

LET'S LOOK AT THE RECORD

*1961 Annual Report*

**VOCATIONAL AGRICULTURE  
FARM MANAGEMENT PROGRAM**

**NORTHWESTERN MINNESOTA**

**REPORT NO. 7**

**AREA VOCATIONAL TECHNICAL SCHOOL**

**THIEF RIVER FALLS, MINNESOTA**

**In Cooperation With**

**VOCATIONAL DIVISION, MINNESOTA DEPARTMENT OF  
EDUCATION AND AGRICULTURAL EDUCATION DEPT.**

**UNIVERSITY OF MINNESOTA**

**March 1962**

1961 REPORT OF THE FARM MANAGEMENT PROGRAM FOR VOCATIONAL  
AGRICULTURE IN NORTHWESTERN MINNESOTA

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## LET'S GET ACQUAINTED

The Thief River Falls Area Vocational-Technical School in cooperation with the Minnesota Department of Education and the Agricultural Education Department of the University of Minnesota is conducting a farm management program. The program was initiated in 1955 and is available to farmers who are enrolled in adult or young farmer classes in the public schools of a twelve county area. This is the only farm management program in Northwestern Minnesota which stresses farm records as a basis for evaluating the farming operation.

This report is published annually to provide agriculture teachers and farmers with farm record analysis information which will be helpful to them in studying farming operations. The report is set up to show each cooperating farmer, individual figures for his farm, as well as averages for all farms, the top twenty per cent and the bottom twenty per cent in earnings. The report presents each farmer with figures showing his earnings, increase or decrease in net worth, financial standing and a number of efficiency factors on his various enterprises.

The analysis of the records and the preparation of the reports for Northwestern Minnesota are done under the direction of Fred Sorensen of the Area Vocational-Technical School at Thief River Falls. Clerical assistants for this project were Mrs. Arlene Mrkonich and Mrs. Phyllis Moum.

The Farm Management Program is supervised locally by Marshall Hankerson, Superintendent of Education and Arnt Aune, Director of the Area Vocational-Technical School, Thief River Falls, Minnesota. Mr. G. R. Cochran of the State Department of Education, Dr. Milo Peterson of the University Department of Agricultural Education, and Dr. T. R. Nodland of the Agricultural Economics Department have been available as consultants.

This report deals with farmers enrolled in nine schools in Northwestern Minnesota. It also includes one record from the Roseau County Agent. The following tabulation shows the number of 1961 farm records submitted and the names of the instructors and county agent:

<u>School</u>	<u>No. of Records</u>	<u>Instructor</u>
Goodridge	5	Charles Alsip Larry Foley
Greenbush	11	Clifford Sisler
Karlstad	5	Dean Syverson
Lancaster	6	Harvey Lorenz
Middle River	1	Thomas Kajer
Plummer	2	Thomas Hassett
Thief River Falls	21	Ted Kusmak Fred Sorensen
Roseau	2	Joe Freeman
Roseau County	1	William Provance (county agent)
	<u>54</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 operators liabilities and assets other than farm capital.

#### INVESTMENT IN FARMING

The capital investment per farm varied from \$6185 to \$78,704. The average investment for all farms included in this report and for the eleven high and the eleven low in operator's labor earnings is shown on Table 1.

#### 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.

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 principle 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 expense, payment on indebtedness and savings. These figures are found on Table 5.

#### WHY KEEP FARM RECORDS?

Systematic use of records seems to raise the managerial level of the farmers. Once a farmer starts using records to check up on his performance, it is likely that he will continue for some years to improve his position above that of his less systematic neighbor.<sup>1</sup>

<sup>1</sup>Britannica Research Service

# WHAT IS THE CAPITAL INVESTMENT PICTURE IN OUR FARM BUSINESS?

Table 1. Summary of Farm Inventories, 1961

Items	Your farm		Average of 54 farms	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Size of farm (acres)			614	
Size of business (work units)*			447	
Dairy and dual purpose cows	\$	\$	\$ 2223	\$ 2229
Other dairy and dual porpose cattle			1248	1354
Beef cattle (incl. feeders)			2452	2950
Hogs			117	206
Sheep (including feeders)			972	612
Poultry (including turkeys)			72	97
Productive livestock (total)			7084	7448
Horses			40	46
Honey			73	81
Crop, seed, and feed			3139	2800
Auto & truck (farm share)			902	864
Tractors and motors			1559	1635
Crop and general machinery			2712	2437
Livestock equipment			372	477
Machinery and equipment (total)			5545	5413
Land			9779	10051
Buildings, fences, etc.			4683	4505
Total farm capital			30344	30344

