

1956 ANNUAL REPORT

VOCATIONAL AGRICULTURE FARM MANAGEMENT PROGRAM

MANKATO AREA OF SOUTHERN MINNESOTA

UNIVERSITY OF MINNESOTA
AGRICULTURE ECONOMICS - AGRICULTURE EDUCATION
DEPARTMENTS

and

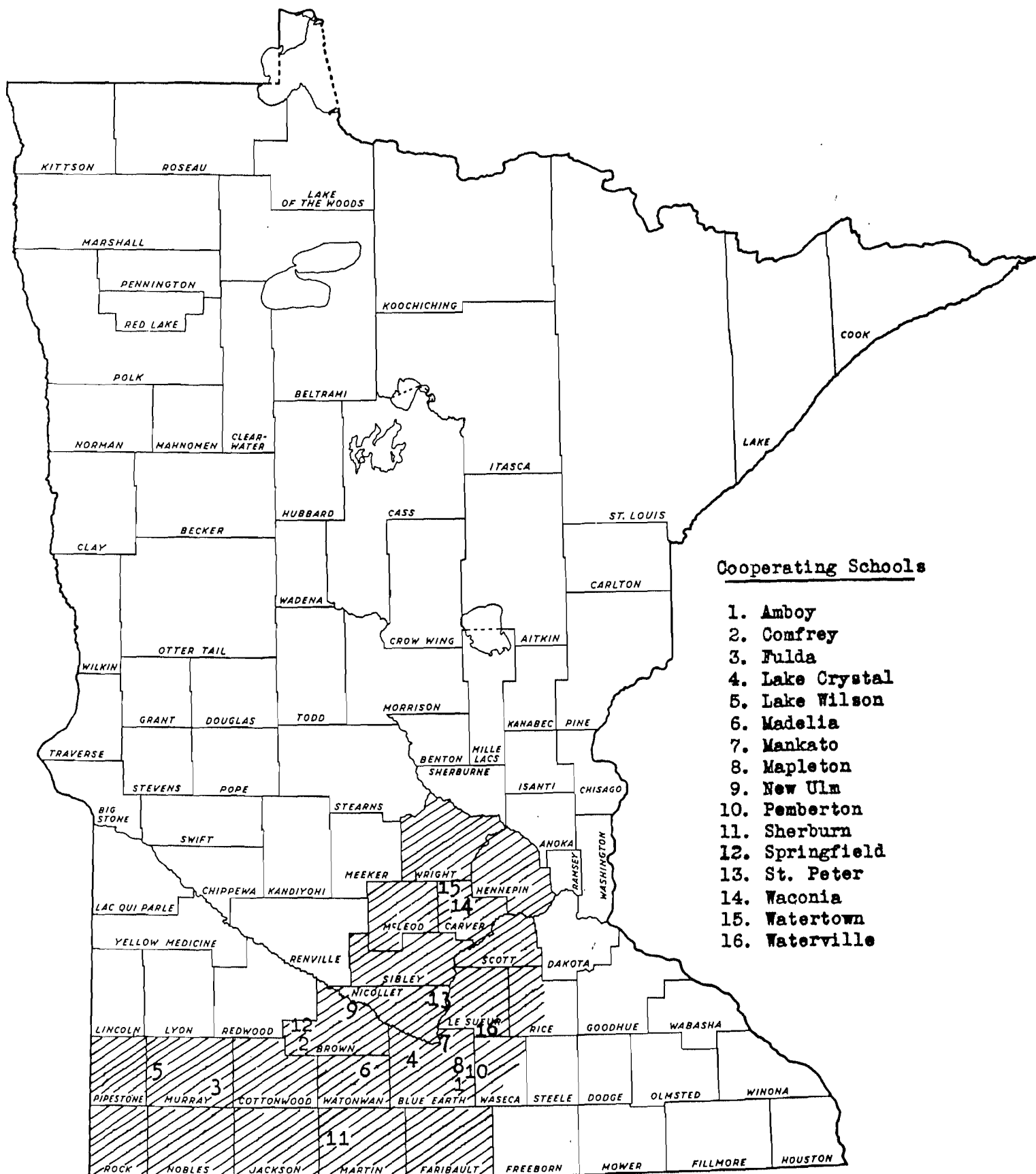
MINNESOTA DEPARTMENT OF EDUCATION
VOCATIONAL DIVISION

and

AREA VOCATIONAL TECHNICAL SCHOOL
MANKATO, MINNESOTA

Cooperating

APRIL 1957



Cooperating Schools

1. Amboy
2. Comfrey
3. Fulda
4. Lake Crystal
5. Lake Wilson
6. Madelia
7. Mankato
8. Mapleton
9. New Ulm
10. Pemberton
11. Sherburn
12. Springfield
13. St. Peter
14. Waconia
15. Watertown
16. Waterville

1956 Report of the Vocational Agriculture Farm Management
Program in the Mankato Area of Southern Minnesota

Del Hodgkins

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INTRODUCTION

The University of Minnesota, the Mankato Area Vocational-Technical School in cooperation with the Vocational Division, Minnesota Department of Education and with assistance from the Department of Agriculture Economics, and the Agriculture Extension Division of the University, operate and maintain the Vocational Agriculture Farm Management Program in the Mankato area of Southern Minnesota. This program was initiated in 1955 and is available to farmers who are enrolled in Vocational Agriculture, Adult, Young Farmer, and Veterans classes in the Public schools. The area served by the Mankato analysis center is indicated on the map inside the front cover.

The purpose of the Program as far as the area school is concerned is: (1) to give assistance to the instructors in the mechanics of keeping farm records, (2) to aid in the analysis of the farm business through the use of records as a basis for vocational guidance. Enrollment is on a voluntary basis insofar as the number of schools participating and the number of farmers enrolled in the program.

The analysis of the records and the preparation of the report for the Mankato Area are done under the direction of Delbert Hodgkins, Vocational Agriculture Adult Instructor at the Mankato School. Clerical assistants for this project were Mrs. Joan Turtle, Miss Norma Jean Baumgard, and Miss Virginia A. Kimes. Mrs. Dorothy Pavey, office secretary, assisted with the program throughout the year.

The Farm Management Program is supervised locally by Erling O. Johnson, Superintendent of Schools, and F. G. Kalin, Director of Vocational and Adult Education. Lauren Granger, through a grant of funds from the Hill Family Foundation, is employed as co-ordinator for the program in the state. Other cooperating agencies are represented as follows: G. R. Cochran and S. K. Wick represent the State Department of Education, the University of Minnesota Department of Agriculture Education is represented by Milo Peterson, the Department of Agriculture Economics by George Pond and Truman Nodland, and the Agriculture Extension Service is represented by E. H. Hartmens and H. G. Routhe.

