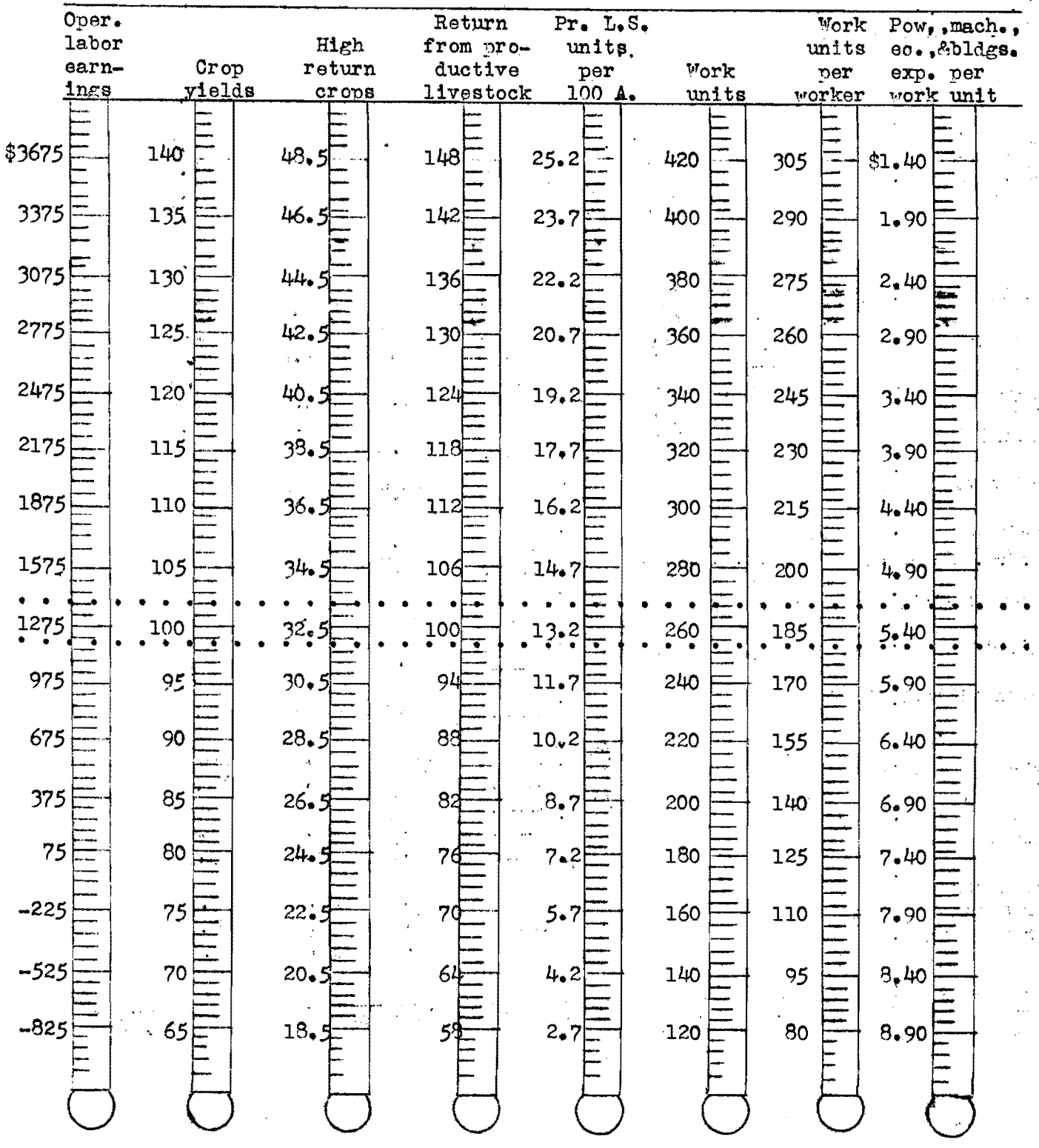

Table 17. Distribution of Acres in Farm, 1949

Crop: (A),(B), (C) and (D) refer to ranking used in calculating % of tillable land in High Return Crops (see page 14)		No. growing this crop	Your farm	Average of 80 farms	16 most profitable farms	16 least profitable farms
Flax	(A)	13	____	2.7	5.1	1.3
Wheat	(B)	30	____	5.1	8.3	3.6
Barley	(B)	21	____	3.4	2.6	3.3
Oats	(C)	77	____	28.5	35.0	31.1
Rye, buckwheat and soybeans	(D)	11	____	1.2	2.6	1.9
Total small grain and soybeans		77		40.9	53.6	41.2
Garden, truck crops, potatoes	(A)	21	____	.3	.1	.3
Corn grain	(C)	70	____	14.2	21.9	13.6
Corn silage	(C)	51	____	6.2	6.8	4.2
Corn fodder	(D)	19	____	.9	.6	.6
Total cultivated crops		75		21.6	29.4	18.7
Alfalfa hay	(A)	49	____	6.3	8.7	7.1
Red or alsike clover hay	(B)	21	____	2.4	4.7	1.5
Red or alsike clover seed	(B)	6	____	.3	.2	.1
Mixed legumes & non-legumes	(C)	19	____	5.4	6.0	4.8
Timothy and/or brome hay&seed	(D)	11	____	1.8	1.5	5.4
Wild hay on tillable land	(D)	11	____	1.9	2.6	-
Annual hay	(D)	4	____	.3	-	-
Total tillable land in hay		73		18.4	23.7	18.9
Legumes or sudan grass*		4	____	.2	-	-
Other tillable pasture	(D)	18	____	2.5	3.2	3.4
Total tillable land in pasture		22	____	2.7	3.2	3.4
Tillable land not cropped	(D)	6	____	.9	1.9	-
Total tillable land		80	____	84.5	111.8	82.2
Wild hay (non-tillable)		50	____	12.5	9.1	10.4
Non-tillable pasture		75	____	45.3	40.3	58.4
Timber (not pastured)		31	____	10.6	11.2	18.0
Roads and waste			____	9.4	9.8	5.7
Farmstead			____	4.5	5.2	5.7
Total acres in farm			____	166.8	187.4	180.4
Per cent land tillable			____	50.7	59.7	45.6
Per cent tillable land in high ret. crops			____	32.5	35.6	31.7

