



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

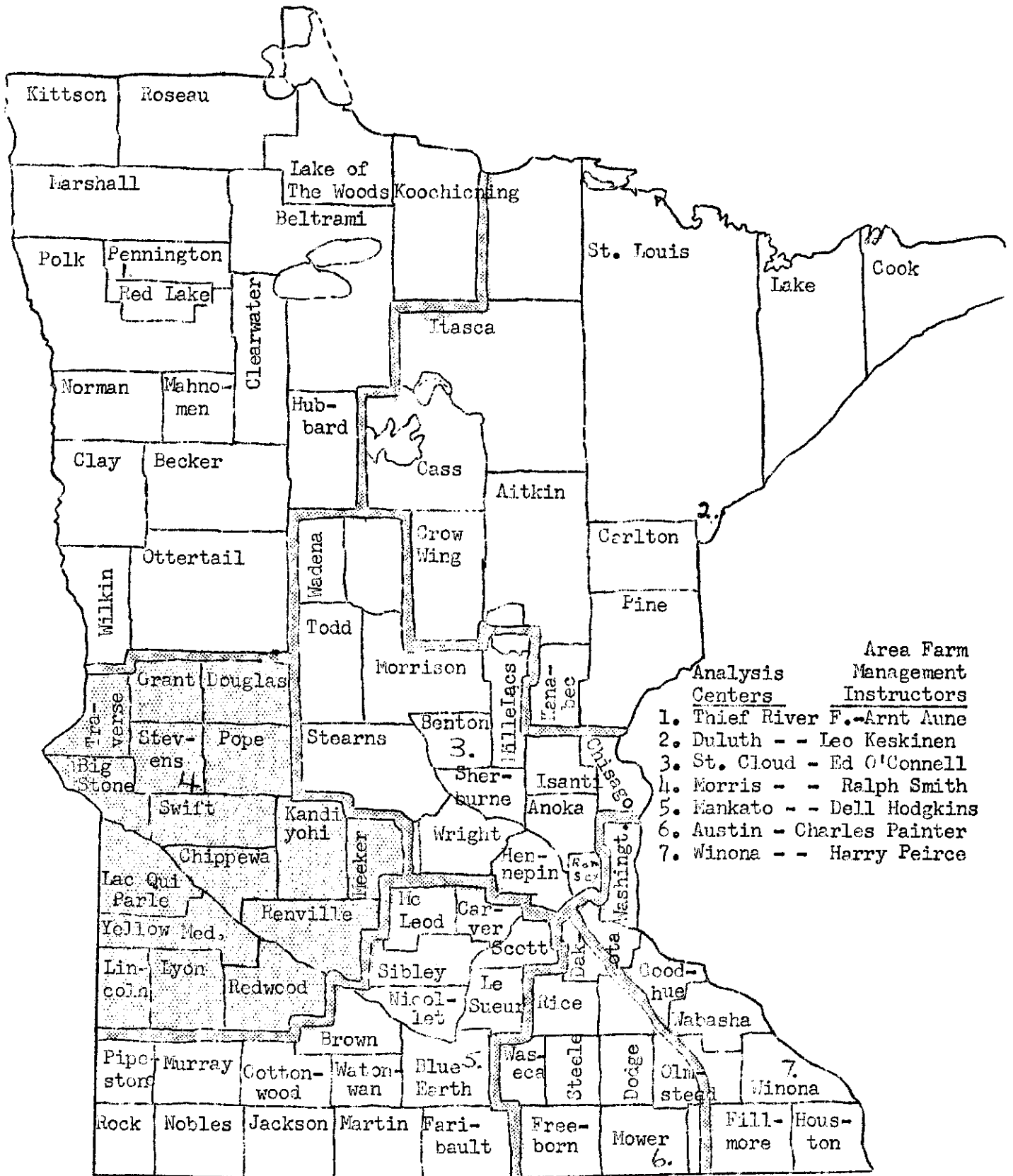
*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

1957 REPORT
VOCATIONAL AGRICULTURE
FARM MANAGEMENT SERVICE
WEST CENTRAL MINNESOTA

UNIVERSITY OF MINNESOTA
Institute of Agriculture
and
Vocational Division
MINNESOTA DEPARTMENT OF EDUCATION
Cooperating

Report No. 237
Department of Agricultural Economics
Institute of Agriculture
St. Paul 1, Minnesota
April, 1958

VO-AG FARM MANAGEMENT AREAS



- | Analysis Centers | Area Farm Management Instructors |
|-------------------|----------------------------------|
| 1. Thief River F. | Arnt Aune |
| 2. Duluth | Leo Keskinen |
| 3. St. Cloud | Ed O'Connell |
| 4. Morris | Ralph Smith |
| 5. Mankato | Dell Hodgkins |
| 6. Austin | Charles Painter |
| 7. Winona | Harry Peirce |

* Shaded Area Served By The Morris Analysis Center

1957 REPORT OF THE FARM MANAGEMENT SERVICE FOR VOCATIONAL
AGRICULTURE IN WEST CENTRAL MINNESOTA

Ralph Smith, T. R. Nodland and G. A. Pond

INDEX

	Page
Introduction	1
Farm Inventories	2
Farm Earnings	2
Family Living From the Farm	6
Household and Personal Expenses and Receipts.	6
Net Worth	7
Summary of Farm Earnings by Tenure.	9
Returns to Capital and Family Labor	10
Range in Earnings	10
Explanation of "Work Units"	11
Measures of Farm Organization and Management Efficiency	12
Thermometer Chart	13
Distribution of Acres in Farm	14
Crop Yields	15
Power and Machinery Expenses	15
Amount of Livestock	15
Total Feed costs and Returns from Livestock Enterprises	16
Hogs	16
Dairy Cattle.	17
Beef Cattle	20
Chickens.	21
Summary of Miscellaneous Items by Years	22
Summary of Farm Earnings by Years	24

INTRODUCTION

The Departments of Agricultural Economics and Agricultural Education, the West Central School and Station and the Agricultural Extension Service of the University of Minnesota are cooperating with the Vocational Division, Minnesota Department of Education in maintaining a farm management service. The service was initiated during 1952 and is available to farmers who are enrolled in adult or young farmer classes in 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. The enrollment is on a voluntary basis insofar as the number of schools participating and the number of farmers enrolled in the service.

The analysis of the records and the preparation of the reports for West Central Minnesota are handled by Ralph Smith of the West Central School and Experiment Station at Morris. The project is under the general direction of T. R. Nodland and G. A. Pond of the University of Minnesota Department of Agricultural Economics. The Department of Agricultural Education was represented by M. J. Peterson and the Agricultural Extension Service by E. Hartmans. The State Department of Education was represented by G. R. Cochran, State Supervisor of Agricultural Education.