Items	11 most profitable farms		11 least profitable farms	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Size of farm (acres)	796		643	
Size of business (work units)*	530		414	
Dairy & dual purpose cows	\$ 2065	\$ 2558	\$ 986	\$ 646
Other dairy & dual purp. cattle	993	1618	654	608
Beef cattle (incl. feeders)	6416	8360	2825	2321
Hogs	56	314	5	6
Sheep (including feeders)	962	654	1656	1264
Poultry (including turkeys)	105	99	2	92
Productive livestock (total)	10597	13603	6128	4937
Horses	37	50	---	---
Honey	351	391	---	---
Crop, seed, and feed	3872	4119	4662	3488
Auto & truck, farm share	1290	1199	918	1003
Tractors and motors	1366	2121	2336	2342
Crop & general machinery	3392	3319	3481	3009
Livestock equipment	602	749	179	371
Machinery & equipment (total)	6650	7388	6914	6725
Land	10253	11315	13895	13895
Buildings, fences, etc.	6413	6544	6017	5571
Total farm capital	38173	43410	37616	34616

\* See page 8 for an explanation of "work units".

Table 2. Summary of Farm Earnings (Cash Statement), 1961

Items	Your Farm	Average of 54 farms	11 most prof. farms	11 least prof. farms
<u>FARM RECEIPTS Here's where the money came from.</u>				
Dairy and dual-purpose cattle	\$ _____	\$ 1460	\$ 1227	\$ 1052
Dairy products	_____	3531	5058	996
Beef cattle (including feeders)	_____	1876	2746	4806
Hogs	_____	364	302	3
Sheep and wool (including feeders)	_____	1064	974	1946
Horses	_____	10	6	---
Honey	_____	101	488	---
Poultry (including turkeys)	_____	680	25	3211
Eggs	_____	353	464	18
Soil bank	_____	274	759	35
Small grain	_____	3298	3135	5739
Other crops	_____	193	540	88
Mach., equip. sold & gas tax refund	_____	579	475	1388
Income from work off the farm	_____	345	535	259
Miscellaneous	_____	281	408	398
(1) Total farm sales	_____	14409	17142	19939
(2) Increase in farm capital	_____	---	5236	---
(3) Family living from the farm	_____	287	441	157
(4) Total farm receipts (1)+(2)+(3)	_____	14696	22819	20096
<u>FARM EXPENSES Here's where the money went.</u>				
Dairy & dual-purpose cattle bought	\$ _____	\$ 355	\$ 718	\$ 132
Beef cattle bought (incl. feeders)	_____	928	1306	2088
Hogs bought	_____	49	99	8
Sheep bought	_____	20	11	37
Horses bought	_____	10	12	---
Bees bought	_____	37	175	---
Poultry bought (including turkeys)	_____	178	34	710
Misc. livestock expense	_____	371	391	585
Feed bought	_____	1626	1406	3649
Fertilizers	_____	807	775	1248
Other crop expense	_____	728	579	1594
Custom work hired	_____	526	692	571
Gas, oil & grease bought (farm share)	_____	1014	1258	1158
Rep. of mechanical power (farm share)	_____	476	523	759
Repair and upkeep of real estate	_____	115	157	97
Repair and upkeep of crop & gen. mach.	_____	297	484	353
Repair and upkeep of livestock equip.	_____	69	31	127
Wages of hired labor	_____	454	811	563
Electricity expense (farm share)	_____	215	279	196
Real estate & pers. prop. taxes	_____	547	593	695
General farm expense	_____	192	225	264
(5) Total cash operating expense	_____	9014	10559	14834
(6) Cap. purchases-mech. power (f. s.)	_____	745	1201	1308
(7) Cap. purchases-crop & gen. mach.	_____	451	793	628
(8) Cap. purchases-livestock equip.	_____	188	261	260
(9) Cap. purchases-bldgs. & fencing	_____	493	1765	86
(10) Total farm purchases (5) to (9)	_____	10891	14579	17116
(11) Decrease in farm capital	_____	---	---	3000
(12) Interest on farm capital	_____	1517	2040	1806
(13) Unpaid family labor	_____	345	520	301
(14) Board furnished hired labor	_____	147	234	183
(15) Total farm expenses (10) to (14)	_____	12900	17373	22406
(16) Labor earnings (4)-(15)	_____	1796	5446	-2310

WHAT IS THE VALUE PRODUCED BY EACH ENTERPRISE?

