

1958 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, 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 reports 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, Mrs. Arlene Martin, and Mrs. Jean Stronsky.

The Farm Management Program is supervised locally by Erling O. Johnson, Superintendent of Schools, and F. G. Kalin, Director of Vocational and Adult Education at Mankato.

Cooperating Agencies are represented by G. R. Cochran and S. K. Wick of the State Department of Education, and Dr. Milo J. Peterson of the University of Minnesota Department of Agricultural Education. Dr. T. R. Nodland of the University Agricultural Economics Department has been available as a consultant.

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 12 schools in the Mankato area. The following tabulation shows the number of 1958 records submitted and the name of the instructor:

<u>SCHOOL</u>	<u>NO. OF RECORDS</u>	<u>INSTRUCTOR</u>
Amboy	1	Robert Potosnak
Cleveland	1	Al Aho
Howard Lake	1	Leslie Hanson
Lake Crystal	2	Ernest Freier
Madelia	5	Malcomb Brandt
Mankato	12	
Mapleton	1	Carl Ziebarth
New Ulm	30	Kermit Kleene
		George Whalin
		Winfield Forsberg
St. James	1	Gene Bonzer
		Emery Krech
Sherburn	2	Leo Ardolf
Watertown	1	Vernon Richter
Worthington	1	Walter Larson
		Kenneth Johnson
	<u>TOTAL</u>	<u>58</u>

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 operator's liabilities and assets other than farm capital.

#### FARM INVENTORIES

The Capital investment per farm varied from \$22995 to \$157278. The average investment for all farms included in this report and for the high 20% and the low 20% 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 in Table 5.

TABLE 1 - SUMMARY OF FARM INVENTORIES, 1958

Items	Your Farm		Average of all farms	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Size of farm (acres)	\$		209.8	
Size of business (work units)*			354	
Dairy cattle			\$ 1097	\$ 1199
Other dairy cattle			423	529
Beef cattle (incl. feeders)			3507	4646
Hogs			1842	2977
Sheep (incl. feeders)			385	307
Poultry (incl. turkeys)			226	199
Total Productive Livestock	\$		\$ 7480	\$ 9857
Crop, seed and feed			6053	7046
Auto & truck (farm share)			1117	1180
Tractors and motors			1947	2028
Crop and general machinery			3431	3777
Livestock equipment			399	521
Total Machinery & Equipment	\$		\$ 6894	\$ 7506
Miscellaneous			--	--
Land			29540	29540
Buildings, fences, etc.			8789	9005
TOTAL FARM CAPITAL	\$		\$58756	\$62954

Item	20% most profitable		20% least profitable	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Size of farm (acres)		301.8		184.3
Size of business (work units)*		528		238
Dairy cattle	\$ 747	\$ 773	\$ 548	\$ 715
Other dairy cattle	513	671	150	198
Beef cattle (incl. feeders)	8812	12168	2023	2755
Hogs	3233	4352	816	1697
Sheep (incl. feeders)	168	207	991	774
Poultry (incl. turkeys)	187	212	181	143
Total productive livestock	\$13660	\$18383	\$ 4709	\$ 6282
Crop, seed, and feed	9493	12154	4878	5336
Auto & truck (farm share)	1114	1019	975	1213
Tractors & motors	3804	3879	1447	1201
Crop & general machinery	5446	6154	2685	2939
Livestock equipment	560	756	234	209
Total Machinery & Equipment	\$10924	\$11808	\$ 5341	\$ 5562
Miscellaneous	--	--	--	--
Land	41580	41580	25775	25775
Buildings, fences, etc.	10813	11774	7085	6818
TOTAL FARM CAPITAL	\$86470	\$95699	\$47788	\$49773

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

TABLE 2 - SUMMARY OF FARM EARNINGS (CASH STATEMENT), 1958

Items	Your farm	Average of all farms	20% most profitable farms	20% least profitable farms
<b>FARM RECEIPTS</b>				
Dairy cattle		\$ 653	\$ 707	\$ 218
Dairy products		1386	807	838
Beef cattle (incl. feeders)		8717	25816	4632
Hogs		6773	11566	4215
Sheep and wool		350	130	436
Poultry (incl. turkeys)		98	75	124
Eggs		1003	814	850
Corn		1713	1120	1548
Small grain		283	571	266
Other crops		1782	2725	1493
Mach. & equip. sold & gas tax refunds		163	266	62
Income from work off the farm		167	16	193
Miscellaneous farm income		83	101	101
(1) Total farm sales		\$23171	\$44714	\$14976
(2) Increase in farm capital		4198	9229	1985
(3) Family living from the farm		273	498	78
(4) Total farm receipts (1)+(2)+(3)		\$27642	\$54441	\$17039
<b>FARM EXPENSES</b>				
Dairy cattle bought		\$ 239	\$ 149	\$ 226
Beef cattle bought (incl. feeders)		5045	14752	3483
Hogs bought		595	789	706
Sheep bought		99	13	189
Poultry bought (incl. turkeys)		99	112	71
Miscellaneous livestock expense		337	416	230
Feed bought		3221	6091	2240
Fertilizer		825	1149	882
Other crop expense		541	814	445
Custom work hired		703	1246	437
Gas, oil, grease bought (farm share)		826	1035	710
Repairs for tractors, trucks, and autos (farm share)		444	487	447
Repair & upkeep of farm real estate		241	427	177
Repair & upkeep of crop & gen. mach.		302	551	223
Repair & upkeep of livestock equipment		152	192	95
Wages of hired labor		209	477	45
Electricity expense		183	173	141
Personal property & real estate taxes		620	966	513
Telephone and general farm expense		245	410	309
(5) Total cash operating expense	\$	\$14926	\$30249	\$11569
(6) Mechanical power bought (farm share)		727	691	542
(7) Crop and General Machinery bought		1043	1629	1074
(8) Livestock equipment bought		189	280	34
(9) New real estate improvements		780	1729	180
(10) Total farm purchases (5) to (9)	\$	\$17665	\$34578	\$13399
(11) Decrease in farm capital		--	--	--
(12) Interest on farm capital		3043	4554	2439
(13) Unpaid family labor		117	70	125
(14) Board furnished hired labor		35	69	--
(15) Total farm expense (10) to (14)	\$	\$20860	\$39271	\$15963
(16) Labor earnings (4) - (15)	\$	\$ 6782	\$15170	\$ 1076