* Alfalfa pasture was given a rating of A; other legumes and legume mistures, C and sudan grass, C.

Table 18. Crop Yields Per Acre, 1948

Crop	Your farm	Average of 80 farms	16 most profitable farms	16 least profitable farms
Flax, bu.	_____	13.0	12.7	13.1
Wheat, bu.	_____	15.6	20.0	14.4
Barley, bu.	_____	25.1	33.2	27.1
Oats, bu.	_____	33.2	38.2	30.6
Rye, bu.	_____	16.8	-	-
Buckwheat, bu.	_____	16.2	-	-
Potatoes, bu.	_____	85.4	-	-
Corn, grain, bu.	_____	45.3	48.0	40.3
Corn silage, tons	_____	6.9	7.9	5.1
Corn fodder, tons	_____	3.5	4.8	2.9
Alfalfa hay, tons	_____	2.1	2.2	1.5
Red or alsike clover hay, tons	_____	1.5	1.3	1.9
Red or alsike clover seed, lbs.	_____	155	-	-
Other leg.&leg. mix.for hay, tons	_____	1.2	1.1	1.0
Brome or timothy hay, tons	_____	1.4	1.2	1.3
Wild hay on tillable land, tons	_____	1.1	1.1	-
Annual hay, tons	_____	1.6	-	-
Wild hay on non-tillable land, tons	____	.6	.6	.6

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. The crop acres per farm ranged from 14 to 280 with an average of 93 (Table 19). The expenses are high on the farms with a small acreage. In some cases, low expenses for labor might be offset by high power and equipment costs. The farmer is interested in operating at the lowest cost for power, machinery, and labor combined.

Table 19. Power and Machinery Expenses Per Crop Acre, 1948

Items	Your farm	Average of 80 farms	16 most profitable farms	16 least profitable farms
Crop acres per farm	_____	93.3	115.8	89.2
Tractor and horse exp. per crop acre	_____	$4.65	$3.78	$5.14
Crop & gen. mach. exp. per crop acre	_____	2.38	1.94	3.00

The feed cost for horses is a part of the cost of power on those farms maintaining horses. The annual feed cost per horse is shown in Table 20. Seventeen farmers did not maintain horses.