Table 3. Summary of Farm Earnings (Enterprise Statement) 1961\*

Items	Your farm	Average of 54 farms	11 most prof. farms	11 least prof. farms
<u>RETURNS AND NET INCREASES</u>				
Dairy and dual-purpose cows	\$ _____	\$3665	\$5462	\$1079
Other dairy & dual-purpose cattle	_____	1271	1498	518
Beef breeding herd	_____	731	2414	262
Feeder cattle	_____	808	1109	2001
Hogs	_____	441	490	23
Sheep-farm flock	_____	640	649	1544
Sheep-feeders	_____	50	7	---
Turkeys	_____	539	---	2595
Chickens	_____	363	476	26
All productive livestock	_____	8508	12105	8048
Value of feed fed to livestock	_____	4597	5726	5955
Return over feed from livestock	_____	3911	6379	2093
Crops, seed and feed	_____	4797	7590	4127
Income from labor off the farm	_____	194	252	126
Agricultural conservation payments	_____	160	384	57
Bees	_____	73	352	---
Miscellaneous	_____	129	49	341
(1) Total returns & net increases	_____	9264	15006	6744
<u>EXPENSES AND NET DECREASES</u>				
Horses	\$ _____	\$ -6	\$ -7	\$ ---
Truck	_____	369	498	511
Auto (farm share)	_____	381	470	398
Tractor	_____	911	696	1146
Elec. & gas engine exp. (farm share)	_____	211	280	178
Hired power	_____	299	456	276
Total power	_____	2165	2393	2509
Crop and general machinery	_____	914	1285	1233
Livestock equipment	_____	143	132	195
Buildings, fencing, and tiling	_____	490	727	518.
Misc. productive livestock expense	_____	371	391	585
Labor	_____	1127	1775	1249
Real estate taxes	_____	377	403	486
Personal property tax	_____	171	190	209
Insurance	_____	67	76	79
General farm	_____	126	148	185
Interest on farm capital	_____	1517	2040	1806
(2) Total expenses & net decreases	_____	7468	9560	9054
(3) Operator's earnings (1)-(2)	_____	\$ 1796	\$ 5446	\$ -2310

\*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.

# WHAT IS THE VALUE OF FARM PRODUCTS USED IN THE HOUSE?

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

The value of the family living as shown in Table 4 amounts to 2.0 per cent of the total farm receipts on these farms. The values used are shown in Table 24. If these products had been purchased, the amount paid out would have been considerable higher as the figures used were conservative.

Table 4. Family living from the farm, 1961

Items	Your farm	Average of 54 farms	Your farm	Average of 54 farms
Number of persons in family	_____	4.3		
Adult equivalent-family	_____	3.1		
Whole milk	_____	769 qts.	\$ _____	\$ 54
Skim milk	_____	37 qts.	_____	1
Cream	_____	53 pts.	_____	12
Beef	_____	594 lbs.	_____	134
Hogs	_____	206 lbs.	_____	36
Lamb & mutton	_____	33 lbs.	_____	7
Poultry	_____	69 lbs.	_____	11
Eggs	_____	37 doz.	_____	11
Vegetables, fruits, potatoes, & fuel	_____		_____	21
Total			\$ _____	\$287

## 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 \$275 per month for family living in addition to the food, fuel, and housing furnished by the farm.



# HOW MUCH DID WE SPEND FOR LIVING?

Table 5. Household and Personal Expenses for Those Farms which kept Complete Accounts of These Expenses, 1961

Items	Your farm	Average of 31 farms	11 most prof. farms	11 least prof. farms
Number of persons-family	_____	4.3	5.6	3.2
Number of adult equivalent-family	_____	3.1	3.9	2.5
Food and meals bought	\$ _____	\$ 987	\$1202	\$1041
Operating and supplies	_____	179	244	170
Furnishings and equipment	_____	206	226	187
Clothing and clothing material	_____	305	405	180
Personal care, personal spending	_____	101	123	81
Education, recreation and development	_____	201	199	689
Gifts and special events	_____	94	142	51
Medical care and health insurance	_____	347	489	290
Church, welfare	_____	149	288	53
Personal share of auto & truck expense	_____	125	104	236
Operator's share of upkeep on dwelling	_____	27	32	---
Household share of elec. & tel. expense	_____	106	118	139
Total cash living expense	\$ _____	\$2827	\$3572	\$3117
H.H. & Personal share of new auto	_____	87	22	358
New dwelling	_____	160	---	---
Taxes and other deductions	_____	1	---	---
Life insurance	_____	207	278	270
Other savings and investments	_____	23	84	---
Total H.H. & personal cash expense	\$ _____	\$3305	\$3956	\$3745
Total family living from the farm	_____	342	547	178
Total cash expense & perquisites	\$ _____	\$3647	\$4503	\$3923
Receipts:				
Return to capital and family labor	\$ _____	\$2958	\$6700	\$-1750
Income from investments	_____	5	2	---
Sale of outside investments	_____	44	---	---
Other personal income	_____	346	433	1551