TABLE 3 - SUMMARY OF FARM EARNINGS (ENTERPRISE STATEMENT), 1958

Items	Your farm	Average of all farms	20% of most profitable farms	20% of least profitable farm
<u>RETURNS AND NET INCREASES</u>				
Dairy cows	\$ _____	\$1512	\$ 974	\$869
Other dairy cattle	_____	598	760	193
Beef breeding herd	_____	366	1746	--
Feeder cattle	_____	4539	12814	1903
Hogs	_____	7326	12020	4166
Sheep - farm flock	_____	221	156	278
Chickens	_____	1000	827	886
ALL PRODUCTIVE LIVESTOCK	\$ _____	\$15562	\$29297	\$8225
Value of feed fed to livestock	_____	8299	14635	4971
Return over feed from livestock	_____	\$ 7263	\$14662	\$3324
Crop, seed, and feed	_____	8473	13681	5160
Income from labor off the farm	_____	58	6	67
Agricultural conservation payments	_____	18	31	--
Miscellaneous	_____	65	70	101
(1) TOTAL RETURNS & NET INCREASES	\$ _____	\$15877	\$28450	\$8652
<u>EXPENSES AND NET DECREASES</u>				
Truck	\$ _____	\$ 220	\$ 299	\$ 192
Auto (farm share)	_____	481	476	564
Tractor	_____	932	1223	817
Elec. & gas engine exp. (farm share)	_____	188	178	149
Hired power	_____	319	532	200
Total power	\$ _____	\$ 2140	\$ 2708	\$1922
Crop and general machinery	_____	1050	1405	1080
Livestock equipment	_____	240	443	153
Buildings, fences and tiling	_____	801	1194	624
Misc. productive livestock expense	_____	337	416	230
Labor	_____	619	1184	306
Real estate taxes	_____	511	773	443
Personal property tax	_____	109	193	70
Insurance	_____	79	109	72
General farm expense	_____	166	301	237
Interest on farm capital	_____	3043	4554	2439
(2) Total expenses & net decreases	\$ _____	\$ 9095	\$13280	\$7576
(3) Labor earnings (1) - (2)	\$ _____	\$ 6782	\$15170	\$1076

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, 1958

Items	Your farm	Average of all farms	Your farm	Average of all farms
Whole milk	_____	406 qts.	\$ _____	\$ 32
Cream	_____	4 pts.	_____	1
Beef	_____	518 lbs.	_____	127
Hogs	_____	346 lbs.	_____	67
Lamb and mutton	_____	9 lbs.	_____	2
Poultry	_____	91 lbs.	_____	9
Eggs	_____	51 doz.	_____	15
Potatoes	_____	2 bu.	_____	3
Vegetables & fruit	_____	--	_____	2
Farm fuel	_____	--	_____	11
TOTAL			\$ _____	\$269

## 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 \$268.60 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 - 1958

Items	Your farm	Average of all farms	Most profitable farms	Least profitable farms
Food and meals bought	\$ _____	\$ 808	\$ 848	\$ 839
Operating and supplies	_____	224	177	251
Furnishing and equipment	_____	170	56	124
Clothing and clothing materials	_____	254	267	198
Personal care, personal spending	_____	84	52	72
Education, recreation & development	_____	187	140	186
Gifts and special events	_____	91	57	96
Medical care and health insurance	_____	296	372	172
Church, welfare	_____	183	268	117
Personal share of auto & truck expense	_____	136	243	69
Operator's share of upkeep on dwelling	_____	16	33	--
Household share of electricity and telephone expense	_____	69	54	60
TOTAL CASH LIVING EXPENSE	\$ _____	\$2518	\$2567	\$2184
Household & personal share of new auto	\$ _____	\$ 105	\$ --	\$ 170
New dwelling	_____	--	--	--
Taxes and other deductions	_____	114	65	--
Life insurance	_____	251	187	111
Other savings and investments	_____	235	940	--
TOTAL HOUSEHOLD & PERSONAL CASH EXP.	\$ _____	\$3223	\$3759	\$2465
Total family living from the farm	_____	269	483	160
TOTAL CASH EXPENSE & PERQUISITES	\$ _____	\$3492	\$4242	\$2625
RETURN TO CAPITAL & FAMILY LABOR	\$ _____	\$7567	\$11819	\$2533

# 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, 1958 (OPERATOR'S SHARE, TENURE BASIS)

Items	Your Farm		8 Owners	
	Jan. 1 -	Dec. 31	Jan. 1 -	Dec. 31
Total Farm Capital (1)	\$	\$	\$40147	\$45054
Stocks and Bonds			72	73
Life Insurance			235	270
Shares in Marketing			54	62
Outside real estate			--	--
Cash on Hand and in Bank			577	738
Household goods			1731	1763
Personal share of auto			275	262
Farm Dwelling			1627	1536
Miscellaneous			--	--
Total Non-farm Assets (2)	\$	\$	\$ 4571	\$ 4704
TOTAL ASSETS (1)+(2)=(3)	\$	\$	\$44718	\$49758
Fed. Land Bank mortgages			--	628
F.H.A. Real Estate Mortgages			4438	4312
Other Mortgages			6925	6550
Loans on Real Estate			--	--
Production Credit Assoc. Loans			--	--
Miscellaneous			515	478
Other Chattel Mortgages			--	500
Crop Loans (sealed)			--	--
Notes Payable			1537	2475
Accounts Payable			270	397
TOTAL LIABILITIES (4)	\$	\$	\$13685	\$15340
FARMER'S NET WORTH = (3) - (4)	\$	\$	\$31033	\$34418
Change in Net Worth		\$		\$ 3385