Table 20. Feed Costs For Horses, 1948

Items	Your farm	Average of 57 farms
Feed per horse, lbs.:		
Grain	_____	393
Hay	_____	3356
Fodder and stover	_____	886
Feed cost per horse:		
Grain	_____	$9.79
Roughage	_____	20.61
Pasture	_____	7.95
Total feed cost		38.35
Number of work horses	_____	2.3
Number of colts	_____	-

AMOUNT OF LIVESTOCK

Nearly all the farmers maintained some dairy cattle. The average number of dairy cows per farm was approximately nine head (Table 21). Seventy-two per cent of the farmers kept poultry and seventy per cent raised hogs.

Table 21. Amount of Livestock, 1948

	Your farm	Average of 80 farms	16 most profitable farms	16 least profitable farms
Number of milk cows	_____	8.2	10.8	6.2
Number of other dairy cattle	_____	8.8	11.3	6.5
Number of sheep*	_____	5.2	1.7	2.7
Number of hens	_____	99	137	111
Number of litters of pigs raised	_____	2.6	3.3	2.1
Pounds of hogs produced	_____	3591	5512	2302
Number of horses	_____	1.8	1.7	1.9
Number of colts	_____	-	-	-

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

TOTAL FEED COSTS AND RETURNS FROM YOUR LIVESTOCK ENTERPRISES

The total "return over feed costs" for each class of livestock is shown in Table 22. 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 pounds". 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 page 5. The value of milk consumed by calves is included in the total returns for dairy or dual purpose cows and in the total feed cost for other dairy or other dual purpose cattle. The value of milk consumed by calves is not included in either the total returns or the feed cost of "all dairy" or "all dual purpose" cattle. 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 22. Total Feed Costs and Returns From Your Livestock Enterprises, 1948

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

	Feeder cattle	Hogs	Farm flock of 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 considerably between classes of livestock. Feed makes up approximately 45 per cent of the total costs of maintaining dairy cattle and poultry, 50 per cent in the case of a farm flock of 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.

DAIRY CATTLE

The quantity of feed consumed, value of feeds and returns from dairy cattle are presented in Tables 23, 24 and 25. The statements include four herds which were classified as dual purpose cattle.

Table 23. Factors of Cost and Returns from Dairy Cows, 1948

Items	Your farm	Average of 73 farms	15 farms highest in butterfat per cow	15 farms lowest in butterfat per cow
Pounds of butterfat per cow	_____	226	312	142
Price rec. per lb. B.F. sold (cents)	_____	94.2	96.3	92.3
As manufacturing cream (cents)	_____	90.4	90.2	91.1
Other (cents)	_____	105.1	107.1	99.4
Feeds per cow, lbs.:				
Corn	_____	417	727	180
Small grain	_____	733	1310	474
Commercial feeds	_____	365	511	109
Legume hay	_____	2318	2023	2207
Other hay	_____	2278	1995	2193
Fodder and stover	_____	944	954	458
Total concentrates	_____	1515	2548	763
Total hay and fodder	_____	5540	4972	4858
Silage	_____	5256	6587	4402
Total digestible nutrients*	_____	4855	5395	3611
T.D.N. per lb. B.F.	_____	21.5	17.3	25.4
% T.D.N. that is protein	_____	12.6	12.5	10.6
Feed cost per cow:				
Concentrates	$_____	$45.50	$75.50	$22.34
Roughages	_____	48.17	48.87	39.67
Pasture	_____	5.50	5.43	6.17
TOTAL FEED COSTS	$_____	$99.17	$129.80	$63.18
Value of produce per cow:				
B.F. sales	$_____	$189.68	$256.46	$112.08
Dairy produce used in house	_____	12.89	14.98	14.48
Milk to livestock	_____	20.12	26.94	15.67
Net increases in value of cows	_____	9.16	12.39	6.05
TOTAL VALUE PRODUCED	$_____	$231.85	$310.77	$148.28
RETURNS ABOVE FEED COST PER COW	$_____	$132.68	$180.97	$ 80.10
RETURNS FOR $100 OF FEED	$_____	$259	$246	$272
Feed cost per lb. B.F. (cents)	_____	43.9	41.6	48.0
% fall freshening	_____	42	54	22
Number of cows**	_____	9.0	9.2	8.4

*Not including nutrients received from pasture.