Each farmer pays an annual fee which covers a portion of the cost. Through a grant of funds from the Hill Family Foundation, Lauren Granger was employed by the Department of Agricultural Education as a co-ordinator for the project. The balance of the costs were defrayed by the University of Minnesota.

This report deals with farmers enrolled in 7 schools in West Central Minnesota. The following tabulation shows by schools the number of 1957 farm records submitted:

SCHOOL	No. of Records	INSTRUCTOR
Alberta	1	Howard Johnson
Alexandria	9	Bernard Sonstegard
Canby	4	Dwaine Englund
Cyrus	2	Donald Walker
Dawson	1	Donald Briggs
Madison	3	Dwight Quam
Morris	2	Ralph Smith
Sacred Heart	3	Earl Northouse

The records kept included farm inventories, cash receipts and expense, feed consumed by the various classes of livestock, family living secured from the farm, household and personal expenses and receipts and the operator's liabilities and assets other than farm capital. All types of tenure arrangements are represented ranging from full owners to partnerships in which the operator furnishes little or no capital.

FARM INVENTORIES

The capital investment per farm varied from \$21,612 to \$120,942. The average investment for all farms included this report and for the one-fourth high and the one-fourth low in operator's labor earnings is shown in Table 1.

Landlords or partners supplied some capital in 17 out of the 25 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 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 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.

Table 1. Summary of Farm Inventories, 1957*

Items	Your Farm		Average of 25 Farms	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Size of farm (acres)				
Size of business (work units)**				
Dairy and dual purpose cows			\$1754	\$1889
Other dairy & dual purpose			664	826
Beef cattle (incl. feeders)			2714	4284
Hogs			1074	897
Sheep (incl. feeders)			12	73
Poultry (incl. turkeys)			191	255
Productive livestock (total)			6409	8224
Horses			63	67
Crop, seed and feed			5969	4544
Power mach. (farm share)			2953	2760
Crop and general machinery			3173	3607
Livestock equipment			651	821
Machinery & equipment (total)			6777	7188
Miscellaneous			--	--
Land			19600	19546
Buildings, fences, etc.			8712	9032
Total farm capital			47530	48601

Items	8 most profitable farms		8 least profitable	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Size of farms (acres)	313			
Size of business (work units)**				
Dairy and dual purpose cows	\$1516	\$1501	\$1534	\$ 936
Other dairy & dual purpose	560	602	335	562
Beef cattle (incl. feeders)	3203	4187	3250	7566
Hogs	1170	1045	1722	1344
Sheep (incl. feeders)	37	79	--	148
Poultry (incl. turkeys)	443	669	72	51
Productive livestock (total)	6929	8083	6913	10627
Horses	17	--	180	210
Crop, seed, and feed	6198	5455	7306	4847
Power mach. (farm share)	2856	2571	3913	3654
Crop & gen. machinery	3234	3948	4007	4354
Livestock equipment	716	871	630	555
Machinery & equipment (total)	6806	7390	8550	8563
Land	25644	25643	19658	19702
Buildings, fences, etc.	7908	8037	12013	12433
Total farm capital	53502	54608	54620	56382

* 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 11 for an explanation of "work units."

Table 2. Summary of Farm Earnings (Cash Statement), 1957

Items	Your farm	Average of 25 farms	8 most profitable farms	8 least profitable farms
FARM RECEIPTS				
Dairy and dual-purpose cattle		\$ 814	\$ 430	\$1166
Dairy products		2697	2137	2018
Beef cattle (incl. feeders)		4661	4723	6392
Hogs		3253	3823	5032
Sheep and wool (incl. feeders)		31	98	--
Horses		19	28	31
Poultry		46	80	38
Eggs		941	2341	281
Corn		2604	3404	2960
Small grain		798	1326	639
Other crops		1447	1373	1829
Mach. & equip. sold & gas tax refund		297	209	283
Income from work off the farm		223	186	298
Miscellaneous		201	153	270
(1) Total farm sales		18032	20311	21237
(2) Increase in farm capital		1071	1106	1762
(3) Family living from the farm		205	139	274
(4) Total farm receipts (1)+(2)+(3)		19308	21556	23273
FARM EXPENSES				
Dairy and dual-purpose cattle bought		400	48	462
Beef cattle bought (incl. feeders)		2839	2175	5632
Hogs bought		346	197	775
Sheep bought (incl. feeders)		53	55	110
Horses bought		18	--	56
Poultry bought		103	262	117
Misc. livestock expense		319	319	392
Feed bought		2440	3223	3044
Fertilizers		630	796	941
Other crop expenses		600	722	689
Custom work hired		584	484	750
Gas, oil & grease bought (farm share)		882	772	1062
Rep. of mechanical power (farm share)		473	434	559
Repair and upkeep of real estate		168	204	210
Rep. & upkeep of crop & gen. mach.		360	429	385
Rep. & upkeep of livestock equip.		81	113	90
Wages of hired labor		537	728	453
Electricity expense (farm share)		177	222	152
Real estate & pers. prop. taxes		641	646	776
General farm expense		197	208	178
(5) Total cash operating expense		11848	12037	16733
(6) Cap. purchases-mech. pow. (f. share)		606	401	743
(7) " " -crop & gen. mach.		1198	1503	1389
(8) " " -livestock equip.		301	320	82
(9) " " -bldgs. & fencing		944	665	1327
(10) Total farm purchases (5) to (9)		14897	14926	20274
(11) Decrease in farm capital		--	--	--
(12) Interest on farm capital		2403	2703	2775
(13) Unpaid family labor		358	228	580
(14) Board furnished hired labor		146	107	173
(15) Total farm expenses (10) to (14)		17804	17964	23802
(16) Labor earnings (4) - (15)		1508	3592	-529