Items	7 Part-Owners		13 Renters	
	Jan. 1 -	Dec. 31	Jan. 1 -	Dec. 31
Total Farm Capital (1)	\$46442	\$52784	\$16430	\$21300
Stocks and Bonds	1026	1079	488	673
Life Insurance	2484	2770	656	785
Notes & Accounts Receivable	--	--	709	438
Shares in Marketing	336	337	24	12
Outside Real Estate	107	107	200	200
Cash on Hand and in Bank	579	422	1182	2529
Household goods	1884	1996	2202	2680
Personal share of auto	333	422	234	226
Farm Dwelling	1457	1371	392	384
Miscellaneous	--	--	--	--
Total Non-farm Assets (2)	\$ 8206	\$ 8504	\$ 6087	\$ 7927
TOTAL ASSETS (1)+(2)=(3)	\$54648	\$61288	\$22517	\$29227
Fed. Land Bank Mortgages	1571	1571	--	--
F.H.A. Real Estate Mortgages	5242	7353	--	--
Other Mortgages	820	1714	--	--
Miscellaneous	1152	982	--	--
Production Credit Assoc. Loans	--	--	50	1975
F.H.A. Chattel Mortgages	83	364	--	--
Other Chattel Mortgages	--	--	--	--
Crop Loans (sealed)	2857	4486	1354	1286
Notes Payable	761	829	1602	1150
Accounts Payable	--	--	182	1370
Total Liabilities (4)	\$12486	\$17299	\$ 3188	\$ 5781
FARMER'S NET WORTH (3)-(4)	\$42162	\$43989	\$19329	\$23446
Change in Net Worth		\$ 1827		\$ 4117

### 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 20 per cent of the range according to earnings was \$15170 and of those in the lower 20 per cent was \$1076. This is a range of \$14094 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/

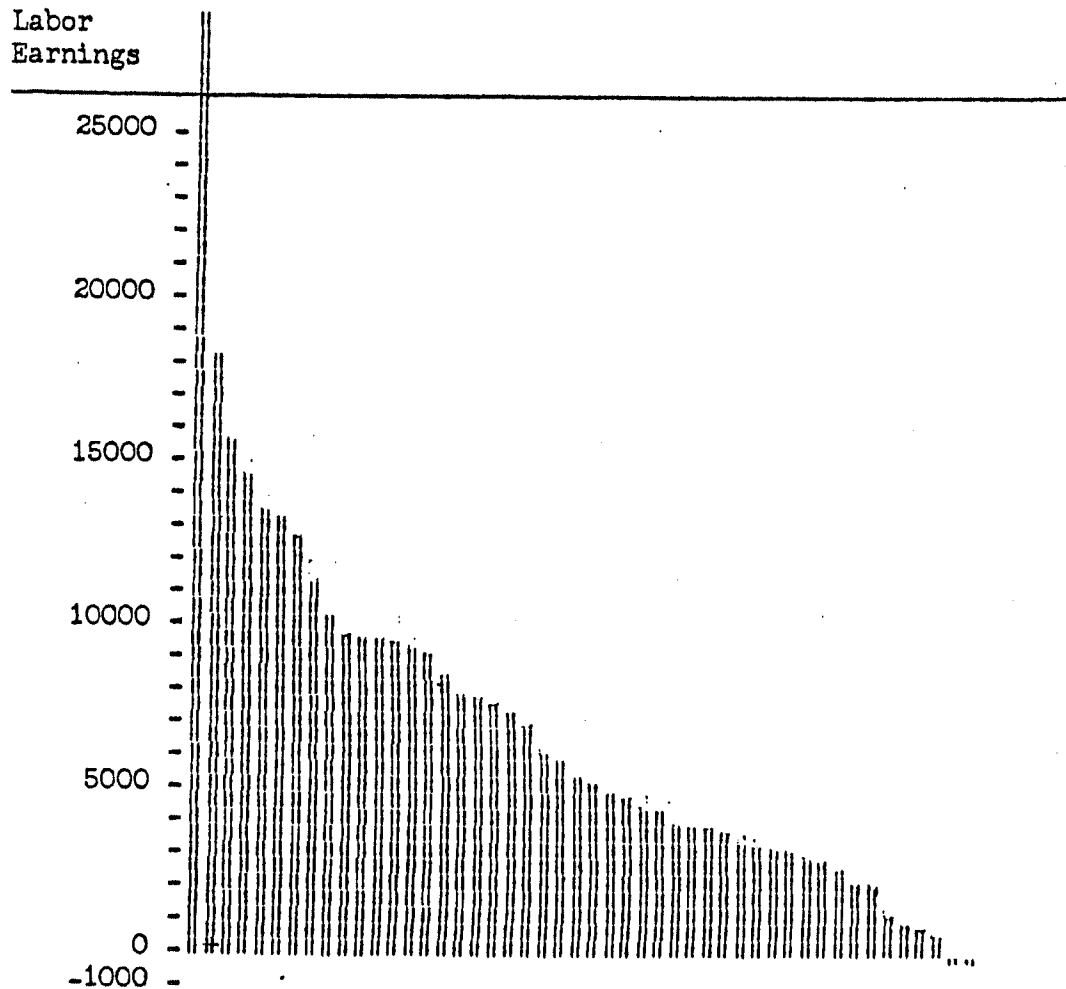


Figure 1. - Range in Labor Earnings  
Each line represents the earnings of one farmer.