## NET WORTH

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

# HOW MUCH DID WE SAVE OF WHAT WE EARNED?

Table 6. Net Worth Statement for Those Farmers Who Kept a complete Record of All Assets and Liabilities, 1961

Items	Your farm		48 farms	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Total acres in farm			614	
Total farm capital	\$	\$	\$31096	\$31068
Stocks and bonds			416	418
Life insurance			499	512
Accounts receivable			17	71
Shares in marketing org.			378	448
Outside real estate			24	22
Cash on hand and in bank			686	597
Household goods and clothing			1596	1663
Personal share auto & truck			322	308
Dwelling			2488	2799
Total non-farm assets			6426	6838
TOTAL ASSETS			37522	37906
Federal Land Bank mortgage			1592	1537
FHA real estate mortgage			838	922
Other mortgage on land oper.			1856	1963
Loans on other real estate			496	359
Production Credit Association			1095	1215
FHA chattel mortgage			379	522
Other chattel mortgages			3037	2827
Notes payable			1153	1207
Accounts payable			1168	999
TOTAL LIABILITIES			11614	11551
Farmer's Net Worth			25908	26355
Gain or decrease in net worth			\$ ---	\$ 447

## 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 7. Days of work off the farm for pay are not included in work unit computations in this report.

Table 7. Number of Work Units for each Class of Lvstk. & Acre of Crop

Item	No. of work units	Item	No. of work units
Dairy & dual-purpose cows	10.0 per cow	Small grain	.5 per A.
Other dairy & du.-pur. cat.	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.	Corn, fodder	1.0 per A.
Sheep, farm flock	1.5 per an. unit*	Alfalfa hay	.6 per A.
Sheep, feeders	.3 per 100 lbs.	Other hay crops	.4 per A.
Hogs	.2 per 100 lbs.	Legume seed	1.0 per A.
Hens	20.0 per 100 hens	Grass silage	.6 per A.
Turkeys	.5 per 100 lbs.	Potatoes	3.8 per A.
Turkeys, breeder hens	45.0 per 100 hens	Bees	3.3 hive

\* Animal unit represents one dairy cow or bull, two other dairy cattle, 1¼ 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 1100# turkeys produced.

## 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 20 per cent of the range according to earnings was \$5446 and of those in the lower 20 per cent was \$-2310. This is a range of \$7756 between the average earnings of these two groups. Some of the causes for these differences in earnings, such as weather, may be beyond the control of the individual farmer. Other factors are within his control. The more important management factors affecting earnings are as follows: These factors vary from year to year in their relative influence on earnings. 1/

1. Crop Yields
2. Choice of Crops
3. Returns from Livestock
4. Amount of Livestock
5. Size of Business
6. Work Units per Worker
7. Control over Expenses