**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 24. Feed Costs and Returns from Other Dairy Cattle, 1948

Items	Your farm	Average of 73 farms	15 farms highest in butterfat per cow	15 farms lowest in butterfat per cow
Feeds per head, lbs.:				
Concentrates	_____	304	428	307
Hay and fodder	_____	2123	1595	1543
Silage	_____	1550	1793	1358
Skim milk	_____	1258	1192	983
Whole milk	_____	269	329	194
Feed cost per head:				
Concentrates	$_____	$ 8.35	$12.52	$ 5.03
Roughages	_____	15.68	14.39	13.65
Milk	_____	14.42	15.58	12.12
Pasture	_____	2.44	2.95	2.56
TOTAL FEED COSTS PER HEAD	$_____	$41.39	$45.44	$33.36
Net inc. in value of other dairy cattle	$_____	$67.38	$56.16	$58.86
RETURNS ABOVE FEED COST PER HEAD	$_____	$25.99	$10.72	$25.50
RETURNS FOR $100 OF FEED	$_____	$206	$135	$226
Number of head of other dairy cattle	_____	9.6	9.8	10.6

Table 25. Feed Costs and Returns From All Dairy Cattle, 1948

Items	Your farm	Average of 73 farms	15 farms highest in butterfat per cow	15 farms lowest in butterfat per cow
Feeds per animal unit, lbs.:				
Concentrates	_____	1185	1931	659
Hay and fodder	_____	4899	4449	3946
Silage	_____	4452	5507	3753
Feed cost per animal unit:				
Concentrates	$_____	$35.12	$57.32	$17.58
Roughages	_____	41.80	42.60	34.37
Pasture	_____	5.18	5.41	5.72
TOTAL FEED COST	$_____	$82.10	$105.33	$57.67
Value of produce per animal unit:				
Dairy products	$_____	$137.01	$183.92	$ 79.46
Net increase in val. of dairy cattle	_____	49.70	47.12	48.08
TOTAL VALUE PRODUCED	$_____	$186.71	$231.04	$127.54
RETURNS ABOVE FEED PER ANIMAL UNIT	$_____	$104.61	$125.71	$69.87
RETURNS PER $100 OF FEED	$_____	$255	$225	$275
Animal units of dairy cattle	_____	14.0	14.2	14.0

The return over feed cost per cow varied from -$93.90 to $300.01 among the 73 herds covered by this study. Some of the important factors that affected the return over feed were:

1. Rate of production (pounds butterfat per cow)
2. Price received for butterfat
3. Feeding efficiency (pounds T.D.N. fed per pound butterfat)
4. Quality of ration (percentage of protein in T.D.N.)
5. Economy of ration (feed cost per pound butterfat)

The herds which ranked low in these factors had low returns over feed. As indicated in Table 26, the six herds which ranked below the average of the whole group in all of these factors showed a return over feed of $41.66 per cow. On the other hand the four herds which ranked above the average of the whole group in each of these five factors had a return over feed per cow of $210.33. These data suggest that dairy returns could be very materially increased by more attention to these five management factors.

Table 26. Relation of Return Over Feed per Dairy Cow to the Number of Factors in Which Farmers Excelled

No. of factors in which farmers excelled	No. of farms	The length of the line is proportional to the average return over feed per cow	Average return over feed
None	6	xxxxxx	$ 41.66
1	8	xxxxxxxxxxxxxxxx	109.28
2	17	xxxxxxxxxxxxxxxxx	115.39
3	24	xxxxxxxxxxxxxxxxxxxxxxxx	155.57
4	14	xxxxxxxxxxxxxxxxxxxxxxx	160.89
5	4	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	210.33

HOGS

The return over feed cost per 100 pounds of hogs produced varied from $15.66 for those farmers ranking in the upper third in feeding efficiency to a return of $3.31 less than the feed cost for those in the lowest one third. Some of the important factors that affected return over feed were:

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

Table 27. Feed Costs and Returns from Hogs, 1948

Items	Your farm	Average of 55 farms	11 farms highest in returns above feed	11 farms lowest in returns above feed
Feed per cwt. hogs produced, lbs.:				
Corn	_____	317	211	454
Small grain	_____	169	108	221
Commercial feeds	_____	47	51	79
Total concentrates	_____	533	370	754
Skim milk and buttermilk	_____	408	293	678
Feed cost per cwt. hogs produced:				
Concentrates	$_____	$13.64	$ 9.26	$20.28
Skim milk and buttermilk	_____	1.92	.85	3.01
Pasture	_____	.15	.24	.13
TOTAL FEED COSTS	$_____	$15.71	$10.35	$23.42
Net increase in val. per cwt. hogs prod.	$_____	$22.49	$26.01	$20.11
RETURNS ABOVE FEED COST PER CWT. HOGS PROD.	$_____	$ 6.78	$15.66	$-3.31
RETURNS FOR $100 OF FEED	$_____	$163	$271	$89
Ave. weight per hog sold, lbs.	_____	210	163	226
Price received per cwt. hogs sold	$_____	$23.92	$26.62	$23.44
No. of spring litters raised	_____	2.9	2.0	2.8
No. of fall litters raised	_____	.8	1.4	.6
Total no. of litters raised	_____	3.7	3.4	3.4
No. of pigs born per litter	_____	8.8	9.3	8.8
No. of pigs weaned per litter	_____	7.5	8.4	6.9
Pounds of hogs produced	_____	5129	2579	4484

Nine farmers ranked below the average in the four factors. They failed to receive a return large enough to cover the cost of feed (Table 28). The five farmers who ranked above the average of the entire group in each of the four factors received a return over feed of $9.49 for each 100 pounds of hogs produced. These data suggest that superior management leads to high returns.

Table 28. Relation of Return Over Feed Per 100 Pounds of Hogs Produced to the Number of Factors in Which Farmers Excelled

No. of factors in which farmers excelled	No. of farms	The length of the line is proportional to the average return over feed per 100 pounds of hogs produced	Average return over feed
0	9	xxx	$-1.17
1	17	xxxxxxxxxxxxxxx	6.37
2	15	xxxxxxxxxxxxxxxxxxxxx	9.23
3	9	xxxxxxxxxxxxxxxxxxxxxxxx	9.90
4	5	xxxxxxxxxxxxxxxxxxxxxxx	9.49

CHICKENS

Twenty out of the 59 farmers raising chickens failed to receive a return large enough to cover the cost of feed. The average return over feed from the 58 flocks included in this report was $1.20 per hend (Table 29).

Table 29. Feed Costs and Returns from Chickens, 1948

Items	Your farm	Average of 58 farms	12 farms highest in returns above feed	12 farms lowest in returns above feed
Feed per hen, lbs.:				
Grain	_____	76	69	106
Commercial	_____	34	31	28
Total concentrates	_____	110	100	134
Skim milk and buttermilk	_____	11	20	5
TOTAL FEED COST PER HEN	$_____	$3.80	$3.26	$4.65
Value of produce per hen:				
Eggs sold and used in house	$_____	$4.78	$6.34	$3.19
Net increase in value of chickens	_____	.22	.64	-.07
TOTAL VALUE PRODUCED	_____	$5.00	$6.98	$3.12
RETURNS ABOVE FEED COST PER HEN	$_____	$1.20	$3.72	$-1.53
RETURNS FOR $100 OF FEED	$_____	$142	$231	$65
Price rec'd per doz. eggs sold (cents)	_____	40.4	42.6	36.9
Eggs laid per hen	_____	140	190	82
Ave. no. of hens on farm during the yr.	_____	134	167	125
% of hens that are pullets	_____	55	69	58
% of death loss of hens	_____	15.7	12.8	20.3
Number of chicks put on feed	_____	113	158	133
Price paid per 100 chicks purchased	$_____	$34.13	$36.46	$27.41
Pounds of poultry produced	_____	320	578	274

Some of the important factors that affected the return over feed were:

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

The data in Table 30 show that the flocks which ranked low in these factors had low returns over feed. The three flocks which ranked below the average of the whole group in all factors failed to cover feed cost by $2.80 per hen. The eight flocks which ranked above the average of the whole group in each of the five factors had a return over feed per hen of $3.19.