1/ See Pond, G.A. "Why Farm Earnings Vary." Minn. Agri. Expt. Sta. Bul. 386, June, 1945.  
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, 1958

Measures used in chart on page 11	Your Farm	Average of all Farms	20% Most Profitable Farms	20% Least Profitable Farms
Labor earnings	_____	\$6782	\$15170	\$1076
(1) Crop yields*	_____	100	93	104
(2) Per cent tillable land in high return crops**	_____	67	65	71
(3) Return for \$100 feed to productive livestock***	_____	100	107	95
(4) Productive livestock units per 100 acres****	_____	34	46	25
(5) Size of business-work units	_____	354	528	238
(6) Work units per worker	_____	282	411	190
(7) Power, Mach., equip., and build. exp. per work unit	_____	\$ 13.31	\$ 11.74	\$ 18.27

Items related to some of the above measures:

(3) Index of return for \$100 feed from:

Dairy cattle (see p. 16 & 17)	_____	100		
Beef breeding herd (see p. 18)	_____	100		
Feeder cattle (see p. 18)	_____	100		
Hogs (see p. 15)	_____	100		
Sheep - farm flock (see p. 19)	_____	100		
Chickens (see p. 20)	_____	100		
(4) Number of animal units	_____	67	124	37
(5) Work units on crops	_____	107	158	92
Work units on prod. livestock	_____	241	369	140
Work units from other prod. wk.	_____	6	1	6
(6) Number of family workers	_____	1.2	1.0	1.3
Number of hired workers	_____	.1	.3	.0
Total number of workers	_____	1.3	1.3	1.3
(7) Power expense per work unit	_____	6.92	5.53	9.53
Crop Mach. exp. per work unit	_____	3.25	2.98	4.85
Livestock equip. exp. per w.u.	_____	.65	.76	.56
Bldgs. & fences exp. per w.u.	_____	2.49	2.47	3.33

\* 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 48 farms included in this summary are located between the solid lines across the center of this page.