Each farmer pays an annual fee which covers a portion of the cost of the record analysis. This fee covers the clerical costs of the analysis and the cost of publishing the report.

We are indebted to Truman Nodland for his assistance and advice in setting up this program and for many years of service rendered to vocational agriculture. Dr. Nodland and his associates in the Agriculture Economics Department have been most cooperative in this and other programs.

This report deals with farmers enrolled in 16 schools in the Mankato area. The following tabulation shows the number of 1956 records submitted and the name of the instructor:

<u>SCHOOL</u>	<u>NO. OF RECORDS</u>	<u>INSTRUCTOR</u>
Amboy	1	Robert Potosnak
Comfrey	5	Herbert Timm
Fulda	3	Kenneth Ziebarth
Lake Crystal	2	Ernest Freier
Lake Wilson	6	Ervin Neuharth
Madelia	12	Malcomb Brandt
Mankato	10	
Mapleton	1	Carl Ziebarth
New Ulm	24	Winfield Forsberg
		Kermit Kleene
Pemberton	1	Gerald Ziegler
Sherburn	1	Leo Ardolf
Springfield	1	Ronald G. Johnson
St. Peter	3	C. W. Dowling
Waconia	1	V ernon Bruhn
Watertown	4	V ernon Richter
Waterville	1	Herman Winkels
Total	76	

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

FARM INVENTORIES

The Capital investment per farm varied from \$ 15,811 to \$107,532. The average investment for all farms included in this report and for the 21 high and the 21 low in labor earnings is shown in Table 1.

FARM EARNINGS

Labor earnings is a measure of the relative financial success of a farm as compared with other farms and represents the returns above all farm expenses and a charge for the use of farm capital.

There are two methods of computing 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 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.

RETURNS TO CAPITAL

The return to capital and family labor represents the amount available to the operator for living expenses, payment on indebtedness and savings. These figures are found on Table 5.

Table 1. Summary of Farm Inventories, 1956

Items	Your Farm		Ave. of All Farms	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Size of farm (acres)			201.5	
Size of business (work units)*			365	
Dairy cattle			1704	1732
Other dairy cattle			661	761
Beef cattle (incl. feeders)			1463	1677
Hogs			1169	1814
Sheep (incl. feeders)			289	239
Poultry (incl. turkeys)			231	149
Productive livestock (total)			5517	6372
Horses			4	7
Crop, seed and feed			5154	5802
Auto & truck (farm share)			1095	1172
Tractors & motors			1695	1684
Crop and gen. mach.			3167	3280
Livestock equipment			670	764
Machinery & equip. (total)			6627	6900
Miscellaneous			---	---
Land			24921	24921
Buildings, fences, etc.			7830	7757
TOTAL FARM CAPITAL			50053	51759

Items	21 most profitable farms		21 least profitable	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Size of farm (acres)	231.9		188.5	
Size of business (work units)*	447		349	
Dairy cattle	1348	1428	1773	1987
Other dairy cattle	526	581	676	744
Beef cattle (incl. feeders)	1982	2806	2114	1839
Hogs	1488	2678	1152	1600
Sheep (incl. feeders)	292	197	598	484
Poultry (incl. turkeys)	298	98	230	170
Productive livestock (total)	5934	7738	6543	6824
Horses	13	22	---	---
Crop, seed, and feed	7296	8178	4618	4741
Auto & truck (farm share)	1316	1265	1110	1250
Tractors & motors	1960	2153	2047	1866
Crop & gen. machinery	4090	4400	3388	3204
Livestock equipment	748	1058	807	805
Machinery & equipment (total)	8114	8876	7352	7125
Miscellaneous	---	---	---	---
Land	27724	27724	25642	25642
Buildings, fences, etc.	7056	7479	8062	7662
TOTAL FARM CAPITAL	56137	60067	52217	51994

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

Table 2. Summary of Farm Earnings (Cash Statement), 1956

Items	Your farm	Average of all farms	21 most profitable farms	21 least profitable farms
FARM RECEIPTS				
Dairy cattle	_____	634	504	523
Dairy products	_____	2575	2167	2717
Beef cattle (incl. feeders)	_____	2714	4955	2863
Hogs	_____	3933	5382	3429
Sheep and wool	_____	294	328	561
Poultry (incl. turkeys)	_____	1153	3410	103
Eggs	_____	832	1161	762
Corn	_____	2426	3814	1682
Small grain	_____	359	623	291
Other crops	_____	1717	2149	1314
Mach. & equip. sold & gas tax refunds	_____	230	204	207
Income from work off the farm	_____	145	236	196
Miscellaneous	_____	158	126	185
(1) Total farm sales	_____	17170	25059	14833
(2) Increase in farm capital	_____	1706	3930	-----
(3) Family living from the farm	_____	258	264	240
(4) Total farm receipts (1)&(2)&(3)	_____	19134	29253	15073
FARM EXPENSES				
Dairy cattle bought	_____	218	169	335
Beef cattle bought (incl. feeders)	_____	1353	2635	1384
Hogs bought	_____	193	240	265
Sheep bought	_____	17	28	16
Horses bought	_____	3	11	-----
Poultry bought (incl. turkeys)	_____	278	672	108
Misc. livestock expense	_____	364	522	282
Feed bought	_____	2734	4264	2222
Fertilizer	_____	339	472	318
Other crop expense	_____	473	572	419
Custom work hired	_____	515	594	484
Gas, oil, grease bought (farm share)	_____	740	857	761
Rep. for tractors, trucks & autos (farm share)	_____	371	396	431
Rep. and upkeep of farm real estate	_____	208	279	153
Rep. and upkeep of crop & gen. mach.	_____	274	313	288
Rep. and upkeep of livestock equip.	_____	106	132	103
Wages of hired labor	_____	390	635	344
Electricity expense	_____	169	185	162
Pers. prop. & real estate taxes	_____	529	636	533
Telephone and general farm expense	_____	190	227	191
(5) Total cash opr. expense	_____	9464	13839	8799
(6) Mech. power bought (farm share)	_____	661	825	722
(7) Crop and gen. machinery bought	_____	777	1101	507
(8) Livestock equip. bought	_____	94	90	146
(9) New real estate improvements	_____	490	621	557
(10) Total farm purchases (5) to (9)	_____	11486	16476	10731
(11) Decrease in farm capital	_____	-----	-----	223
(12) Interest on farm capital	_____	2545	2905	2605
(13) Unpaid family labor	_____	177	170	292
(14) Board furnished hired labor	_____	69	87	83
(15) Total farm expense (10) to (14)	_____	14277	19638	13934
(16) Labor earnings (4) - (15)	_____	4857	9615	1139