Operator's  
Earnings

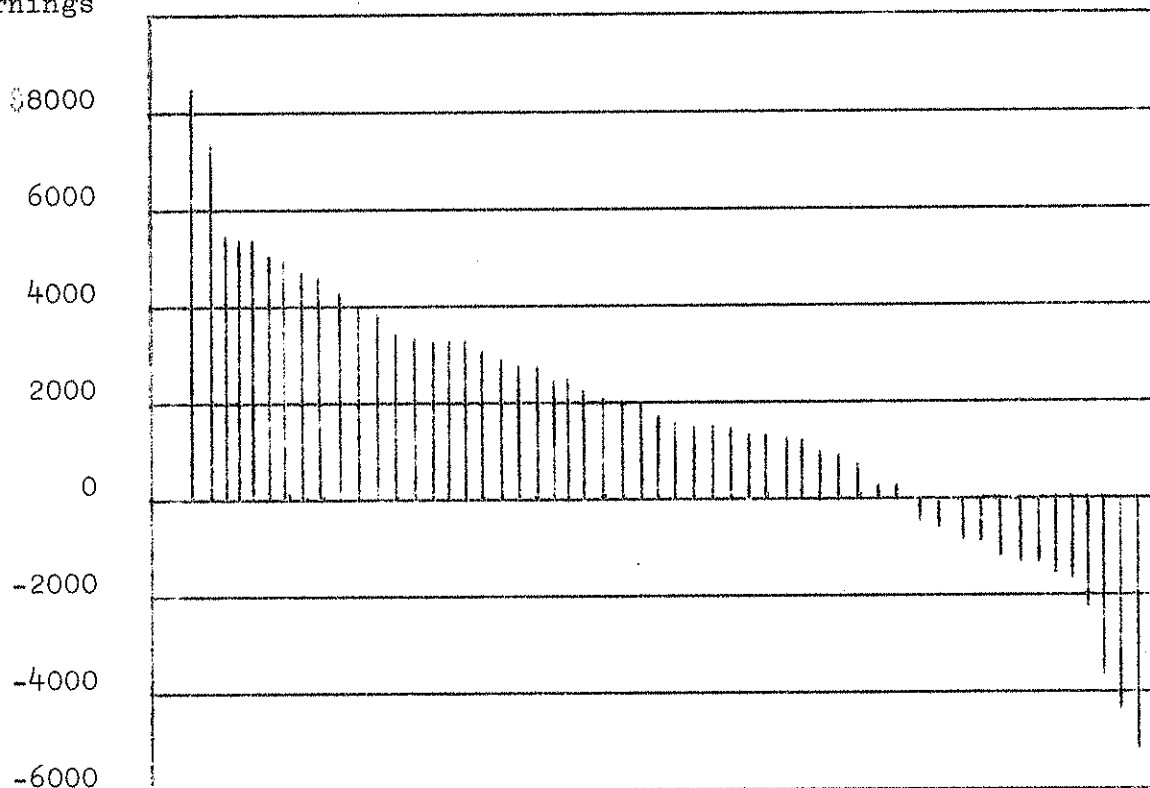


Fig. 1 Range in operator's earnings

Each line represents the earnings of one farmer.

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

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 8. Measures of Farm Organization and Management Efficiency, 1961

Measures used in chart on page 11	Your farm	Average of 54 farms	11 most prof. farms	11 least prof. farms
Operator's earnings	\$ _____	\$1796	\$5446	\$-2310
(1) Crop yields*	_____	100	118	82
(2) Per cent tillable land in high return crops**	_____	39.6	37.2	41.3
(3) Return for \$100 feed to productive livestock***	_____	100	109	87
(4) Productive livestock units per 100 acres****	_____	8.7	8.5	9.4
(5) Size of business-work units	_____	447	530	414
(6) Work units per worker	_____	307	310	292
(7) Power, machinery, equipment and building expense per work unit	\$ _____	\$8.45	\$9.18	\$10.76
Items related to some of the above measures:				
Number of animal units (4)	_____	46.4	63.8	52.1
Work units on crops (5)	_____	184	224	215
Work units on productive livestock (5)	_____	232	291	199
Work units on other productive work (5)	_____	3	15	--
Number of family workers (6)	_____	1.2	1.3	1.1
Number of hired workers (6)	_____	.2	.4	.3
Total number of workers (6)	_____	1.4	1.7	1.4
Power expenses per work unit (7)	\$ _____	\$4.99	\$5.13	\$6.06
Crop Mach. expense per work unit (7)	\$ _____	2.04	2.43	2.98
Livestock equipment expense per work unit (7)	\$ _____	.32	.25	.47
Buildings and fencing expense per work unit (7)	\$ _____	1.10	1.37	1.25
Index of return for \$100 feed from: (3)				
Dairy cattle (see pages 15, 16, & 17)	_____	100	115	113
Beef cattle-breeding herd (page 20)	_____	100	126	108
Feeder cattle (see page 20)	_____	100	96	93
Hogs (see page 21)	_____	100	106	56
Sheep (see page 18)	_____	100	83	116
Sheep-feeders	_____	100	80	--
Turkeys	_____	100	--	100
Chickens (see page 19)	_____	100	82	--

\* Given as percentage of the average.

\*\* Crops are marked in Table 9 as (A), (B), (C), and (D). All of the acres in (A) crops, one half of acres in (B) crops, and one fourth of the 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 54 farms included in this summary are located between the dotted lines across the center of this page.