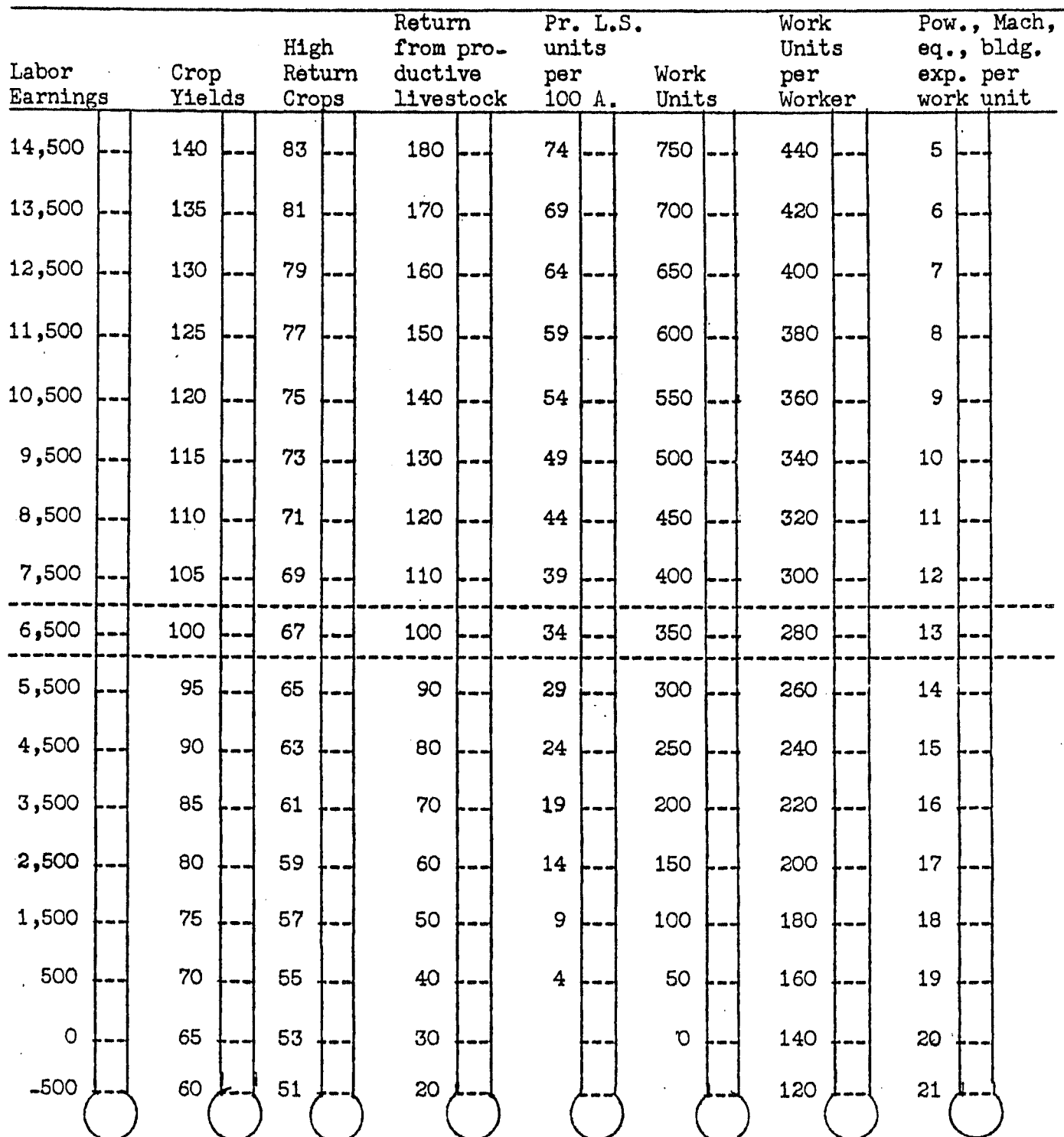


TABLE 8 DISTRIBUTION OF ACRES AND YIELD - 1958

Crop	Crop rating	Number growing	Acres Your farm	Average Acres of all farms	Your yield	Average of farms growing each crop
Canning peas	B	4	_____	1.1	_____	\$ 83.41
Wheat	C	11	_____	3.1	_____	37.5 bu.
Oats for silage	C	8	_____	2.5	_____	8.8 Tons
Oats & Mix. for grain	D	37	_____	19.8	_____	58.5 bu.
Rye	D	2	_____	.4	_____	54.2 bu.
Total small grain and peas				26.9		
Corn, grain	A	45	_____	82.8	_____	70.1 bu.
Sweet corn	B	6	_____	2.5	_____	\$ 45.87
Soybeans for grain	B	37	_____	34.2	_____	21.9 bu.
Corn & cane silage	B	19	_____	4.5	_____	10.9 Tons
Grain Sorghum	A	1	_____	.2	_____	
Total cultivated crops				124.2		
Alf. & alf. mix. hay	B	40	_____	15.4	_____	3 Tons
Other leg. & leg. mix	C	2	_____	.5	_____	2.4 Tons
Other annual hay	D	1	_____	.1	_____	
Total tillable land in hay				16.0		
Alf. & Alf. brome past.	B	17	_____	4.2		
Other leg. & mix.	C	2	_____	.5		
Other tillable pasture	D	2	_____	.3		
Total tillable land in pasture				5.0		
Soil bank	A	1	_____	.4		\$ 47.00
Till. land not cropped	D	1	_____	.1		
Total tillable land				172.6		
Wild hay (non-till.)		14	_____	2.2		
Non-till. pasture		29	_____	14.4		
Timber (not pasture)		11	_____	2.9		
Roads & waste		42	_____	10.5		
Farmstead		45	_____	7.2		
TOTAL ACRES IN FARM				209.8		
Per cent land tillable				82.2%		
Per cent tillable land in high return crops				67.3%		

# 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	Peas, small grain	.5 per A.
Other dairy cattle	3.5 per an. unit*	Hybrid seed corn	2.0 per A.
Beef breeding herd	3.5 per an. unit*	Corn husked	.7 per A.
Feeder cattle	.25 per 100 lbs.	Corn silage	1.0 per A.
Sheep - farm flock	1.5 per an. unit*	Sweet corn	.7 per A.
Sheep - feeders	.3 per 100 lbs.	Soybean grain	.5 per A.
Hogs	.2 per 100 lbs.	Alfalfa hay	.6 per A.
Hens	20.0 per 100 hens	Other hay & seed	.4 per A.
Turkeys	.5 per 100 lbs.	Grass silage	.4 per A.

\* One animal unit represents one dairy cow or bull, two other dairy cattle, 1½ beef cows or bull, 1 feeder steer or heifer, 3 1/3 other beef cattle, 7 sheep, 14 lambs, 2½ 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, 1958

Items	Your farm	Average of all farms	20% most profitable	20% least profitable
Crop acres per farm	_____	171	250	149
Tractor expense per crop acre	_____	\$ 5.67	\$ 5.08	\$ 6.12
Crop and general machinery expense per crop acre	_____	6.71	6.54	9.19

## AMOUNT OF LIVESTOCK

The farmers cooperating in this study are predominatly livestock farmers. 46% of these farmers maintained dairy cattle, 58% kept poultry, 23% raised sheep, 44% fed beef cattle, and 94% raised hogs.

TABLE 11 - AMOUNT OF LIVESTOCK, 1958

Items	Your farm	Average of all farms	20% most profitable farms	20% least profitable farms
Number of milk cows	_____	5.9	3.4	3.4
Number of other dairy cattle	_____	5.5	5.8	2.6
Number of beef cattle (incl. feeders)	_____	26.9	76.4	10.4
Number of ewes	_____	13.2	11.2	15.0
Number of hens	_____	198	175	150
Pounds of hogs produced	_____	40004	63820	25183
Pounds of beef produced	_____	18727	58391	8365

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, 1958

	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.

HOGS

Raising hogs is a major enterprise on most farms in Southern Minnesota. Table 14 below summarizes the results of the hog enterprise analysis.

TABLE 14 - FEED COSTS AND RETURNS FROM HOGS, 1958

Items	Your farm	Average of all farms raising hogs	20% of farms highest in returns above feed	20% of farms lowest in returns above feed
Feed per cwt. hogs produced, lbs.:				
Corn	_____	326.3	257.3	440.3
Small grain	_____	57.3	73.9	64.1
Commercial feeds	_____	46.8	50.5	42.0
Total concentrates*	_____	430.4	381.7	546.4
Alfalfa hay	_____	8.3	13.2	19.4
Feed cost per cwt. hogs produced:				
Concentrates*	\$ _____	\$ 9.70	\$ 8.92	\$ 11.51
Pasture	_____	.01	.02	.01
Alfalfa hay	_____	.07	.11	.17
TOTAL FEED COST	\$ _____	\$ 9.78	\$ 9.05	\$ 11.69
Net increase in value per cwt. hogs produced	\$ _____	\$ 18.59	\$ 22.82	\$ 16.05
RETURNS ABOVE FEED COST PER CWT HOGS PRODUCED	\$ _____	\$ 8.82	\$ 13.77	\$ 4.36
RETURNS FOR \$100 OF FEED	\$ _____	\$190.00	\$252.00	\$137.00
Price received per cwt. hogs sold	\$ _____	\$ 19.95	\$ 21.83	\$ 19.47
No. of spring litters raised	_____	14.9	16.2	12.7
No. of fall litters raised	_____	10.7	17.0	5.8
Total no. of litters raised	_____	25.6	33.2	18.5
No. of pigs born per litter**	_____	9.0	8.9	8.6
No. of pigs weaned per litter**	_____	7.8	8.0	7.7
POUNDS OF HOGS PRODUCED	_____	44,280	42,663	33,010

\* Concentrates refer to the total of corn, small grain and commercial feeds fed.

\*\* From records with accurate litter information only.