Table 3. Summary of Farm Earnings (Enterprise Statement), 1956

Items	Your farm	Average of all farms	21 most profitable farms	21 least profitable farms
<u>RETURNS AND NET INCREASES</u>				
Dairy cows	_____	\$ 2829	\$ 2409	\$ 2949
Other dairy cattle	_____	527	459	382
Beef breeding herd	_____	124	28	317
Feeder cattle	_____	1439	3155	909
Hogs	_____	4430	6380	3663
Sheep - farm flock	_____	228	208	432
Turkeys	_____	1019	3243	----
Chickens	_____	647	492	745
All productive livestock	_____	11243	16374	9397
Value of feed fed to livestock	_____	7149	9065	6189
Return over feed from livestock	_____	4094	6509	3208
Crop, seed, and feed	_____	8701	11934	6613
Income from labor off the farm	_____	73	132	83
Agricultural conservation payments	_____	20	15	6
Miscellaneous	_____	138	111	179
(1) Total returns & net increases	_____	13026	18701	10089
<u>EXPENSES AND NET DECREASES</u>				
Horses	_____	1	2	----
Truck	_____	211	332	234
Auto (farm share)	_____	319	308	421
Tractor	_____	966	1100	1079
Elec. & gas engine exp. (f. share)	_____	165	199	166
Hired power	_____	226	276	205
Total power	_____	1888	2217	2105
Crop and general machinery	_____	950	1090	974
Livestock equipment	_____	101	93	249
Buildings, fences and tiling	_____	773	483	1109
Misc. productive livestock expense	_____	364	522	282
Labor	_____	821	1100	902
Real estate taxes	_____	434	499	431
Personal property tax	_____	103	136	102
Insurance	_____	72	70	82
General farm expense	_____	118	157	109
Interest on farm capital	_____	2545	2905	2605
(2) Total expenses & net decreases	_____	8169	9086	8950
(3) Operator's earnings (1)-(2)	_____	4857	9615	1139

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

The value of the family living is shown in Table 4. 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, 1956				
Items	Your farm	Average of all farms	Your farm	Average of all farms
Adult equivalent - family	—	3		
Whole milk	—	778 qts.	—	\$ 70
Skim milk	—	18 qts.	—	2
Cream	—	6 pts.	—	2
Beef	—	513 lbs.	—	69
Hogs	—	367 lbs.	—	51
Lamb and mutton	—	7 lbs.	—	1
Poultry	—	71 lbs.	—	14
Eggs	—	87 doz.	—	26
Potatoes	—	9 bu.	—	2
Vegetables & fruit	—	— — —	—	13
Farm fuel	—		—	8
TOTAL			—	\$ 258

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 \$258 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, 1956

Items	Your farm	Average of all farms	Most profitable farms	Least profitable farms
Number of persons - family	_____	4.2	4.7	3.5
Number of adult equiv. - family	_____	2.9	3.4	2.5
Food and meals bought	_____	837	1107	772
Operating and supplies	_____	233	318	234
Furnishings and equipment	_____	262	272	166
Clothing and clothing materials	_____	256	324	190
Personal care, personal spending	_____	137	214	199
Education, recreation & development	_____	157	111	176
Gifts and special events	_____	85	115	43
Medical care and health insurance	_____	299	392	261
Church, welfare	_____	159	187	67
Personal share of auto & truck exp.	_____	122	156	133
Operator's share of upkeep on dwell.	_____	114	298	28
Household share of elec. & tel. exp.	_____	91	99	101
Total cash living expense	_____	2752	3593	2370
H.H. & pers. share of new auto	_____	49	---	22
New dwelling	_____	49	---	157
Taxes and other deductions	_____	26	51	29
Life insurance	_____	142	126	104
Other savings and investments	_____	25	20	---
Total household & pers. cash exp.	_____	3043	3790	2682
Total family living from the farm	_____	258	264	240
Total cash exp. & perquisites	_____	3301	4054	2922
Receipts:				
Return to capital & family labor	_____	5585	8447.45	3115
Income from investments	_____	46	28.33	41
Sale of outside investments	_____	---	---	---
Other personal income	_____	220	237	109

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 on a tenure basis 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, 1956 (Operator's Share, Tenure Basis)

Items	Your Farm		23 Owners	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Total Farm Capital (1)	\$	\$	\$ 48174	\$ 50817
Stocks and Bonds			350	278
Life Insurance			977	1218
Notes and accounts receivable			109	109
Shares in Marketing			84	63
Outside real estate			203	203
Cash on Hand & in bank			1034	1243
Household goods			1818	1926
Pers. share of Auto			412	479
Farm Dwelling			4241	4134
Miscellaneous			4	159
Total Non-farm Assets (2)			9232	9812
TOTAL ASSETS (1)&(2) = (3)			57406	60629
Fed. Land Bank mortgages			227	220
F.H.A. Real Estate Mortgages			8491	8554
Other Mortgages			1238	1223
Loans on Real Estate			388	373
Production Credit Assoc. loans			163	91
F.H.A. Chattel Mortgages			303	254
Other Chattel Mortgages			417	683
Crop Loans (sealed)			934	463
Notes Payable			2690	2676
Accounts Payable			300	744
Total Liabilities (4)			15156	15284
FARMER'S NET WORTH = (3)-(4)			42250	45348
Change in Net Worth				3098

Items	8 Part-Owners		25 Renters	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Total Farm Capital (1)	\$ 29595	\$ 30663	\$ 12930	\$ 13637
Stocks and Bonds	578	629	261	848
Life Insurance	1529	1666	276	306
Notes and accounts receivable	----	----	----	----
Shares in Marketing	292	292	34	43
Outside real estate	----	----	----	3
Cash on Hand & in bank	638	603	619	390
Household goods	812	956	1901	1965
Pers. share of Auto	422	409	435	424
Farm Dwelling	2861	2704	132	129
Miscellaneous	38	36	140	----
Total Non-farm Assets (2)	7170	7295	3793	4108
TOTAL ASSETS (1) & (2) = (3)	36765	37958	16728	17745
Fed. Land Bank mortgages	----	----	----	----
F. H. A. Real Estate Mortgages	5748	5558	----	----
Other Mortgages	750	825	----	----
Loans on Real Estate	----	----	----	----
Production Credit Assoc. loans	----	----	113	152
F.H.A. Chattel Mortgages	----	----	251	108
Other Chattel Mortgages	1435	600	1337	1337
Crop Loans (sealed)	36	54	----	41
Notes Payable	1482	1543	614	719
Accounts Payable	253	660	277	290
Total Liabilities (4)	9704	9245	2592	2647
FARMER'S NET WORTH (3) - (4)	27061	28713	14136	15098
Change in Net Worth		1652		962