Table 3. Summary of Farm Earnings (Enterprise Statement) 1957*

Items	Your Farm	Average of 25 farms	8 most profitable farms	8 least profitable farms
RETURNS AND NET INCREASES				
Dairy and dual-purpose cows		\$2777	\$2176	\$2092
Other dairy & dual-purpose cattle		772	462	435
Beef breeding herd		503	1136	102
Feeder cattle		2928	2427	5051
Horses		2767	3531	3925
Sheep-farm flock & feeders		39	85	38
Chickens		972	2405	314
All productive livestock		10758	12222	11957
Value of feed fed to livestock		6266	6866	6014
Return over feed from livestock		4472	5356	3943
Crops, seed, and feed		6010	7451	6291
Income from labor off the farm		82	74	98
Agricultural conservation pay.		33	--	48
Miscellaneous		168	152	222
(1) Total returns & net increases		10765	13033	10602
EXPENSES AND NET DECREASES				
Horses		\$ 1	\$ -11	\$ 15
Truck		368	323	515
Auto (farm share)		477	385	489
Tractor		1062	961	1297
Elec. & gas engine exp. (farm)		177	222	152
Hired power		275	195	382
Total power		2360	2075	2850
Crop and general machinery		1130	1306	1379
Livestock equipment		198	230	246
Buildings, fencing, tiling		771	741	1059
Misc. productive livestock exp.		319	319	392
Labor		1242	1213	1476
Real estate taxes		514	520	620
Personal property tax		127	126	156
Insurance		94	96	79
General farm		103	112	99
Interest on farm capital		2403	2703	2775
(2) Total expenses & net dec.		9261	9441	11131
(3) Operator's earnings (1)-(2)		1504	3592	-529

*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 4.

FAMILY LIVING FROM THE FARM

The family living from the farm is the estimated value of the farm produce used in the house 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 income.

The value of the family living as shown in Table 4 amounts to 1.2 percent 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.

Table 4. Family Living from the Farm, 1957

Items	Your Farm	Average of 25 farms	Your Farm	Average of 25 farms
Adult equiv. - family	_____	3.0		
- others	_____	.2		
Whole milk	_____	719 qts.		\$ 60
Cream	_____	27 pts.	_____	5
Beef	_____	456 lbs.	_____	68
Hogs	_____	209 lbs.	_____	38
Lamb and mutton	_____	--	_____	--
Poultry	_____	71 lbs.	_____	10
Eggs	_____	53	_____	14
Potatoes	_____	--	_____	--
Vegetables & fruit	_____		_____	10
Farm fuel	_____		_____	--
Total	_____		_____	205

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 \$255 per month for family living in addition to the food, fuel and housing furnished by the farm.

Table 5. Household and Personal Expenses for Those Farms Which Kept Complete Accounts of These Expenses, 1957

Item	Your Farm	Average of 16 farms	8 most profitable farms	8 least profitable farms
Number of persons - family	_____	4.3	4.6	3.9
Number of adult equiv. - family	_____	3.	3.	2.9
- other *	_____	.2	.1	.3
Food and meals bought	_____	\$750	\$726	\$771
Operating and supplies	_____	220	190	250
Furnishings and equipment	_____	170	191	148
Clothing and clothing materials	_____	284	290	278
Personal care, personal spending	_____	63	69	57
Education, recreation and devel.	_____	216	140	293
Gifts and special events	_____	107	105	108
Medical care and health ins.	_____	310	297	324
Church, welfare	_____	112	108	117
Personal share of auto expense	_____	150	119	182
Operator's share of upkeep dwell.	_____	27	42	14
Household share of ele. exp.	_____	86	70	101
Total cash living expense	_____	2495	2347	2643
H.H. & pers. share of new auto	_____	44	27	61
New dwelling	_____	--	--	--
Taxes and other deductions	_____	151	136	166
Life insurance	_____	206	197	215
Other savings and investments	_____	169	40	297
Total household & personal cash exp.	_____	3065	2747	3382
Total family living from the farm	_____	224	214	235
Total cash expenses & prequis.	_____	3289	2961	3617
Receipts:				
Return to capital and fam. labor	_____	2741	3886	1596
Miscellaneous income	_____	326	370	281
Income from investments	_____	70	63	76

*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, part owners and renters 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, 1957 (Operator's Share)

Items	Your Farm		5 owners	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Total acres in farm			294	
Owned			294	
Rented			--	
Total farm capital			\$51533	\$51064
Stocks and bonds			660	660
Life insurance			959	1059
Accounts receivable			--	--
Outside real estate			--	--
Other outside investments			1442	984
Total outside investments			3061	2703
Dwelling			4615	4426
Cash on hand and in bank			701	861
Other household & personal assets			2256	2126
Total cash, h.h. and personal assets			7572	7413
TOTAL ASSETS			62166	61180
Federal Land Bank Mortgage			4000	3867
Other mortgage on land operated			5980	5740
Mortgages on other real estate			--	--
FHA chattel mortgages			--	--
Production Credit Association			2160	3032
Crop loans			--	--
Other chattel mortgages			1044	400
Notes payable			3092	1359
Accounts payable			750	2778
TOTAL LIABILITIES			17036	17176
Farmer's net worth			45130	44004
Gain in net worth				-1126

Items	9 part owners*		4 renters**	
	Jan. 1.	Dec. 31.	Jan. 1.	Dec. 31
Total acres in farm	171		276	
Owned	68		--	
Rented	103		276	
Total farm capital	\$34608	\$35676	\$14746	\$16387
Stocks and bonds	767	797	31	645
Life insurance	1055	1251	749	216
Accounts receivable	--	--	--	--
Other outside investments	748	1182	112	118
Total outside investments	2570	3230	892	979
Dwelling	4074	3893	--	--
Cash on hand and in bank	2644	2973	659	1206
Other h.h. and personal assets	2621	2519	1434	1535
Total cash, h.h. and pers. assets	9339	9385	2093	2741
TOTAL ASSETS	46517	48291	17731	20107
Federal Land Bank Mortgage	--	--	--	--
Other mortgages on land operated	7155	5072	--	--
Mortgages on other real estate	3300	5056	--	--
FHA chattel mortgage	--	--	--	--
Production Credit Association	850	1278	--	1469
Crop loans	--	--	782	566
Other chattel mortgages	1521	2171	1751	2422
Notes payable	1417	1796	542	461
Accounts payable	197	613	288	408
TOTAL LIABILITIES	14740	15986	3363	5326
Farmer's net worth	32077	32305	14368	14781
Gain in net worth		228		413

* 2 rented for cash and crop share and 2 crop share.