DAIRY CATTLE

The quantity of feed consumed, value of feeds and returns from dairy cattle are presented in Tables 14, 15, and 16. Some of the important factors that affected the return over feed were:

1. Rate of production (pounds of milk and 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, 1958

Items	Your farm	Average of all farms	20% of farms highest in butterfat per cow	20% of farms lowest in butterfat per cow
Pounds of milk per cow		8704	10624	6261
Pounds of butterfat per cow		318.3	452.3	225.4
Price received per pound butterfat sold (cts.)		88¢	88¢	89¢
Feed per cow, lbs.:				
Corn		2371.6	2975.7	2420.2
Small grain		508.3	570.8	324.1
Commercial feed		529.5	1299.6	182.1
Legume hay		4602.0	5396.1	3859.8
Other hay		259.6	175.9	409.1
Total concentrates*		3409.4	4846.1	2926.4
Total dry roughages		4861.6	5572.0	4268.9
Silage		5197.5	4655.2	4312.0
Feed cost per cow:				
Concentrates*	\$	\$ 65.61	\$ 76.24	\$ 58.46
Roughages		63.95	53.12	63.30
Pasture		8.39	9.81	12.16
TOTAL FEED COSTS	\$	\$ 137.95	\$ 139.17	\$ 133.92
Value of produce per cow:				
Butterfat sales	\$	\$ 247.95	\$ 306.98	\$ 190.24
Dairy produce used in house		5.75	7.12	3.62
Milk fed to livestock		5.09	7.26	6.89
Net increases in value of cows		3.87	6.55	-5.06
TOTAL VALUE PRODUCED	\$	\$ 262.66	\$ 327.91	\$ 195.69
RETURNS ABOVE FEED COST PER COW	\$	\$ 124.71	\$ 188.73	\$ 61.77
RETURNS FOR \$100 OF FEED	\$	\$ 190.00	\$ 236.00	\$ 146.00
Feed cost per lb. Butterfat (cents) \$		29.2¢	30.3¢	60¢
Number of cows		15.1	13.6	12.7

\* Concentrates refer to total of corn, small grain and commercial feed fed.

TABLE 15 - FEED COSTS AND RETURNS FROM OTHER DAIRY CATTLE, 1958

Items	Your farm	Average of all farms	20% of farms highest in butterfat per cow	20% of farms lowest in butterfat per cow
Feed per head, lbs.:				
Concentrates *		790.5	725.8	696.2
Hay and fodder		1601.8	1429.3	1674.9
Silage		1064.3	745.8	862.1
Whole Milk		403.9	277.9	344.6
Feed cost per head:				
Concentrates *	\$	\$ 17.78	\$ 14.64	\$ 14.55
Roughages		16.64	14.75	16.94
Milk		6.14	5.60	10.34
Pasture		1.64	2.61	1.44
TOTAL FEED COSTS PER HEAD	\$	\$ 42.20	\$ 37.60	\$ 43.27
Net increase in value of other cattle	\$	\$ 128.67	\$ 91.05	\$ 122.58
RETURNS ABOVE FEED COST PER HEAD	\$	\$ 86.47	\$ 53.45	\$ 79.31
RETURNS FOR \$100 OF FEED	\$	\$ 305.00	\$ 242.00	\$ 283.00
No. of head of other cattle		14.7	16.9	15.7

TABLE 16 - FEED COSTS AND RETURNS FROM ALL DAIRY CATTLE, 1958

Items	Your farm	Average of all farms	20% of farms highest in butterfat per cow	20% of farms lowest in butterfat per cow
Feed per animal unit, lbs.:				
Concentrates *		2967.8	3568.1	3167.5
Hay and fodder		4547.2	4640.0	3796.0
Silage		3849.0	1609.4	3502.1
TOTAL FEED COSTS PER ANIMAL UNIT		\$ 117.63	\$ 112.86	\$ 107.79
Value of produce per animal unit:				
Dairy products	\$	\$ 177.50	\$ 200.87	\$ 125.72
Net increase in value of dairy cattle		69.73	71.72	89.65
TOTAL VALUE PRODUCED	\$	\$ 247.23	\$ 272.59	\$ 215.37
RETURNS ABOVE FEED PER ANIMAL UNIT	\$	\$ 129.60	\$ 159.73	\$ 107.58
RETURNS PER \$100 OF FEED	\$	\$ 210.00	\$ 242.00	\$ 200.00
Animal units of cattle		22.4	22.0	20.6

\* Concentrates refer to total of corn, small grain, and commercial feed fed.

TABLE 17 - FEED COSTS AND RETURNS FROM FEEDER CATTLE, 1958

Items	Your farm	Average of all farms	20% of farms highest in return above feed	20% of farms lowest in return above feed
Feeds per cwt. beef produced, lbs.:				
Corn		474.3	387.7	505.1
Small grain		24.6	54.8	14.7
Commercial feeds		64.1	46.8	108.7
Legume hay		219.3	307.7	231.0
Other hay		11.7	14.0	34.9
Total concentrates*		563.0	489.3	628.5
Total hay and fodder		231.0	321.7	265.9
Silage		453.6	579.9	478.7
Feed cost per cwt. beef produced:				
Concentrates*	\$	\$ 11.65	\$ 9.86	\$ 13.51
Roughages		3.34	4.38	3.62
Pasture		.19	.26	.11
TOTAL FEED COSTS	\$	\$ 15.18	\$ 14.50	\$ 17.24
Net increase in value of feeders		26.81	31.59	22.87
RETURNS ABOVE FEED COST PER CWT. BEEF PRODUCED	\$	\$ 11.63	\$ 17.09	\$ 5.63
RETURNS FOR \$100 OF FEED	\$	\$176.00	\$217.00	\$133.00
Price paid per cwt. beef bought	\$	\$ 28.02	\$ 26.87	\$ 29.81
Price received for feeder cattle sold		23.97	24.48	19.91
Number of animal units		60.3	32.3	64.9
POUNDS OF BEEF PRODUCED		48,820	19,054	56,347

BEEF BREEDING CATTLE

Items	Your farm
Feeds per animal unit, lbs.:	
Concentrates*	
Legume	
Other hay	
Silage	
Feed Cost per animal unit:	
Concentrates*	\$
Roughages	
Pasture	
TOTAL FEED COST	\$
Value of produce per animal unit	
Dairy products	\$
Net increase in value of animal	
TOTAL VALUE PRODUCED	\$
RETURNS ABOVE FEED COST PER A.U.	
RETURNS FOR \$100 OF FEED	
Number of cows and herd bulls	
Number of animal units in the herd	

\* Concentrates refer to total of corn, small grain and commercial feed fed.