Labor earn- ings	Crop yields	High return crops	Return from prod. livest'k	Pr. L.S. units per 100 A.	Work units per worker	Pow., Mach., eq., & bldgs exp. per work unit	
8,000	156	64	156	33	850	460	1.00
7,200	149	61	149	30	800	440	2.00
6,400	142	58	142	27	750	420	3.00
5,600	135	55	135	24	700	400	4.00
4,800	128	52	128	21	650	380	5.00
4,000	121	49	121	18	600	360	6.00
3,200	114	46	114	15	550	340	7.00
2,400	107	43	107	12	500	320	8.00
1,600	100	40	100	9	450	300	9.00
800	93	37	93	6	400	280	10.00
0	86	34	86	3	350	260	11.00
-800	79	31	79	0	300	240	12.00
-1,600	72	28	72		250	220	13.00
-2,400	65	25	65		200	200	14.00
-3,200	58	22	58		150	180	15.00
-4,000	51	19	51		100	160	16.00
-4,800	44	16	44		50	140	17.00

Table 9. Distribution of Acres in Farm, 1961

Crop	Crop ratings*	Your farm	Average of 54 farms
Flax	B	_____	10.3
Barley	B	_____	28.7
Wheat	A	_____	28.0
Oats & Oats Mixtures	B	_____	108.7
Rye, millet	C	_____	.2
Peas	A	_____	1.3
Buckwheat	D	_____	.1
Total Small Grain		_____	177.3
Potatoes	B	_____	.6
Corn grain	B	_____	.1
Corn silage	B	_____	10.3
Total Cultivated Crops		_____	11.0
Alfalfa and alfalfa mixture	B	_____	59.5
Alfalfa seed	B	_____	.2
Red or alsike clover hay	B	_____	2.8
Red or alsike clover seed	B	_____	.3
Sweet clover hay	C	_____	2.2
Sweet clover seed	C	_____	1.2
Other legumes and legume mixture hay	C	_____	10.5
Brome or timothy grass seed	C	_____	2.9
Brome or timothy hay	C	_____	4.5
Wild hay	D	_____	16.6
Annual hay	D	_____	2.9
Oats & peas silage	B	_____	1.1
Total tillable land in hay		_____	104.7
Alfalfa pasture	B	_____	4.3
Other legumes and mixtures (including oats)	B	_____	6.7
Soil bank (includes corn bank)	B	_____	33.6
Other tillable pasture	D	_____	55.5
Total tillable land in pasture		_____	100.1
Tillable land not cropped	D	_____	30.5
Total tillable land		_____	423.6
Wild hay (includes soil bank hay)		_____	71.8
Non-tillable pasture		_____	37.3
Timber (not pastured)		_____	38.3
Roads and waste		_____	32.2
Farmstead		_____	11.1
Total acres in farm		_____	614.3
Percent land tillable		_____	69.
Percent tillable land in high return crops		_____	39.6

\* The crops are classified as A, B, C, or D crops on the basis of their average net returns per acre. Alfalfa was dropped to a B crop in this area in 1960 because of its low net return per acre over the past years as determined on page 26 of this summary. As a result, the percent tillable land in high return crops is somewhat lower than in previous years.

Table 10. Crop Yields Per Acre, 1961

Crop	No. of cases	Your farm	1961 ave. yield	1960 ave. yield
Flax, bu.	16	_____	6.2	10.8
Barley, bu.	28	_____	21.8	31.1
Wheat, bu.	48	_____	15.2	29.3
Oats, bu.	53	_____	28.6	53.8
Rye, bu.	1	_____	9.0	12.5
Buckwheat, lbs.	1	_____	400.0	---
Peas, and Oats & Peas, bu.	3	_____	77.3	25.0
Potatoes, cwt.	1	_____	107.4	---
Corn grain, bu.	1	_____	50.0	54.2
Corn silage, tons	26	_____	5.8	6.6
Alfalfa hay, tons	43	_____	.9	1.6
Alfalfa seed, lbs.	1	_____	36.0	60.2
Red or alsike clover hay, tons	7	_____	.5	1.3
Red or alsike clover seed, lbs.	2	_____	130.8	141.2
Sweet clover hay, tons	4	_____	1.4	---
Sweet clover seed, lbs.	3	_____	637.5	251.4
Other leg. & leg. mix. hay, tons	11	_____	.8	1.2
Brome or timothy hay, tons	9	_____	.5	1.1
Brome or timothy seed, lbs.	5	_____	108.0	167.3
Wild hay, tons	12	_____	.9	.8
Annual hay, tons	8	_____	.8	1.4
Oats and oats mix. silage, tons	3	_____	3.0	3.7
Soil Bank hay	32	_____	.7	---

#### POWER AND MACHINERY EXPENSE

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 78 to 1043 with an average of 358, Table 11. 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 11. Power and Machinery Expenses Per Crop Acre, 1961

Items	Your farm	Average of 54 farms	11 most prof. farms	11 least prof. farms
Crop acres per farm	_____	358	427	427
Tractor expense per crop acre	_____	\$2.54	\$1.63	\$2.68
Crop & gen. mach. exp. per crop acre	_____	2.55	3.01	2.89

#### AMOUNT OF LIVESTOCK

The farmers cooperating in this study are predominantly livestock farmers. 64% of these farmers maintained dairy cattle, 21% poultry, 38% raised sheep, 23% kept beef cattle, 42% raised one or more hogs, 21% raised feeder cattle, and 4% raised turkeys.