** 7 cash and crop share, 1 crop share, and 1 cash.

Table 7. Summary of Farm Earnings by Tenure, 1957 (Operator's Share)

Items	Your farm	5 owners	9 part owners	4 renters
FARM RECEIPTS				
Dairy and dual-purpose cows		\$ 463	\$ 409	\$ 120
Dairy products		1668	2232	
Beef cattle (incl. feeders)		8774	3507	6707
Hogs		516	3363	3412
Sheep and wool (incl. feeders)		--	--	196
Poultry (incl. turkeys)		62	28	24
Eggs		572	1464	92
Horses		10	--	--
Corn		2789	2073	2843
Small grain		507	577	983
Other crops		3369	941	438
Mach. & equip. sold, gas tax refund		331	473	66
Income from work off the farm		36	360	134
Miscellaneous		327	245	139
(1) Total farm sales		19424	15672	15154
(2) Increase in farm capital		--	1068	1641
(3) Family living from the farm		203	251	119
(4) Total farm receipts (1) + (2) + (3)		19627	16991	16914
FARM EXPENSES				
Dairy and dual purposes cows bought		--	743	--
Beef cattle bought (incl. feeders)		4610	1305	4765
Hogs bought		260	126	148
Sheep bought (incl. feeders)		--	--	110
Horses bought		20	--	--
Poultry bought (incl. turkeys)		45	182	27
Miscellaneous livestock expense		235	318	224
Feed bought		2957	2647	2057
Fertilizers bought		669	580	720
Other crop expense		562	514	574
Custom work hired		702	588	454
Gas, oil & grease bought (farm share)		809	846	559
Rep. of mech. power (farm share)		354	415	367
Repair & upkeep of real estate		124	144	22
Rep. & upkeep of crop & gen. mach.		325	310	237
Rep. & upkeep of livestock equip.		67	81	88
Wages of hired labor		346	597	99
Electricity exp. (farm share)		140	169	179
Real estate & pers. prop. tax		744	394	66
Cash rent		--	83	142
General farm expense		220	207	135
Interest paid		727	837	255
(5) Total cash operating expense		13916	11086	11228
(6) Capital purchases-mech. pow. (fm)		449	494	266
(7) Capital purchases-crop & gen. mach.		851	1173	1250
(8) Capital purchases-livestk. equip		13	751	35
(9) Capital purchases-bldg. & fenc.		1100	981	77
(10) Total farm purchases (5) to (9)		16329	14485	12796
(11) Decrease in farm capital		469	--	--
(12) Interest on farm capital		1837	920	523
(13) Unpaid family labor		264	290	--
(14) Board furnished hired labor		62	117	12
(15) Total farm expenses (10) to (14)		18961	15812	13331
(16) Labor earnings (4) - (15)		666	1179	3583
(17) Return to capital & family labor (16) + (12) + (13)		2767	2389	4106

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 5 owners, 9 part owners, and 4 renters is shown in Table 7. The statement includes only the operator's 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.

RANGE IN EARNINGS

Every study of farm earnings shows a wide variation in earnings among farmers in a given year (figure 1). The average operator's earnings of those farmers ranking in the upper 33 percent of the range according to earnings was \$3592 and of those in the lower 33 percent was \$-529. This is a range of \$4121 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. Crop Yields | 5. Size of business |
| 2. Choice of Crops | 6. Work Units per Worker |
| 3. Return from Livestock | 7. Control over Expenses |
| 4. Amount of Livestock | |

Operator's
Earnings

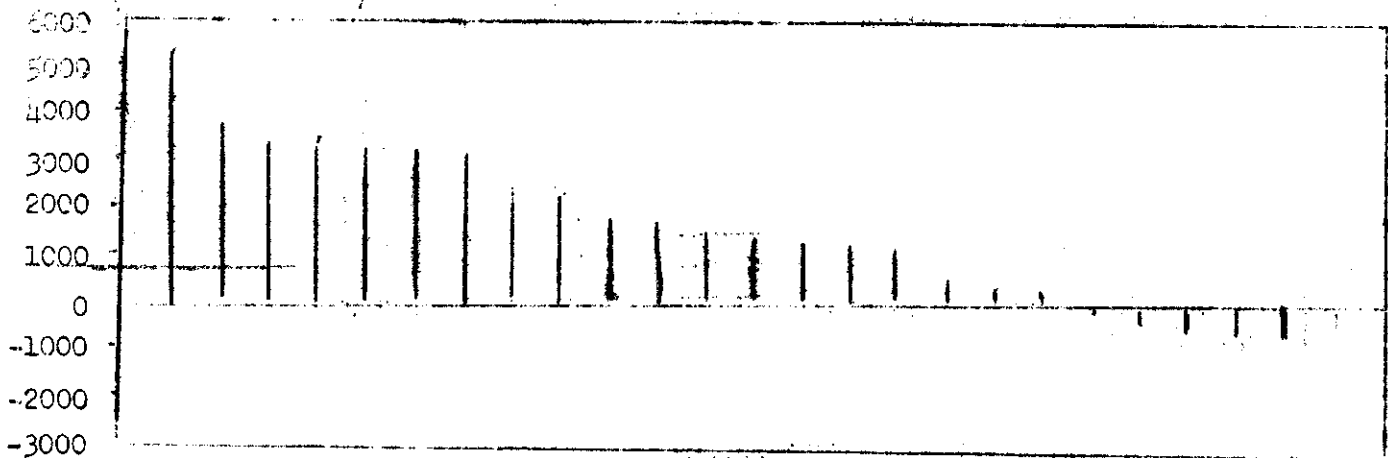


Fig. 1. Range in operator's earnings.
Each line represents the earning of one farmer.

* See Pond, G. A. "Why Farm Earnings Vary". Minn. Agric. Expt. Sta. Bul. 386, June, 1945
Nodland, T. R. and Pond, G. A. "Some Factors Affecting the Earnings of Farmers in Southwestern Minnesota". Univ. of Minn., Dept of Ag. Econ., Report No. 219, November, 1954

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 8.

Table 8. 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-purpose cows	10.0 per cow	Small grain	.5 per acre
Other dairy & du. pur. cattle	3.5 per an. unit*	Sugar beets	1.5 per acre
Beef breeding herd	3.5 per an. unit*	Sweet corn	.7 per acre
Feeder cattle	.25 per 100 lbs.	Corn husked	.7 per acre
Sheep-farm flock	1.5 per an. unit*	Corn, hogged	.4 per acre
Sheep feeders	.3 per 100 lbs	Corn, shredded	1.5 per acre
Hogs	.2 per 100 lbs.	Corn silage	1.0 per acre
Turkeys	.5 per 100 lbs.	Corn fodder	1.0 per acre
Hens	20.0 per 100 lbs	Alfalfa hay	.6 per acre
Canning peas	.5 per acre	Soybean hay	.8 per acre
Soybeans for grain	.5 per acre	Other hay crops	.4 per acre