RANGE IN EARNINGS

Every study of farm earnings shows a wide variation in earnings among farmers in a given year (figure 1). The average labor earnings of those farmers ranking in the upper 30 per cent of the range according to earnings was \$9615 and of those in the lower 30 per cent was \$1139. This is a range of \$8476 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:

- | | |
|--------------------------|--------------------------|
| 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 | |

(These factors vary from year to year in their relative influence on earnings.) ^{1/}

Operator's
Earnings

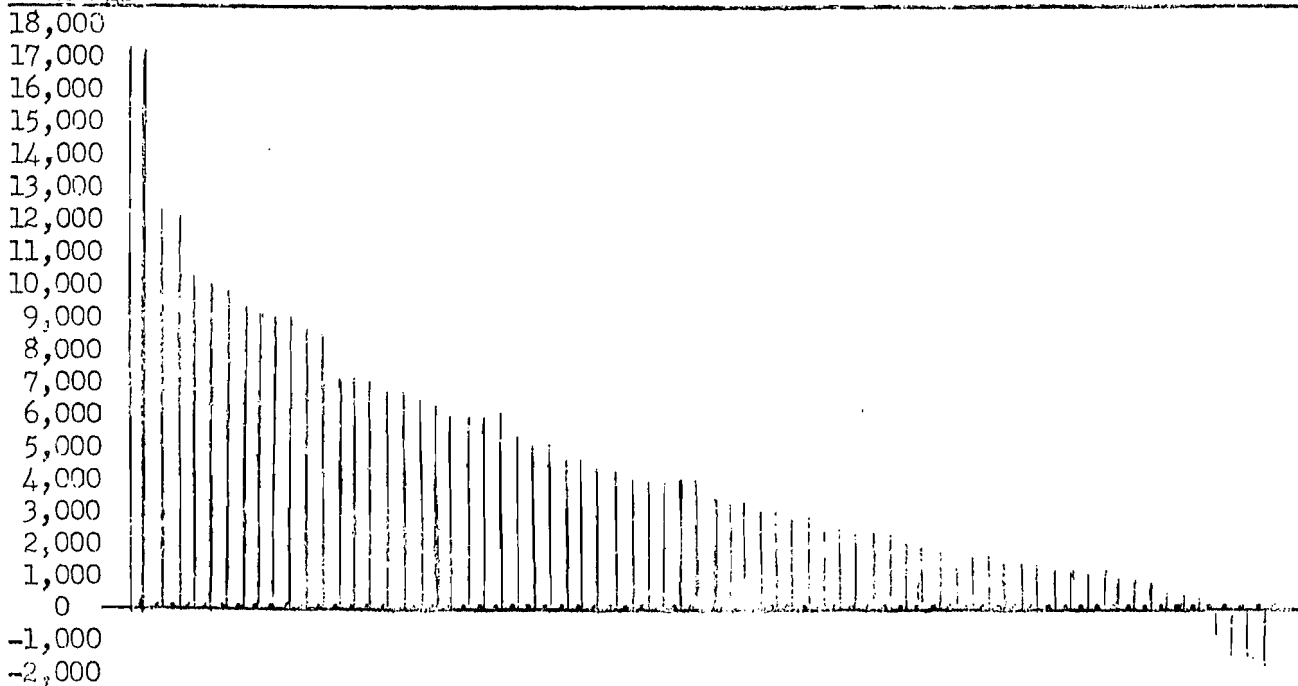


Fig. 1. - Range in Operator's Earnings

Each line represents the Earnings of 1 farmer.

^{1/} See Pond, G.A. "Why Farm Earnings Vary." Minn. Agri. 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.

Table 7. Measures of Farm Organization and Management Efficiency, 1956

Measures used in chart on page 11	Your farm	Average of all farms	21 most profitable farms	21 least profitable farms
Labor earnings	_____	\$4857	\$9615	\$1139
(1) Crop yields*	_____	100	102	98
(2) Per cent tillable land in high return crops**	_____	607	64.8	52
(3) Return for \$100 feed to prod. livestock***	_____	100	107	96
(4) Prod. livestock units per 100 A****	_____	28.9	30.2	29.2
(5) Size of business - work units	_____	365	447	349
(6) Work units per worker	_____	272	302	236
(7) Power, Mach., equip., & build. exp. per work unit	_____	10.96	8.77	13.34

Items related to some of the above measures:

(3) Index of ret. for \$100 feed from:				
Dairy cattle (see p.16 & 17)	_____	100	121	85
Beef breeding herd (see p.18)	_____	100	---	---
Feeder cattle (see page 18)	_____	100	---	---
Hogs (see page 15)	_____	100	135	74
Sheep - farm flock (see p.19)	_____	100	---	---
Chickens (see page 20)	_____	100	130	70
Turkeys (see page 21)	_____	100	---	---
(4) Number of animal units	_____	54.9	74.2	49.7
(5) Work units on crops	_____	109	125	98
Work units on prod. livestock	_____	238	294	228
Work units from other prod. work	_____	18	28	23
(6) Number of family workers	_____	1.2	1.2	1.3
Number of hired workers	_____	.2	.3	.2
Total number of workers	_____	1.4	1.5	1.5
(7) Power expense per work unit	_____	\$5.79	\$5.64	\$6.62
Crop mach. exp. per work unit	_____	2.75	2.49	3.06
Livestock equip. exp. per work unit	_____	.24	-.54	.67
Bldgs. & fences exp. per work unit	_____	2.18	1.18	2.99

* Given as percentage of the average.

** Crops are marked in table 9 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 10, locate your standing with respect to the various measures of farm organization and management efficiency. The averages for the 71 farms included in this summary are located between the solid lines across the center of this page.