TABLE 18 - FEED COSTS AND RETURNS FROM FARM FLOCK OF SHEEP, 1958

Items	Your farm	7 Mankato, 3 Austin farms
Feeds per head,* Lbs.		
Concentrates (grain & commercial feeds)		177
Legume hay		579
Other hay		23
Silage		141
Feed cost per head:		
Concentrates (grain & commercial feeds)	\$	\$ 3.36
Roughages		5.72
Pasture		1.45
TOTAL FEED COSTS	\$	\$ 10.53
Value of produce per head:		
Wool	\$	\$ 3.61
Value of Mutton		12.75
TOTAL VALUE PRODUCED	\$	\$ 16.36
RETURNS ABOVE FEED COST PER HEAD	\$	\$ 5.83
RETURNS FOR \$100 OF FEED	\$	\$155.00
Price per cwt. of lambs sold	\$	\$ 18.66
Price per lb. wool sold (cts.)	\$	\$ .39
Pounds of wool per sheep sheared		9.0
Number of ewes kept for lambing		52.3
Per cent lamb crop**		117%
Per cent death loss**		9.1%
Pounds of sheep produced		5228
Head of Native Sheep		71.9

\* 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, 1958

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 increases 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	

Fifty-eight percent 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 of death loss of hens

TABLE 20 - FEED COSTS AND RETURNS FROM CHICKENS\*, 1958

Items	Your farm	Average of 24 farms	5 Farms highest in return above feed	5 Farms lowest in return above feed
Feed per hen, lbs.:				
Grain		95.7	82.3	130.5
Commercial feed		37.9	27.7	49.7
Total feed		133.6	110.0	180.2
TOTAL FEED COST PER HEN	\$	\$ 3.83	\$ 3.24	\$ 5.11
Value of produce per hen:				
Eggs sold and used in home	\$	\$ 5.20	\$ 6.33	\$ 4.36
Net increase in value of chickens		.04	.20	-.15
Total Value Produced	\$	\$ 5.24	\$ 6.53	\$ 4.21
RETURNS ABOVE FEED COST PER HEN	\$	\$ 1.41	\$ 3.29	\$-. .90
RETURNS FOR \$100 OF FEED	\$	\$137.00	\$202.00	\$ 82.00
Price received per dozen eggs sold (cts)		28.5¢	30.4¢	30.1¢
Eggs laid per hen		187	252	171
Average number hens on farm during year		362	390	389
Per cent death loss of hens		9%	8%	5%
Per cent of laying flock that are pullets		91%	90%	44%
Number of pullets started		272	408	165
Straight run		29	80	--
Cockerels		24	20	27

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

Turkeys are produced on many farms in the Mankato area. Not enough suitable records were available, however, to calculate averages for this enterprise.

TABLE 21 - FEED COSTS AND RETURNS FOR TURKEYS

Items	Your farm
Feed per cwt. turkeys produced, lbs.:	
Grain	_____
Commercial Feed	_____
Total concentrates	_____
Feed cost per cwt. turkeys produced	\$ _____
Net increase in value per cwt. turkeys produced	_____
RETURNS ABOVE FEED COST PER CWT. PRODUCED	_____
RETURNS PER \$100 OF FEED	_____
No. of poults put on feed	_____
Price paid per poult purchased	_____
Per cent death loss	_____
Price received per lb. turkeys sold (cts.)	_____
Weight per bird sold (lbs.)	_____
Pounds of turkey produced	_____

TABLE 22 - SUMMARY OF FARM EARNINGS BY TENURE, 1958 (OPERATOR'S SHARE)

Items	Your farm	Owners	Part Owners	Renters
<b>FARM RECEIPTS</b>				
Dairy cattle	\$	\$ 881	\$ 154	\$ 494
Dairy products		1827	412	1194
Beef cattle (including feeders)		12583	7435	4451
Hogs		6735	5258	5377
Sheep and wool (including feeders)		369	992	120
Poultry (including turkeys)		89	29	108
Eggs		626	320	1310
Corn		1539	1563	899
Small grain		218	169	142
Other crops		1277	1415	1524
Mach. & equip. sold & gas tax refunds		226	158	104
Income from work off the farm		104	92	226
Miscellaneous		119	28	73
(1) Total farm sales	\$	\$26593	\$18025	\$16022
(2) Increase in farm capital		2183	4731	5213
(3) Family living from the farm		338	256	221
(4) Total farm receipts (1)+(2)+(3)	\$	\$29114	\$23012	\$21456
<b>FARM EXPENSES</b>				
Dairy cattle bought	\$	\$ 223	\$ 161	\$ 236
Beef cattle bought (including feeders)		7461	4353	2891
Hogs bought		430	281	597
Sheep bought (including feeders)		132	321	4
Poultry bought (including turkeys)		63	29	129
Miscellaneous livestock expense		434	217	243
Feed bought		3733	2358	2489
Fertilizers		890	1211	479
Other crop expense		426	556	444
Custom work hired		931	539	447
Gas, oil & grease bought (farm share)		749	918	667
Repair & operation tractor, truck, and auto (farm share)		414	494	384
Repair & upkeep of real estate		252	273	157
Repair & upkeep of crop & gen. Mach.		307	332	250
Repair & upkeep of livestock equipment		143	195	130
Wages of hired labor		201	216	199
Electricity expense (farm share)		187	172	139
Real estate & personal property tax		641	543	185
Cash rent			34	1032
Gen. farm exp. & telephone expense		373	216	144
Interest paid		383	577	167
Total cash operating expense	\$	\$18373	\$13996	\$11413
Mechanical power bought (farm share)		368	818	813
Crop & general machinery bought		661	572	1325
Livestock equipment bought		235	106	153
New real estate improvements		1144	604	379
(5) Total farm purchases	\$	\$20781	\$16096	\$14083
(6) Decrease in Farm Capital		--	--	--
(7) Interest on farm capital		2584	1741	982
(8) Unpaid family labor		131	262	60
(9) Board furnished hired labor		44	5	39
(10) Total farm expenses (5) to (9)	\$	\$23540	\$18104	\$15164
(11) Labor earnings (4) - (10)		5574	4908	6292
(12) Return to capital and family labor (7)+(8)+(11)		\$ 8289	\$ 6911	\$ 7334