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

Table 9. Measures of Farm Organization and Management Efficiency, 1957

Measures used in chart on page 13	Your farm	Average of 25 farms	8 most profitable farms	8 least profitable farms
Operator' earnings	\$ _____	\$1504	\$3592	\$-529
(1) Crop Yields *	_____	100	111	85
(2) Percent tillable land in high ret. crops**	_____	52.7	51.9	52.5
(3) Ret. for \$100 feed to prod. livestock***	_____	100	105	93
(4) Prod. livestock units per 100A. ****	_____	21.6	18.5	22.7
(5) Size of business - work units	_____	351	376	367
(6) Work units per worker	_____	218	235	216
(7) Pow., Mach., Equip., Bldg. exp. per work unit	_____	13.95	13.65	16.24
Items related to some of the above measures:				
(3) Index of return for \$100 feed from:				
Dairy cattle (see pages 18 & 19)	_____	100	103	86
Beef cattle bfd. herd. (see p. 20)	_____	100	116	82
Beef cattle-feeders (see page 20)	_____	100	108	100
Hogs (see page 17)	_____	100	115	89
Sheep--farm flock (see page 21)	<u>6</u>	100	--	--
Capons	_____	--	--	--
Chickens (see page 22)	_____	100	105	94
(4) Number of animal units	_____	50.8	53.1	60.9
(5) Work units on crops	_____	123	139	142
Work units on prod. livestock	_____	220	230	215
Other work units	_____	8	7	10
(6) Number of family workers	_____	1.3	1.2	1.5
Number of hired workers	_____	.3	.4	.2
Total number of workers	_____	1.6	1.6	1.7
(7) Power expense per work unit	_____	7.37	6.36	8.44
Crop mach. exp. per work unit	_____	3.45	4.05	3.86
Livestock equip, exp. per wk. unit	_____	.71	1.03	.73
Bldgs. & fenc. exp. per work unit	_____	2.42	2.21	3.21

* Given as a percentage of the average.

** Crops are marked in Table 10 as (1), (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 percent 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 12, locate your standing with respect to the various measures of farm organization and management efficiency. The averages for the 25 farms included in this summary are located between the dotted lines across the center of this page.

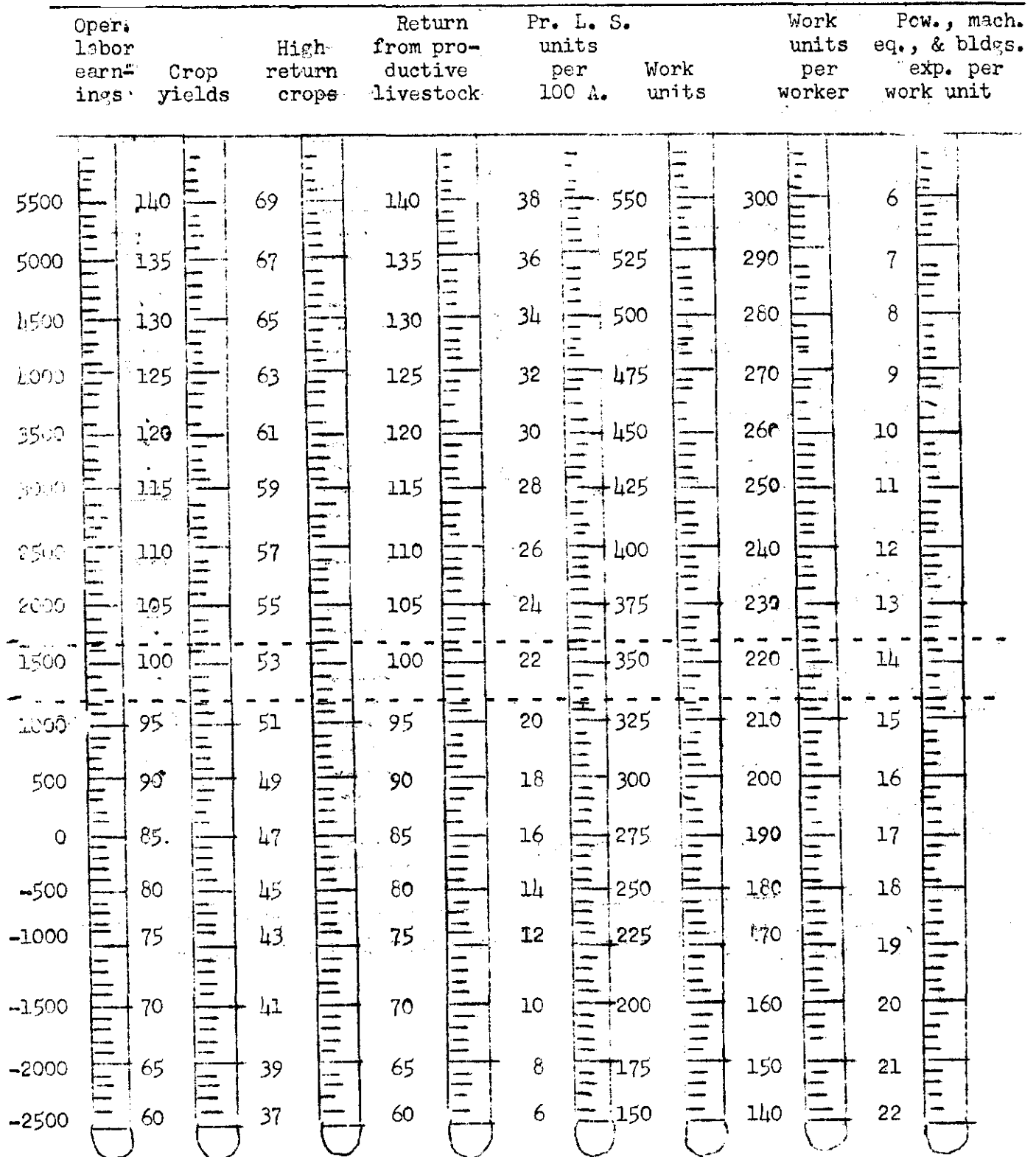


Table 10. Distribution of Acres in Farm, 1957

	Crop ratings*	Your farm	Average of 25 farms
Flax	C	_____	16.0
Barley	C	_____	8.3
Wheat	C	_____	4.3
Oats & oat mixtures	D	_____	28.4
Rye	D	_____	--
Oat silage	C	_____	5.2
Millet	D	_____	--
Total small grain and peas		_____	<u>62.2</u>
Corn grain	A	_____	61.6
Soybeans for grain	B	_____	35.1
Corn or sorghum silage	B	_____	11.5
Total cultivated crops		_____	<u>108.2</u>
Alfalfa hay	B	_____	31.5
Other legume & mixtures	C	_____	2.8
Timothy & brome hay & seed	D	_____	2.6
Total tillable land in hay		_____	<u>36.9</u>
Alfalfa pasture	B	_____	11.0
Other legume & mixtures	C	_____	3.7
Sudan and/or rape	C	_____	1.1
Other tillable pasture	D	_____	--
Total tillable land in pasture		_____	<u>15.8</u>
Soil Bank	A	_____	3.8
Tillable land not cropped	D	_____	.8
Total tillable land		_____	<u>227.7</u>
Wild hay		_____	.9
Non-tillable pasture		_____	25.3
Timber (not-pastured)		_____	12.7
Roads and waste		_____	16.7
Farmstead		_____	8.1
Total acres in farm		_____	<u>291.4</u>
Percent land tillable		_____	78.2
Percent tillable land in high return crops		_____	<u>52.7</u>