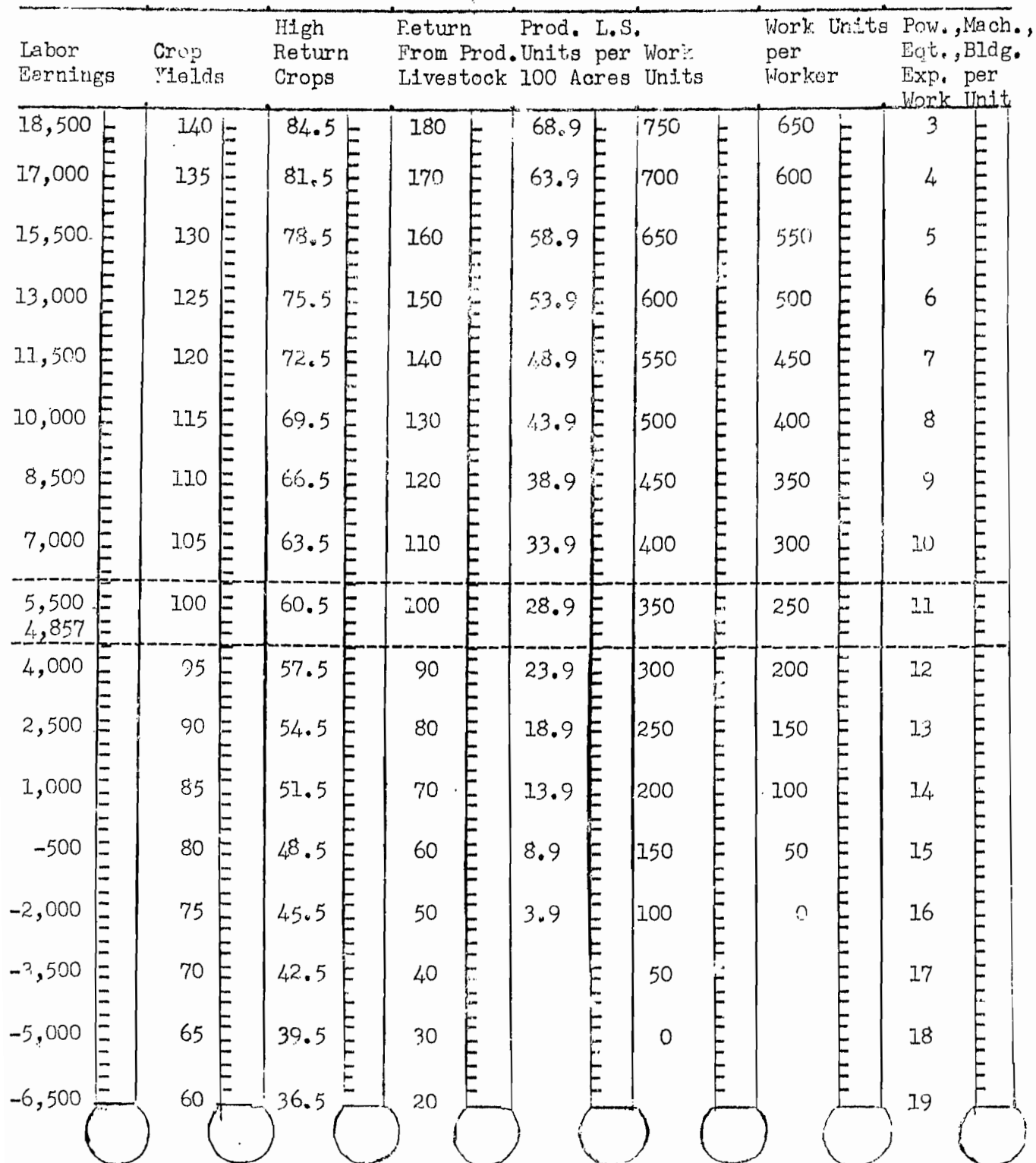


TABLE 8 DISTRIBUTION OF ACRES AND YIELD, 1956

Crop	Crop rating	Number growing	Acres your farm	Average acres of all farms	Your yield	Average of farms growing each crop
Canning peas	A	9	—	2.3	—	\$32.71
Flax	B	11	—	3.2	—	8.9 bu.
Barley	D	1	—	.1	—	39.0 bu.
Barley and oats	D	1	—	.4	—	25.0 bu.
Wheat	D	13	—	1.1	—	22.6 bu.
Oats	D	62	—	24.1	—	45.0 bu.
Rye	D	3	—	.3	—	31.6 bu.
Total small grain and peas				31.5		
Seed corn	A	1	—	.9	—	77.2 bu.
Soybeans (grain)	B	50	—	31.2	—	25.6 bu.
Corn (grain)	A	70	—	63.6	—	70.1 bu.
Sweet corn	B	3	—	.8	—	6 Tons
Corn silage	C	31	—	3.8	—	11 Tons
Total cultivated crops				100.3		
Alfalfa hay	B	64	—	18.9	—	3.3 Tons
Brome or tim. hay	D	1	—	.1	—	1.8 Tons
Other hay	D	3	—	.3	—	.7 Tons
Alfalfa silage	A	2	—	.7	—	8.1 Tons
Oat silage	B	13	—	2.6	—	5.5 Tons
Oat & pea silage	A	2	—	.2	—	3.8 Tons
Total tillable land in hay and/or grass silage				22.8		
Alfalfa pasture	A	23	—	2.8		
Other legume pasture	C	1	—	.1		
Sudan or rape pasture	C	6	—	.8		
Other tillable pasture	D	19	—	3.0		
Total tillable land in pasture				6.7		
Soil Bank	A	17	—	2.4	—	\$ 37.57
Tillable land not cropped	D	4	—	.3	—	—
Total tillable land				164.0		
Wild hay	—	21	—	2.0		
Non-tillable pasture	—	46	—	17.2		
Timber	—	8	—	2.5		
Roads and waste	—	59	—	8.6		
Farmstead	—	68	—	7.2		
Total acres in farm				201.5		
Percent land tillable					81 %	
Percent tillable land in high return crops					62 %	

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. The number of work units for each class of livestock and each acre of crop are presented in Table 9.

Table 9. Number of Work Units for Each Class of Livestock & Each Acre of Crop

Item	No of Work Units	Item	No of Work Units
Dairy Cattle	10.0 per cow	Small Grain	.5 per A.
Other dairy cattle	3.5 per an.unit*	Corn husked	.7 per A.
Beef Breeding herd	3.5 per an.unit*	Corn silage	1.0 per A.
Feeder cattle	.25 per 100 lbs.	Sweet corn	.7 per A.
Sheep - farm flock	1.5 per an.unit*	Alfalfa hay	.6 per A.
Sheep - feeders	.3 per 100 lbs.	O. Hay crops	.4 per A.
Hogs	.2 per 100 lbs.	Alfalfa Sil.	.4 per A.
Hens	20.0 per 100 hens	O. Grass Sil.	.4 per A.
Turkeys	.5 per 100 lbs.	Soybean grain	.5 per A.