Table 12. Amount of Livestock, 1961

	Your farm	Average of 54 farms	11 most prof. farms	11 least prof. farms
Number of milk cows	_____	12.4	14.2	4.3
Number of other dairy cattle	_____	15.2	16.2	6.9
Number of beef cattle (inc. feeders)	_____	17.7	47.4	18.1
Number of ewes	_____	42.7	38.1	91.9
Number of hens	_____	81.5	119.2	---
Litters of pigs raised	_____	2.9	1.8	---
Pounds of hogs produced	_____	2190	3075	60

# TOTAL FEED COSTS AND RETURNS FROM YOUR LIVESTOCK ENTERPRISES

The total "return over feed costs" for each class of livestock is shown in Table 13. 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 dual purpose cattle. The value of milk consumed by calves is not included in either the total returns of 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 13. Total Feed Costs & Returns from Your Livestock Enterprises, 1961

	Dairy or Dual Purpose Cattle			Beef
	Cows	Other	All	Breeding
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 cost of maintaining dairy cattle and poultry, 50 per cent in the case of a farm flock of sheep, and 75 to 90 per cent for hogs, feeder cattle, and feeder lambs. Consequently, it is necessary to secure a relatively higher return over feed from dairy cattle and poultry than from the other livestock enterprises in order to be able to cover all the costs other than feed.



# DAIRY AND DUAL PURPOSE CATTLE

The quantity of feed consumed, value of feeds and returns from dairy cattle are presented in Tables 14, 16, & 17. The return over feed cost per cow varied from \$-70.09 to \$344.50 among the 35 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 from 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, 1961

Items	Your farm	Average of 35 farms	8 farms highest in butterfat per cow	8 farms lowest in butterfat per cow
Pounds of butterfat per cow		340	420	234
Price rec'd per lb. B.F.(cream)		\$ .67	\$ .62	\$ .71
Price rec'd per lb. B.F. (milk)		.93	.97	.84
Feed per cow, lbs.:				
Corn		117	151	24
Small grain		2643	2587	2884
Commercial feeds		452	810	219
Legume hay		6322	6057	4050
Other hay		1542	692	3558
Total concentrates		3212	3548	3127
Total dry roughages		7864	6749	7608
Silage		5091	7193	2847
Feed cost per cow:				
Concentrates	\$	\$65.89	\$74.14	\$60.18
Roughages		61.94	62.15	46.88
Pasture		7.26	7.14	7.45
TOTAL FEED COSTS		135.09	143.43	114.51
Value of produce per cow:				
Butterfat sales	\$	\$299.09	\$386.74	\$182.96
Dairy produce used in home		5.21	6.23	5.77
Milk to livestock		6.77	9.61	5.59
Net increase in value of cows		-.14	2.59	-3.08
TOTAL VALUE PRODUCED	\$	\$310.93	\$405.17	\$191.24
RETURNS ABOVE FEED COST PER COW		175.84	261.74	76.73
Returns for \$100 of feed	\$	\$ 230	\$ 282	\$ 167
Feed cost per lb. B. F. (cents)	\$	.40	.34	.49
Number of cows		19.3	21.7	15.2

DAIRY AND DUAL PURPOSE CATTLE

In Table 14 the costs and returns are compared on the basis of level of production. Table 15 shows the same dairy herds compared on the basis of how the product is marketed.