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

Table 11. Crop Yields Per Acre, 1957

Crop	Your Farm	Average of farms growing each crop
Flax, bu.	_____	5.3
Barley, bu.	_____	25.9
Wheat, bu.	_____	20.4
Oats, bu.	_____	38.6
Rye, bu.	_____	--
Oat silage, tons	_____	5.1
Millet, bu.	_____	--
Corn grain, bu.	_____	47.5
Soybeans, bu.	_____	19.8
Corn silage, tons	_____	8.0
Alfalfa hay, tons	_____	2.6
Other legumes & mixtures, tons	_____	2.3
Timothy or broms hay, tons	_____	1.7
Wild hay, tons	_____	--

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 116 to 598 with an average of 208 (Table 12). 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 12. Power and Machinery Expenses Per Crop Acre, 1957

Items	Your Farm	Average of 25 farms	8 most profitable farms	8 least profitable farms
Crop acres per farm	_____	208	234	236
Tractor and horse exp. per crop A.	_____	5.57	4.16	5.66
Crop & gen. mach. exp. per crop A.	_____	5.75	5.79	5.64

AMOUNT OF LIVESTOCK

A large proportion of the farmers maintained some dairy cattle and hogs (Table 13). Forty four percent of the farmers kept poultry.

Table 13. Amount of Livestock, 1957

	Your farm	Average of 25 farms	8 most profitable farms	8 least profitable farms
Number of milk cows	_____	10.4	8.1	9.0
Number of other dairy cattle	_____	10.6	8.5	7.0
Number of beef cattle (incl. feeders)	_____	25.5	29.2	35.1
Number of sheep*	_____	2.5	6.5	1.2
Number of hens	_____	122	223	69
Litters of pigs raised	_____	7.9	15.6	8.4
Pounds of hogs produced	_____	15844	18976	24095
Pounds of feeder cattle produced	_____	10851	8870	19600

*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 14. 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 from 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 14. Total Feed Costs and Returns From Your Livestock Enterprises, 1957

	Dairy or dual purpose cattle		Beef breeding	
	Cows	Other	All	herd
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 percent of the total costs of maintaining dairy cattle and poultry, 50 percent in the case of a farm flock of sheep and 75 to 90 percent 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 100 pounds of hogs produced varied from \$8.93 for those farmers ranking in the upper one third in feeding efficiency to a return of \$4.41 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 15. Feed Costs and Returns from Hogs, 1957

Items	Your farm	Average of 17 farms	8 farms highest in returns above feed	9 farms lowest in returns above feed
Feed per cwt. hogs produced, lbs.:				
Corn	_____	345	256	424
Small grain	_____	107	110	103
Commercial feeds	_____	72	81	65
60% alfalfa	_____	6	13	--
Total concentrates	_____	530	460	592
Skim milk and buttermilk	_____	--	--	--
Feed cost per cwt. hogs produced:				
Concentrates	\$ _____	\$ 11.67	\$ 10.00	\$ 13.17
Skim milk and buttermilk	_____	--	--	--
Pasture	_____	.08	.12	.04
TOTAL FEED COSTS	_____	11.75	10.12	13.21
Net increase in val. per cwt. hogs prod.	_____	\$ 18.29	\$ 19.05	\$ 17.62
RETURNS ABOVE FEED COST PER CWT. HOGS PRODUED	\$ _____	6.54	8.93	4.41
RETURNS FOR \$100. OF FEED	\$ _____	\$162	\$192	\$135
Price received per cwt. hogs sold	\$ _____	\$ 18.13	\$ 18.64	\$ 17.69
No. of spring litters raised	_____	8.0	10.6	5.7
No. of fall litters raised	_____	4.8	8.3	1.7
Total no. of litters raised	_____	12.8	18.9	7.4
No. of pigs born per litter	_____	8.2	8.8	7.6
No. of pigs weaned per litter	_____	6.2	6.9	5.6
Pounds of hogs produced	_____	23182	23037	23311

DAIRY AND DUAL PURPOSE CATTLE

The quantity of feed consumed, value of feeds and returns from dairy cattle are presented in Tables 16, 17, and 18. The statements include one herd which was classified as dual purpose cattle.

The return over feed cost per cow varied from \$40.76 to \$174.65 among the 12 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
4. Quality of ration
5. Economy of ration (feed cost per pound butterfat)

Table 16. Factors of Cost and Returns from Dairy Cows, 1957

Items	Your farm	Average of 12 farms	6 farms highest in butterfat per cow	6 farms lowest in butterfat per cow
Pounds of butterfat per cow	_____	296	322	270
Price rec. per lb. B.F. sold (cents)	_____	88.0	89.2	86.8
Price rec. per lb. B.F. -whole milk	_____	88.0	89.2	86.8
Price rec. per lb. B. F. -Cream	_____	--	--	--
Feeds per cow, lbs.:				
Corn	_____	1714	1464	1964
Small grain	_____	965	1528	403
Commercial feeds	_____	387	200	574
Legume hay-	_____	6066	5717	6416
Other hay	_____	1113	1811	415
Fodder and stover	_____	--	--	--
Total concentrates	_____	3066	3192	2941
Total dry roughage	_____	7179	7528	6831
Silage	_____	8860	9544	8176
Feed cost per cow:				
Concentrates	_____	\$ 62.58	\$ 64.73	\$ 60.43
Roughages	_____	75.36	73.24	77.48
Pasture	_____	10.43	10.97	9.88
TOTAL FEED COSTS	_____	<u>148.37</u>	<u>148.94</u>	<u>147.79</u>
Value of produce per cow:				
B.F. sales	_____	\$250.00	\$279.94	\$220.05
Dairy produce used in house	_____	9.05	6.26	11.84
Milk to livestock	_____	4.53	4.39	4.68
Net increase in value of cows	_____	-1.64	-5.97	2.70
TOTAL VALUE PRODUCED	_____	<u>261.94</u>	<u>284.62</u>	<u>239.27</u>
RETURNS ABOVE FEED COST PER COW	_____	113.57	135.68	91.48
RETURNS FOR \$100 OF FEED	_____	185	203	166
Feed cost per lb. B. F. (cents)	_____	50.4	46.2	54.6
Number of cows*	_____	21.5	28.0	15.0