* One 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 lbs. of turkeys produced.

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 expenses are high on 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 10. Power and Machinery Expenses Per Crop Acre, 1956

Items	Your farm	Ave. of all farms	21 most profitable	21 least profitable
Crop acres per farm	_____	152	185	130
Tractor expense per crop acre	_____	\$ 6.67	\$ 6.06	\$ 8.35
Crop & gen. mach. exp. per crop acre	_____	6.59	5.87	8.19

AMOUNT OF LIVESTOCK

The farmers cooperating in this study are predominantly livestock farmers. 70% of these farmers maintained dairy cattle, 62% kept poultry, 24% raised sheep, 32% kept beef cattle and 90% raised hogs.

Table 11. Amount of Livestock, 1956				
Items	Your farm	Ave. of all farms	21 most profitable	21 least profitable
Number of milk cows	_____	9.8	8.7	10.4
Number of other dairy cattle	_____	9.7	8.4	8.4
Number of beef cattle (inc. feeders)	_____	12.1	21.2	11.0
Number of ewes	_____	12.9	8.0	29.1
Number of hens	_____	147.0	162.0	165.0
Pounds of hogs produced	_____	24,642.0	32,015.0	23,023.0

TOTAL FEED COSTS AND RETURNS FROM YOUR LIVESTOCK ENTERPRISES

The total "return over feed costs" for each class of livestock is shown in Table 12. 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 cows and in the total feed cost for other dairy cattle. The value of milk consumed by calves is not included in the total returns or the feed cost of "all dairy" 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 12. Total Feed Costs and Returns From Your Livestock Enterprises, 1956

	Dairy Cattle			Beef
	Cows	Other	All	Breeding 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 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 food.

Raising hogs is a major enterprise on most farms in Southern Minnesota. 90% of the farmers cooperating in this analysis raised hogs for market. Hog sales amounted to 21% of the total farm sales. 39% of the returns from productive livestock was from hogs. Table 14 below summarizes the results of the hog enterprise analysis.

Table 14. Feed Costs and Returns from Hogs. 1956

Items	Average of all farms Your raising farm hogs	14 farms highest in returns above feed	14 farms lowest in returns above feed
Feed per cwt. hogs produced, lbs.:			
Corn	289.4	244.2	330.9
Small grain	84.7	67.8	108.8
Commercial feeds	43.9	32.0	60.3
Total concentrates	418.0	344.0	500.0
Skim milk, buttermilk & whey	75.0		234.8
Alfalfa hay	12.7	6.9	23.4
Feed cost per cwt. hogs produced:			
Concentrates	\$ 10.64	\$ 8.52	\$ 13.30
Skim milk, buttermilk and whey	.03		.08
Pasture	.07	.05	.09
Alfalfa hay	.11	.07	.18
TOTAL FEED COSTS	\$ 10.85	\$ 8.64	\$ 13.65
Net increase in value per cwt. hogs prod.	\$ 16.18	\$ 17.18	\$ 15.73
RETURNS ABOVE FEED COST PER CWT. HOGS PRODUCED	\$ 5.33	\$ 8.54	\$ 2.08
RETURNS FOR \$100 OF FEED	\$157.00	\$201.00	\$117.00
Price received per cwt. hogs sold	\$ 14.09	\$ 14.75	\$ 13.73
No. of spring litters raised	12.0	10.6	10.0
No. of fall litters raised	7.0	5.1	6.0
Total no. of litters raised	19.0	15.7	16.0
No. of pigs born per litter	8.7	9.3	8.6
No. of pigs weaned per litter	7.0	7.7	6.1
Pounds of hogs produced	32311	27401	27327

DAIRY CATTLE

The quantity of feed consumed, value of feeds and returns from dairy cattle are presented in Table 14, 15, and 16. The return over feed cost per cow varied from \$12.65 to \$415.08 among the 34 herds covered by this report. 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 14. Factors of Cost and Returns from Dairy Cows, 1956

Items	Your farm	Average of 34 farms	10 farms highest in butterfat per cow	10 farms lowest in butterfat per cow
Pounds of butterfat per cow	_____	304.2	378.7	229.5
Price rec. per lb. B.F. sold (cts.)	_____	.87	.90	.85
Feed per cow, lbs.:				
Corn	_____	1801.0	1818.7	1032.1
Small grain	_____	715.5	702.7	522.5
Commercial feed	_____	307.8	362.5	249.0
Legume hay	_____	4910.3	5023.4	4240.3
Other hay	_____	121.4	7.3	290.5
Total concentrates	_____	2824.3	2883.9	1803.6
Total dry roughages	_____	4931.7	5030.7	4530.8
Silage	_____	6403.2	7863.7	5759.2
Feed cost per cow:				
Concentrates	_____	\$ 69.11	\$ 73.41	\$ 44.84
Roughages	_____	65.86	68.10	56.88
Pasture	_____	9.88	10.74	10.53
TOTAL FEED COSTS	_____	\$ 144.85	\$ 152.25	\$ 112.25
Value of produce per cow:				
B.F. sales	_____	\$ 260.41	\$ 324.51	\$ 198.99
Dairy produce used in house	_____	6.01	5.36	5.38
Milk fed to livestock	_____	5.86	14.47	1.98
Net increases in value of cows	_____	7.95	7.93	4.89
TOTAL VALUE PRODUCED	_____	\$ 280.23	\$ 352.27	\$ 201.46
RETURNS ABOVE FEED COST PER COW	_____	\$ 135.38	\$ 200.02	\$ 89.21
RETURNS FOR \$100 OF FEED	_____	\$ 196.00	\$ 231.00	\$ 181.00
Feed cost per lb. B.F. (cents)	_____	.49	.40	.50
Number of cows	_____	16.5	18.3	16.2

Table 15. Feed Costs and Returns from Other Dairy Cattle, 1956

Items	Your farm	Average of 34 farms	10 farms highest in butterfat per cow	10 farms lowest in butterfat per cow
Feed per head, lbs.:				
Concentrates	_____	660.9	686.3	644.8
Hay and fodder	_____	2223.1	2003.5	2989.2
Silage	_____	2903.2	3208.9	3574.5
Whole milk	_____	160.5	401.1	62.0
Feed cost per head:				
Concentrates	_____	\$ 16.74	\$ 17.56	\$ 16.84
Roughages	_____	26.87	27.27	32.66
Milk	_____	5.02	12.73	1.84
Pasture	_____	2.52	2.91	2.76
TOTAL FEED COSTS PER HEAD	_____	\$ 51.15	\$ 60.47	\$ 54.10
Net inc. in value of other cattle	_____	\$ 51.22	\$ 65.57	\$ 34.92
RETURNS ABOVE FEED COST PER HEAD	_____	\$.07	\$ 5.11	\$-19.18
RETURNS FOR \$100 OF FEED	_____	\$129.00	\$110.00	\$103.00
Number of head of other cattle	_____	15.6	19.74	10.71