Table 30. Relation of Return Over Feed Per Hen to the Number of Factors in Which Farmers Excelled

No. of factors in which farmers excelled	No. of farms	The length of the line is proportional to the average return over feed per hen	Average return over feed
0	3	xxxxxxxxxxxxx	$-2.80
1	6	xx	.35
2	17	xxx	.53
3	16	xxxxxxx	1.32
4	14	xxxxxxxxxxxxx	2.73
5	3	xxxxxxxxxxxxxxx	3.19

Table 31. Feed Costs and Returns from a Farm Flock of Sheep, 1948

Items	Your farm	Average of 9 farms
Feed per head,* lbs.:		
Concentrates	_____	34
Legume hay	_____	113
Other hay	_____	222
Fodder and stover	_____	158
Silage	_____	83
Feed cost per head:		
Concentrates	$_____	$ .86
Roughages	_____	2.42
Pasture	_____	.95
TOTAL FEED COSTS	$_____	$4.23
Value of produce per head:		
Wool	$_____	$ 2.56
Net increase in value of sheep	_____	11.96
TOTAL VALUE PRODUCED	$_____	$14.52
RETURNS ABOVE FEED COST PER HEAD	$_____	$10.29
RETURNS FOR $100 OF FEED	$_____	$421
Price per cwt. of lambs sold	$_____	$21.41
Price per lb. wool sold (cts.)	_____	48.2
Pounds of wool per sheep sheared	_____	6.8
Number of ewes kept for lambing	_____	37
% lamb crop**	_____	112
% death loss**	_____	6.4
Pounds of sheep produced	_____	2235
No. of head of sheep*	_____	45.0

*Two lambs under six months of age considered as one head.
**Lambs which die during month of birth are not included.

Table 32. Feed Costs and Returns From Feeder Cattle, 1948

Items	Your farm	Average of 4 farms
Feeds per cwt. beef produced, lbs.:		
Corn	____	433
Small grain	____	129
Commercial feeds	____	4
Legume hay	____	280
Other hay	____	340
Fodder and stover	____	50
Total concentrates	____	566
Total dry roughages	____	670
Silage	____	1349
Feed cost per cwt. beef produced		
Concentrates	$____	$ 10.90
Roughages	____	8.08
Pasture	____	1.18
TOTAL FEED COSTS	$____	20.16
Net increase in value of feeders	$____	15.59
RETURNS ABOVE FEED COST PER CWT. BEEF PRODUCED	____	$ -4.57
RETURNS FOR $100 OF FEED	____	$ 98.00
Price recd. per cwt. beef sold in 1948	____	$ 17.16
Price paid per cwt. beef bought	$____	23.83
No. of animal units	____	3.9
Pounds of beef produced	____	1315

Table 33. Summary of Farm Inventories by Years

	1947	1948
Number of farms	65	80
Dairy and dual purpose cows	$ 1180	$ 1086
Other dairy & dual purpose cattle	463	540
Beef cattle (inc. feeders)	113	44
Hogs	304	291
Sheep	28	69
Poultry	140	114
Productive livestock (total)	2228	2144
Horses	90	84
Crop, seed & feed	1309	1273
Power Mach. (farm share)	1024	1073
Crop & general mach. (farm share)	843	851
Livestock equipment & supplies	302	242
Mach. & equipment (total)	2169	2166
Miscellaneous	2	2
Buildings, fences, etc.	4181	3756
Land	5225	4268
Total farm capital	$15204	$13693