*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 17. Feed costs and Returns from Other Dairy and Dual Purpose Cattle, 1957

Items	Your farm	Average of 12 farms	6 farms highest in butterfat per cow	6 farms lowest in butterfat per cow
Feeds per head, lbs.:				
Concentrates	_____	601	532	669
Hay and fodder	_____	2295	1313	3277
Silage	_____	1643	1146	2141
Skim milk	_____	---	--	--
Whole milk	_____	214	264	163
Feed cost per head:				
Concentrates	\$ _____	\$ 14.59	12.99	16.18
Roughages	_____	21.69	13.48	29.89
Milk	_____	5.55	6.85	4.24
Pasture	_____	5.02	5.20	4.86
TOTAL FEED COSTS PER HEAD	_____	46.85	38.52	55.17
Net. inc. in value of other cattle	_____	68.68	66.70	70.66
RETURNS ABOVE FEED COST PER HEAD	_____	21.83	28.18	15.49
RETURNS FOR \$100 OF FEED	_____	158	199	117
Number of head of other cattle	_____	21.7	27.7	15.7

Table 18. Feed Costs and Returns from All Dairy and Dual Purpose Cattle, 1957

Items	Your farm	Average of 12 farms	6 farms highest in butterfat per cow	6 farms lowest in butterfat per cow
Feeds per animal unit, lbs.:				
Concentrates	_____	2490	2599	2381
Hay and fodder	_____	5787	4851	6722
Silage	_____	6138	7142	5134
TOTAL FEED COSTS PER ANIMAL UNIT	\$ _____	\$ 131.38	\$ 127.92	\$ 134.84
Value of produce per animal unit:				
Dairy products	_____	178.15	199.46	156.85
Net increase in val. of dairy cattle	_____	42.94	42.16	43.73
TOTAL VALUE PRODUCED	_____	221.09	241.62	200.58
RETURNS ABOVE FEED PER ANIMAL UNIT	\$ _____	89.71	113.70	65.74
RETURNS PER \$100 OF FEED	\$ _____	177	202	153
Animal units of cattle	_____	32.4	41.9	22.8

Table 19. Feed Costs and Returns from Beef Cattle, 1957

Items	Your Farm	Average of all farms
Beef breeding hers: No. of farms:		5
Feeds per animal unit, lbs.:		
Conce trates	_____	1008
Legume	_____	2999
Other hay	_____	380
Fodder and stover	_____	--
Silage	_____	895
Feed cost per animal unit:		
Concentrates	\$ _____	\$ 23.41
Roughages	_____	29.57
Pasture	_____	11.12
TOTAL FEED COSTS	_____	64.10
Value of produce per animal unit:		
Dairy products	\$ _____	--
Net increase in value of animals	_____	162.78
TOTAL V LUE PRODUCED	_____	162.78
RETURNS ABOVE FEED COST PER ANIMAL UNIT	\$ _____	98.68
RETURNS FOR \$100 OF FEED	\$ _____	269
Number of cows and herd bulls	_____	13.9
Number of animal units in the herd	_____	19.4
Lbs. beef produced	_____	11354
Feeding Cattle: No. of farms		12
Corn	_____	501
Small grain	_____	33
Commercial feeds	_____	68
Legume hay	_____	280
Other hay	_____	22
Total concentrates	_____	602
Total hay and fodder	_____	302
Silage	_____	529
Feed cost per cwt. beef produced:		
Concentrates	\$ _____	12.38
Roughages	_____	3.65
Pasture	_____	.87
TOTAL FEED COSTS	_____	16.90
Net increase in value of feeders	_____	27.81
RETURNS ABOVE FEED COST PER CWT. BEEF PROD.	_____	10.91
RETURNS FOR \$100 OF FEED	_____	173
Price paid per cwt. beef bot	_____	22.26
Price recd. for feeder cattle sold	_____	21.06
Number of animal units	_____	36.7
Pounds of beef produced	_____	22072

CHICKENS

None of the 11 farmers raising chickens failed to receive a return large enough to cover the cost of feed. The average return over feed from the 24 flocks included in this report was \$.87 cents per hen (Table 20).

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. Percent of hens that are pullets
5. Percentage death loss of hens

Table 20. Feed Costs and Returns from Chickens, 1957*

Items	Your farm	Average of 11 farms	6 farms highest in ret. over feed	6 farms lowest in ret. over feed
Feed per hen, lbs.:				
Grain	_____	58	46	68
Commercial feeds	_____	58	70	48
Total concentrates	_____	116	116	116
Skim milk and buttermilk	_____	--	--	--
TOTAL FEED COST PER HEN	\$ _____	\$ 3.24	\$ 3.16	\$ 3.31
Value of produce per hen:				
Eggs sold and used in house	\$ _____	4.25	4.69	3.88
Net inc. in value of chicken	_____	-.14	-.21	-.08
TOTAL VALUE PRODUCED	\$ _____	4.11	4.48	3.80
RETURN ABOVE FEED COST PER HEN	\$ _____	.87	1.32	.49
RETURNS FOR \$100 OF FEED	\$ _____	127	142	114
Price recd. per dz. eggs sold (cents)	_____	27.9	28.9	27.0
Eggs laid per hen	_____	179	190	169
Ave. no. hens on farm during year	_____	450	762	190
Percent of hens that are pullets	_____	70	82	60
Percent death loss of hens	_____	12.0	8.5	14.9
Number of chicks started:	_____	590	1110	157
Lbs. chickens produced	_____	1554	2654	638