Table 16. Feed Costs and Returns from all Dairy Cattle, 1956

Items	Your farm	Average of 34 farms	10 farms highest in butterfat per cow	10 farms lowest in butterfat per cow
Feed per animal unit, lbs.:				
Concentrates	_____	2251.6	1755.8	2017.6
Hay and fodder	_____	4360.9	3645.0	4716.0
Silage	_____	5612.3	5847.2	5772.7
TOTAL FEED COSTS PER ANIMAL UNIT	_____	\$ 119.55	\$ 107.51	\$ 110.14
Value of produce per animal unit:				
Dairy products	_____	\$ 174.26	\$ 185.79	\$ 154.53
Net inc. in val. of dairy cattle	_____	33.33	37.82	14.02
TOTAL VALUE PRODUCED	_____	\$ 207.59	\$ 223.61	\$ 168.55
RETURNS ABOVE FEED PER ANIMAL UNIT	_____	\$ 88.04	\$ 116.10	\$ 58.41
RETURNS PER \$100 OF FEED	_____	\$ 170.00	\$ 206.00	\$ 134.00
Animal units of cattle	_____	28.5	42.34	21.6

Table 17. Feed Costs and Returns from Beef Cattle, 1956

Items	Your	Average of all farms
Beef breeding herd: No. of farms		8
Feeds per animal unit, lbs.:		
Concentrates	_____	854.9
Legume	_____	2555.6
Other hay	_____	_____
Fodder and stover	_____	_____
Silage	_____	6072.0
Feed Cost per animal unit:		
Concentrates	\$ _____	\$ 23.79
Roughages	_____	35.84
Pasture	_____	8.18
TOTAL FEED COST	\$ _____	\$ 67.81
Value of produce per animal unit		
Dairy products	\$ _____	\$.55
Net increase in value of animal	_____	70.91
TOTAL VALUE PRODUCED	\$ _____	\$ 71.46
RETURNS ABOVE FEED COST PER ANIMAL UNITS	\$ _____	\$ 3.65
RETURNS FOR \$100 OF FEED	\$ _____	\$107.00
Number of cows and herd bulls	_____	21.4
Number of animal units in the herd	_____	25.9
Feeder Cattle: No. of farms		24
Feeds per cwt. beef produced, lbs.:		
Corn	_____	474.3
Small grain	_____	53.3
Commercial feeds	_____	43.0
Legume hay	_____	221.4
Other hay	_____	55.6
Fodder and stover	_____	_____
Total concentrates	_____	570.6
Total hay and fodder	_____	277.0
Silage	_____	184.7
Feed cost per cwt. beef produced		
Concentrates	\$ _____	\$ 13.59
Roughages	_____	3.03
Pasture	_____	.54
TOTAL FEED COSTS	\$ _____	\$ 17.16
Net increase in value of feeders	\$ _____	\$ 27.52
RETURNS ABOVE FEED COST PER CWT. BEEF PROD.	\$ _____	\$ 10.36
RETURNS FOR \$100 OF FEED	\$ _____	\$178.00
Price paid per cwt. beef bot.	\$ _____	\$ 17.68
Price red'd. for feeder cattlesold	\$ _____	\$ 21.24
Number of animal units	_____	33.9
Pounds of beef produced	_____	18589.6

Table 18. Feed Costs and Returns from Farm Flock of Sheep, 1956

Items	Your farm	Average of 16 farms
Feeds per head, *lbs.		
Concentrates	_____	117.7
Legume hay	_____	502.0
Other hay	_____	118.9
Silage	_____	159.4
Feed cost per head:		
Concentrates	\$ _____	\$ 2.98
Roughages	_____	5.03
Pasture	_____	1.65
TOTAL FEED COSTS	\$ _____	\$ 9.66
Value of produce per head:		
Wool	\$ _____	\$ 4.01
Value of Mutton	_____	15.62
TOTAL VALUE PRODUCED	\$ _____	\$ 19.63
RETURNS ABOVE FEED COST PER HEAD	\$ _____	\$ 9.97
RETURNS FOR \$100 OF FEED	\$ _____	\$235.00
Price per cwt. of lambs sold	\$ _____	\$ 18.62
Price per lb. wool sold (cts.)	\$ _____	\$.56
Pounds of wool per sheep sheared	_____	9.2
Number of ewes kept for lambing	_____	40.7
Per cent lamb crop**	_____	113.1
Per cent death loss**	_____	4.2
Pounds of sheep produced	_____	3913.6
Head of Native Sheep	_____	87.3

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

** Lambs which die during month of birth are not included.

Table 19. Feed Costs and Returns from Feeder Lambs, 1956

Items	Your Farm
Feed per cwt. lambs produced, lbs.:	
Concentrates	_____
Legume hay	_____
Other hay	_____
Fodder and stover	_____
Silage	_____
Feed cost per cwt. lambs produced	_____
Net increase in value per cwt. produced	_____
Return above feed cost per cwt. produced	_____
RETURN FOR \$100 OF FEED	_____
Price paid per cwt. lambs bought	_____
Price received per cwt. lambs sold	_____
% death loss	_____
Pounds of lambs produced	_____

CHICKENS

Sixty-two per cent of the farmers cooperating in this analysis kept some chickens. In most cases poultry is a so-called minor enterprise, providing eggs and poultry meat for family consumption plus an additional amount of cash income, which amounted to about 6% of the total return from productive livestock.