Table 34. Summary of Farm Earnings by Years

	1947	1948
Monthly charge for unpaid family labor	$ 90	$ 112
Monthly charge for board to hired labor	37	41
FARM RECEIPTS		
Dairy and dual-purpose cows	$ 295	$ 376
Dairy products	1592	1587
Other dairy & dual-purpose cattle	296	404
Beef cattle	95	82
Hogs	763	687
Sheep and wool	22	69
Poultry	93	77
Eggs	516	457
Horses	11	16
Corn	98	85
Small grain	933	422
Other crops	131	109
Machinery & equip. sold	105	185
Agricultural adjustment payments	17	24
Income from work off the farm	62	105
Miscellaneous	8	13
(1) Total farm sales	5037	4698
(2) Increase in farm capital	1092	926
(3) Family living from the farm	493	471
(4) Total farm receipts (1)+(2)+(3)	6622	6095
FARM EXPENSES		
Dairy and dual-purpose cows bought	$ 125	$ 262
Other dairy and dual-pur. cattle bought	64	125
Beef cattle bought	17	18
Hogs bought	99	59
Sheep bought (incl. feeders)	26	9
Poultry bought (including turkeys)	74	46
Horses bought	12	33
Misc. livestock expense	43	42
Misc. crop expenses	250	220
Feed bought	567	490
Custom work hired	184	192
Mech. power mach. (farm share)(new)	454	401
Mech. power mach. (farm share)(upkp)	191	174
Mech. power (f.share)(gas, oil, etc.)	385	401
Crop and general mach. (new)	370	375
Crop and general mach. (upkeep)	89	84
Livestock equipment (new)	87	64
Livestock equipment (upkeep)	18	19
Buildings and fencing (new)	235	277
Buildings and fencing (upkeep)	118	105
Hired labor	116	103
Taxes	162	151
General farm and insurance	38	38
(5) Total farm purchases	3724	3688
(6) Decrease in farm capital	-	-
(7) Interest on farm capital	760	685
(8) Unpaid family labor	457	411
(9) Board furnished hired labor	46	46
(10) Total farm exp. (sum of (5) to (8)	4987	4830
(11) Oper. labor earnings (4) - (10)	1635	1265

Table 35. Summary of Acres and Crop Yields Per Farm by Year

	1947	1948
ACRES PER FARM		
Flax	5.1	2.7
Wheat	7.1	5.1
Barley	5.5	3.4
Oats	27.3	28.5
Other small grains	3.9	1.2
Total small grains	48.9	40.9
Corn	24.8	21.3
Other cultivated crops	.1	.3
Total cultivated crops	24.9	21.6
Legume hay and seed crops	6.2	9.0
Other hay and seed crops	14.2	9.4
Total tillable land in hay	20.4	18.4
Total tillable land in pasture	2.8	2.7
Tillable land not cropped	.8	.9
Total tillable land	97.8	84.5
Wild hay (non-tillable)	10.7	12.5
Non-tillable pasture	41.1	45.3
Timber, roads, waste, and farmstead	29.3	24.5
Total land in farm	178.9	166.8
CROP YIELDS PER ACRE		
Flax, bu.	10.1	13.0
Wheat, bu.	16.3	15.6
Barley, bu.	24.9	25.1
Oats, bu.	31.8	33.2
Corn for grain, bu.	28.6	45.3
Corn for silage, tons	5.0	6.9
Corn fodder, tons	1.9	3.5
Alfalfa hay, tons	1.9	2.1
Red or alsike clover hay, tons	1.7	1.5
Brome or timothy hay, tons	1.4	1.4

Table 36. Summary of Miscellaneous Items by Years

	1947	1948
MEASURES OF FARM ORGANIZATION AND MANAGEMENT EFFICIENCY		
% high return crops	30.0	32.5
A. U. livestock per 100 A.	13.8	13.2
No. of work units	290	259
Work units per worker	193	185
Expenses per work unit	$5.31	$5.43
AMOUNT OF LIVESTOCK		
No. of milk cows	9.4	8.2
No. of other dairy cattle	9.2	8.8
No. head of sheep	2.4	5.2
No. of hens	122	99
Lbs. hogs produced	3593	3591
No. litters of hogs raised	1.9	1.8
PRODUCTION PER UNIT OF LIVESTOCK		
Lbs. B.F. per cow	216	226
Pigs weaned per litter	6.6	7.5
No. eggs laid per hen	133	140
Lbs. wool per sheep sheared	7.0	6.8
PRICE RECEIVED PER:		
Lb. B.F. sold (cts.)	85.1	94.2
Cwt. hogs sold	$24.45	$23.92
Lb. wool sold (cts.)	39.0	48.2
Doz. eggs sold (cts.)	40.5	40.4
RETURN ABOVE FEED COST PER:		
Dairy cow	$97.80	$132.68
Cwt. hogs produced	7.76	6.78
Head of sheep	7.62	10.29
Hen	.38	1.20
FEED COST PER:		
Dairy cow	$99.30	$99.17
Cwt. hogs produced	17.07	15.71
Head of sheep	3.00	4.23
Hen	4.71	3.80
Horse	36.70	38.35