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

Table 22. Summary of Miscellaneous Items by Years

	1953	1954	1955	1956	1957
Acres in farm:					
Small grains	91.4	91.7	68.0	65.8	62.2
Cultivated crops	63.3	67.9	81.0	104.2	108.2
Tillable land in hay	28.3	34.8	32.5	28.5	36.9
Tillable land in pasture	8.5	11.0	14.6	11.4	15.8
Soil bank					3.8
Tillable land not cropped	.2	5.3	.2	3.6	.8
Total tillable land	191.7	210.7	196.3	213.5	227.7
Wild hay & non-tillable pasture	33.0	30.5	34.5	26.5	26.2
Other non-tillable land	29.6	33.3	33.9	30.4	37.5
Total acres in farm	254.3	274.5	264.7	270.4	291.4
Yields per acre:					
Flax, bu.	10.3	9.6	12.0	12.1	5.3
Barley, bu.	24.6	29.5	31.5	34.7	25.9
Wheat, bu.	10.1	17.6	24.8	21.6	20.4
Oats, bu.	35.1	34.1	40.9	42.5	38.6
Oat silage, ton,					5.1
Corn grain, bu.	45.1	47.0	45.1	60.0	47.5
Soybeans, bu.	20.4	19.8	19.8	18.1	19.8
Corn silage, tons	8.3	8.2	8.4	9.9	8.0
Alfalfa hay, tons	2.7	2.4	2.4	2.7	2.6
Efficiency of farm org. & management:					
Percent of land in high ret. crops	48.2	47.5	52.4	55.7	52.7
Prod. L.S. units per 100 A/	18.3	19.7	14.4	18.9	21.6
Size of business, work units	324	359	356	334	351
Work units per worker	220	239	255	223	218
Exp. per work unit	\$ 10.18	\$ 9.69	\$ 9.40	\$ 10.97	\$ 13.95
Return above feed cost per:					
Dairy cow	\$ 67.49	\$ 53.17	\$ 56.05	\$ 95.30	\$ 113.57
An. unit in beef breeding herd	-25.29	3.98	-2.25	-10.84	98.68
100 lbs. feeder cattle produced	- 2.63	8.91	-4.68	1.21	10.91
100 lbs. hogs produced	10.07	6.18	.22	4.66	6.54
Head native sheep	4.80	2.70	6.43	8.39	--
Hen	2.27	- .26	1.96	1.28	.87
Feed cost per:					
Dairy cow	\$127.24	\$127.61	\$133.61	\$130.91	\$148.37
An. unit in beef breeding herd	80.64	73.14	72.65	80.58	98.68
100 lbs. feed cattle produced	20.86	18.99	24.88	19.96	16.90
100 lbs. hogs produced	13.15	13.54	11.44	10.95	11.75
Head native sheep	7.63	8.86	10.23	11.22	--
Hen	4.19	4.20	3.83	3.80	3.24
Miscellaneous livestock information:					
No. dairy & dual-purpose cows	10.6	10.9	11.0	10.0	21.5
No. beef cows & herd bulls	1.8	?	13.9	6.7	13.9
Lbs. feeder cattle & herd bulls	2499	?	3036	4052-	22072
Litter of pigs	8	9	9.7	6.6	12.8
Lbs. hogs produced	11449	16255	16968	16349	23182
No. of hens	160	191	128	161	450
Lbs. butterfat per milk cow	255	256	270	300	296
No. pigs weaned per litter	7.1	7.0	6.2	6.0	6.2
Percent lamb crop	99	97	116	90	--
Eggs per hen	174	174	187	201	179

Table 21. Summary of Miscellaneous Items by Years (Continued)

	1953	1954	1955	1956	1957
Price received per:					
Lb. butterfat sold as cream	\$.72	\$.74	\$.615	\$.536	--
Lb. butterfat sold as milk	.90	--	.824	.866	1.68
100 lbs. fat cattle	18.84	19.62	18.79	17.80	17.55
100 lbs. hogs	21.15	21.44	14.57	14.34	18.13
100 lbs. lambs	19.21	18.99	19.34	17.51	--
Lbs. of wool	.50	.46	.321	.329	--
Doz eggs	.41	.30	.33	.305	.279
Price of feed:					
Corn, bu.	\$ 1.31	\$ 1.34	\$ 1.23	\$ 1.25	\$ 1.10
Oats	.71	.70	.61	.63	.61
Berley, bu.	1.11	1.02	.93	.95	.91
Alfalfa hay, ton	17.50	17.00	18.00	18.50	17.00
Timothy hay, ton	10.10	9.80	10.40	10.95	9.80
Corn silage, ton	5.85	5.75	6.00	6.00	5.80
Linseed oilmeal, cwt.	4.05	4.20	4.10	3.68	3.52

Table 23. Summary of Farm Earnings By Years

	1953	1954	1955	1956	1957
No. of farms	52	46	38	39	25
Farm receipts:					
Dairy & dual-purpose cattle	\$ 690	\$ 811	\$ 626	\$ 629	\$ 814
Dairy products	2163	2081	2118	2252	2697
Beef cattle	11094	2145	1291	1669	4661
Hogs	2509	3390	2312	2243	3253
Sheep and wool	147	187	251	98	31
Horses	2	12	--	1	19
Poultry	162	149	74	72	46
Eggs	917	776	680	801	941
Corn	1023	610	1488	2016	2604
Small grain	1558	1597	1650	1080	798
Other crops	351	597	488	1421	1447
Mach. & equip sold	212	234	104	132	297
Income from work off the farm	309	485	408	205	223
Miscellaneous	139	204	161	200	201
Total farm sales	11283	13278	11651	12819	18032
Increase in farm capital	1128	775	496	2863	1071
Family living from the farm	289	294	238	232	205
Total farm receipts	12700	14347	12385	15914	19308
Farm expenses:					
Dairy & dual-purpose cattle bot	236	118	158	154	400
Beef cattle bot	402	781	419	862	2839
Hogs bot	130	233	260	282	346
Sheep bot	9	66	2	--	53
Horses bot	5	4	--	--	18
Poultry bot	107	118	79	102	103
Misc. livestock expense	159	219	254	242	319
Feed bot	1211	1790	1214	1689	2440
Fertilizers		361	331	345	630
Other crop expenses:	620	438	445	515	600
Custom work hired	414	428	406	465	584
Gas, oil & grease bot	798	801	759	719	882
Repairs for mechanical power	304	301	332	328	473
Repair & upkeep of real estate	161	175	112	156	168
Rep. & upkeep of crop machinery	276	268	228	266	360
Rep. & upkeep of livestock	77	98	86	84	81
Wages of hired labor	341	542	390	295	537
Electricity expense	113	142	148	143	177
Real estate & Person. Prop. taxes	464	502	546	535	641
General farm expense	147	182	145	166	197
Total cash operating expense	5974	7567	6314	7348	11848
Capital purchases - mech. power	592	697	719	617	606
- crop & gen mach.	710	1069	765	745	1198
-livestock equipment	123	136	197	324	301
- bldgs. & fencing	520	465	388	410	944
Total farm purchases	7919	9934	8383	9444	14897
Decrease in farm capital	--	--	--	--	--
Interest on farm capital	1655	1972	1982	2216	2403
Unpaid family labor	365	225	260	436	358
Board furnished hired labor	72	88	84	88	146
Total farm expenses	10011	12219	10709	12184	17804
Labor earnings	2689	2128	1676	3730	1504
Net cash income	3364	3344	3268	3375	3135