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. Percentage death loss of hens

Table 20. Feed Costs and Returns from Chickens, 1956*

Items	Your farm	Average of 32 farms	10 farms highest in return above feed	10 farms lowest in return above feed
Feed per hen, lbs.:				
Grain	_____	92.5	81.0	99.9
Commercial feed	_____	48.3	40.3	44.0
Total Concentrates	_____	140.8	121.3	143.9
TOTAL FEED COST PER HEN	\$ _____	\$ 4.05	\$ 3.53	\$ 4.58
Value of produce per hen:				
Eggs sold and used in house	\$ _____	\$ 4.86	\$ 5.10	\$ 4.14
Net inc. in value of chickens	_____	.04	.56	-.15
TOTAL VALUE PRODUCED	_____	\$ 4.90	\$ 5.66	\$ 3.99
RETURNS ABOVE FEED COST PER HEN	\$ _____	\$.85	\$ 2.13	\$ - .59
RETURNS FOR \$100 OF FEED	\$ _____	\$125.00	\$162.00	\$ 83.00
Price rec'd per dz. eggs sold (cts.)	\$ _____	31.1¢	30.6¢	30.8¢
Eggs laid per hen	_____	187.0	199.0	160.0
Ave. no. hens on farm during year	_____	243.4	206.2	182.7
Per cent death loss of hens	_____	14.5%	13.0%	18.3%
Per cent of laying flock that are pullets	_____	81.5%	83.0%	75.0%
Number of Pullets started	_____	318.0	222.0	226.0

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

Turkeys were produced on only three farms in the Mankato area. To get a better picture of the turkey enterprise, there are two averages given in Table 21. One includes only the three Mankato area farms and the other includes records from the Austin area.

Table 21. Feed Costs and Returns for Turkeys. 1956			
Items	Your farm	Average of 3 farms*	Average of 6 farms**
Feed per cwt. turkeys produced, lbs.:			
Grain	—	302	230
Commercial Feed	—	218	181
Total concentrates	—	520	411
Feed cost per cwt. turkeys produced	—	\$ 17.87	\$ 15.12
Net increase in value per cwt. turkeys produced	—	24.99	23.26
RETURNS ABOVE FEED COST PER CWT. PRODUCED	—	11.68	8.13
RETURNS PER \$100 OF FEED	—	163.00	150.00
No. of poults put on feed	—	6470	6582
Price paid per poult purchased	—	.69	.715
Per cent death loss	—	11	11.5
Price received per lb. turkeys sold (cts.)	—	.315	.299
Weight per bird sold (lbs.)	—	11.7	12.8
Pounds of turkey produced	—	74,075	71,618

* Only 3 farms from Mankato area.

** Includes farms from Austin area.

Table 22. Summary of Farm Earnings by Tenure, 1956 (Operator's Share)

Items	Your farm	23 owners	10 part owners	38 renters
<u>FARM RECEIPTS</u>				
Dairy cattle		\$ 598	\$ 206	\$ 632
Dairy products		3295	1124	2081
Beef cattle (including feeders)		2471	1612	1806
Hogs		4155	3509	2846
Sheep and wool (including feeders)		214	671	209
Poultry (including turkeys)		3332	117	96
Eggs		1170	568	590
Corn		2359	2111	1180
Small grain		231	331	298
Other crops		1325	1934	1026
Soil bank		39	177	40
Mach. and equip. sold & gas tax refunds		208	269	214
Income from work off the farm		168	98	111
Miscellaneous		259	75	188
(1) Total farm sales		\$ 19884	\$ 12802	\$ 11317
(2) Increase in farm capital		2790	1384	2251
(3) Family living from the farm		228	173	262
(4) Total farm receipts (1)&(2)&(3)		\$ 22902	\$ 14359	\$ 13830
<u>FARM EXPENSES</u>				
Dairy cattle bought		175	78	220
Beef cattle bought (including feeders)		1132	599	917
Hogs bought		187	231	148
Sheep bought (including feeders)		3	38	17
Horses bought		10	---	---
Poultry bought (including turkeys)		638	59	76
Misc. livestock expense		535	177	249
Feed bought		4031	1860	1706
Fertilizers		361	534	156
Other crop expense		524	514	346
Custom work hired		575	442	378
Gas, oil and grease bought (farm share)		777	660	608
Rep. & op. tractor, truck, & auto (farm share)		365	389	331
Rep. and upkeep of real estate		266	313	105
Rep. & upkeep of crop & gen. mach.		276	200	266
Rep. & upkeep of livestock equip.		100	103	98
Wages of hired labor		659	165	279
Electricity expense (farm share)		226	127	128
Real estate & pers. prop. taxes		502	509	187
Cash rent		---	247	642
Gen. farm exp. and telephone exp.		276	194	105
Interest paid		716	350	127
Total cash operating expenses		\$ 12384	\$ 7789	\$ 7089
Mech. power bought (farm share)		981	865	363
Crop & gen. mach. bought		765	421	731
Livestock equip. bought		81	36	114
New real estate improvements		1027	265	82
(5) Total farm purchases		\$ 15238	\$ 9376	\$ 8379
(6) Decrease in farm capital		275	805	609
(7) Interest on farm capital		2582	1725	1188
(8) Unpaid family labor		258	272	87
(9) Board furnished hired labor		94	77	50
(10) Total farm expenses (5)&(6)&(7)&(8)&(9)		\$ 18447	\$ 12255	\$ 10313
(11) Labor earnings (4) - (10)		4455	2104	3517
(12) Ret. to cap. & fam. lab. (7)&(8)&(11)		7295	4101	4792

AVERAGE PRICES OF FEEDS - 1956

Table 23 lists the average prices of feeds used in livestock summaries in this report. Prices paid for feeds bought were used when ever possible.

Table 23. Average Prices of Feed, 1956

<u>Farm Grown Grains*</u>		<u>Commercial Feeds*</u>	
Corn	\$1.22 per bu.	Linseed Meal	\$3.81 Per Cwt.
Oats	.59 " "	Soybean Meal	3.70 " "
Barley	.91 " "	Bran	2.64 " "
Wheat	2.09 " "	Meat Scrap	4.79 " "
Rye	1.04 " "	Laying Mash	4.14 " "
Soybeans	2.34 " "	Hog Feed-29% & over	5.02 " "
Flaxseed	3.16 " "	Mixes Dairy Feed-16%	2.89 " "
<u>Hay</u>		<u>Other Roughages</u>	
Alfalfa	\$18.00 per Ton	Corn Silage	\$6.00 per Ton
Red or Alsike		Grass Silage	6.50 " "
Clover	15.20 " "	Pea Silage*	3.50 " "
Brome or Tim.	10.40 " "	Sweet Corn Silage*	2.60 " "
Wild Hay	9.00 " "		
<u>Milk For Feed</u>		<u>Pasture per Head Per Month</u>	
Whole Milk	\$3.00 Per Cwt.	Cows	\$2.50
Skim Milk	.34 " "	Young Cattle	1.25
		Hogs	.16
		Pigs (under 6 mons.)	.08
		Sheep	.40
		Lambs	.20

* Purchase price used whenever possible.