TABLE 23 - SUMMARY OF FARM EARNINGS BY YEARS - MANKATO AREA

Items	1955	1956	1957	1958
<b>FARM RECEIPTS</b>				
Dairy cattle	\$ 520	\$ 634	\$ 678	\$ 653
Dairy products	2144	2575	2757	1386
Beef cattle (incl. feeders)	3582	2714	2634	8717
Hogs	4359	3933	4791	6773
Sheep and wool	373	294	156	350
Poultry (incl. turkeys)	210	1153	738	98
Eggs	968	832	602	1003
Corn	3198	2426	1967	1713
Small grain	174	359	254	283
Other crops	1025	1717	2049	1782
Mach. equip. sold & gas tax refund	395	230	195	163
Income from work off the farm	129	145	273	167
Miscellaneous	130	158	112	83
(1) Total farm sales	\$17207	\$17170	\$17206	\$23171
(2) Increase in farm capital	--	1706	1933	4198
(3) Family living from the farm	290	258	271	273
(4) Total farm receipts (1)+(2)+(3)	\$17497	\$19134	\$19410	\$27642
<b>FARM EXPENSES</b>				
Dairy cattle bought	\$ 126	\$ 218	\$ 250	\$ 239
Beef cattle bought (incl. feeders)	1855	1353	1452	5045
Hogs bought	355	193	248	595
Sheep bought (incl. feeders)	159	17	16	99
Horses bought	--	3	--	--
Poultry bought (incl. turkeys)	104	278	220	99
Miscellaneous livestock expense	328	364	361	337
Feed bought	2597	2734	2774	3221
Fertilizers	456	339	539	825
Other crop expense	529	473	480	541
Custom work hired	585	515	500	703
Gas, oil & grease bought (farm share)	734	740	781	826
Repair & operation of Tractor, truck & auto	371	371	346	444
Repair & upkeep of real estate	181	208	178	241
Repair & upkeep of crop & gen. mach.	250	274	247	302
Repair & upkeep of livestock equipment	86	106	91	152
Wages of hired labor	464	390	299	209
Electricity expense	178	169	158	183
Real estate & personal property tax	500	529	490	620
Telephone and general farm expense	237	190	200	245
(5) Total cash operating expense	\$10095	\$ 9464	\$ 9630	\$14926
(6) Mech. power bought (farm share)	920	661	691	727
(7) Crop & general machinery bought	706	777	924	1043
(8) Livestock equipment bought	147	94	171	189
(9) New real estate improvements	465	490	514	780
(10) Total farm purchases (5) to (9)	\$12333	\$11486	\$11930	\$17665
(11) Decrease in farm capital	630	--	--	--
(12) Interest on farm capital	2514	2545	2630	3043
(13) Unpaid family labor	99	177	174	117
(14) Board furnished hired labor	62	69	59	35
(15) Total farm expense (10) to (14)	\$15638	\$14277	\$14793	\$20860
(16) Labor earnings (4) - (15)	1859	4857	4617	6782

AVERAGE PRICES OF FEEDS - 1958

Table 24 lists the average prices of feeds used in livestock summaries in this report. Prices paid for feeds bought were used whenever possible.

TABLE 24 - AVERAGE PRICES OF FEED, 1958

<u>Farm Grown Grains*</u>		<u>Other Roughages</u>	
Corn	\$ .98 per bu.	Corn Silage	\$6.00 per Ton
Oats	.53 " "	Grass Silage	6.00 " "
Barley	.90 " "	Pea Silage*	3.50 " "
Wheat	2.00 " "	Sweet Corn Silage*	3.00 " "
Rye	.98 " "		
Soybeans	1.98 " "		
Flaxseed	2.75 " "		
		<u>Pasture per Head Per Month</u>	
<u>Hay</u>		Cows	\$2.50
Alfalfa	\$17.50 per Ton	Young Cattle	1.25
Red or		Hogs	.16
Alsike Clover	15.00 " "	Pigs (under 6 mos)	.08
Brome or		Sheep	.40
Timothy	10.20 " "	Lambs	.20
Wild Hay	9.00 " "		
		<u>Milk For Feed</u>	
		Whole Milk	\$2.30 per Cwt.
		Whole milk used in home	.08 " Qt.

\* Purchase price used whenever possible.

# LABOR EARNINGS CORRELATED WITH EXCELLED FACTORS

Studies of earnings of farmers in this area show that there are seven major management factors causing variations in earnings among farmers within a given year. These seven factors are (1) crop yields, (2) choice of crops, (3) returns from livestock, (4) amount of livestock, (5) size of business, (6) work accomplishments per worker, and (7) control over expenses. The combined or cumulative influence of these seven management factors on earnings is shown in Table 25. The farmer's earnings are determined to a considerable extent by his accomplishments in these seven factors.

TABLE 25

No. of factors in which farmers excelled	No. of farms	Average Labor Earnings		
		4000	8000	12000
0 or 1	5	XXXXXXXX		3223
2 or 3	20	XXXXXXXXXXXX		4665
4 or 5	18	XXXXXXXXXXXXXXXXXXXXXXXXXXXX		9660
6 or 7	3	XXXXXXXXXXXXXXXXXXXXXXXXXXXX		11538

Table 25 indicates that it will be worth while for each co-operator to study carefully his ranking on pages 10 and 11, and learn his standing in respect to each of the above factors and the elements of strength and weakness in his farm business.