Table 15. Factors of Cost and Returns from Dairy Cows, 1961

Items	Your farm	Grade A Average of 7 farms	Grade B Average of 23 farms	Cream Average of 5 farms
Pounds of butterfat per cow	_____	390	317	294
Price rec. per lb. B.F. sold	_____	\$ 1.04	\$ .84	\$ .64
Feed per cow, lbs.:				
Corn	_____	235	55	73
Small grain	_____	2535	2587	3818
Commercial feeds	_____	925	202	266
Legume hay	_____	6900	6051	5740
Other hay	_____	304	2288	1117
Total concentrates	_____	3695	2844	4157
Total dry roughages	_____	7204	8339	6857
Silage	_____	7258	4052	3184
Feed cost per cow:				
Concentrates	\$ _____	\$83.19	\$55.24	\$74.18
Roughages	_____	67.78	60.04	47.81
Pasture	_____	7.00	7.36	7.74
TOTAL FEED COST	\$ _____	\$157.97	\$122.64	\$129.73
Value of produce per cow:				
Butterfat sales	\$ _____	\$395.69	\$255.05	\$190.67
Dairy produce used in home	_____	6.13	4.45	7.68
Milk fed to livestock	_____	4.09	5.70	32.72
Net increase in value of cows	_____	3.95	-3.89	14.25
TOTAL VALUE PRODUCED	\$ _____	\$409.86	\$261.31	\$245.32
RETURNS ABOVE FEED COST PER COW	\$ _____	\$251.89	\$138.67	\$115.59
Returns for \$100 of feed	\$ _____	\$ 259	\$ 213	\$ 189
Feed cost per lb. B.F. (cents)	_____	.40	.39	.44
Number of cows	_____	29.2	17.1	11.9

Table 16. Feed Costs & Returns from Other Dairy & Dual Purpose Cattle, 1961

Items	Your farm	Average of 35 farms	8 farms highest in butterfat per cow	8 farms lowest in butterfat per cow
Feeds per head, lbs.:				
Concentrates	_____	511	477	487
Hay and fodder	_____	2749	2657	2701
Silage	_____	1421	2308	413
Skim milk	_____	122	196	360
Whole milk	_____	217	527	25
Feed cost per head:				
Concentrates	\$ _____	\$12.38	\$11.03	\$12.23
Roughages	_____	18.80	21.66	14.90
Milk	_____	4.64	6.40	3.54
Pasture	_____	3.82	3.88	3.39
TOTAL FEED COSTS PER HEAD	_____	\$39.64	\$42.97	\$34.06
Net inc. in value of other cattle	_____	83.44	94.07	76.69
RETURNS ABOVE FEED COST PER HEAD	_____	\$43.80	\$51.10	\$42.63
Return for \$100 of feed	\$ _____	\$ 210	\$ 219	\$ 225
Number of head of other cattle	_____	24.2	25.7	17.6

Table 17. Feed Costs and Returns from All Dairy & Dual Purpose Cattle, 1961

Items	Your farm	Average of 35 farms	8 farms highest in butterfat per cow	8 farms lowest in butterfat per cow
Feeds per animal unit, lbs:				
Concentrates	_____	2368	2581	2337
Hay and fodder	_____	7376	7713	6798
Silage	_____	4224	6231	2106
TOTAL FEED COSTS PER AN. UNIT	\$ _____	\$109.88	\$116.94	\$ 94.89
Value of produce per an. unit:				
Dairy products	\$ _____	\$187.64	\$247.57	\$120.12
Net inc. in value of dairy cattle	\$ _____	\$ 63.85	\$ 71.64	\$ 54.24
TOTAL VALUE PRODUCED	\$ _____	\$251.49	\$319.21	\$174.36
RETURNS ABOVE FEED PER AN. UNIT	_____	\$141.61	\$202.27	\$ 79.47
Returns for \$100 of Feed	\$ _____	\$ 229	\$ 273	\$ 184
Animal units of cattle	_____	31.5	34.6	24.0

Table 18. Feed Costs and Returns from Farm Flock of Sheep, 1961

Items	Your farm	Average of 20 farms
Feeds per Ewe,* lbs.:		
Concentrates	_____	201
Legume hay	_____	732
Other hay	_____	240
Silage	_____	117
Feed cost per ewe:		
Concentrates	\$ _____	\$ 3.72
Roughages	_____	6.64
Pasture	_____	1.80
TOTAL FEED COSTS	\$ _____	\$12.16
Value of produce per ewe:		
Wool	\$ _____	\$ 6.40
Net increase in value of sheep	_____	15.77
TOTAL VALUE PRODUCED	\$ _____	\$22.17
RETURNS ABOVE FEED COST PER EWE	\$ _____	\$10.01
Returns for \$100 of feed	\$ _____	\$ 182
Price per cwt. of lambs sold	\$ _____	\$17.27
Price per lb. of wool sold (cents)	_____	64.1
Pounds of wool per sheep sheared	_____	9.7
Number of ewes kept for lambing	_____	91.5
Per cent lamb crop**	_____	124
Per cent death loss**	_____	12.8
Pounds of sheep produced	_____	9014

\* Average number of sheep minus rams

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

# CHICKENS

Twenty-one per cent of the farmers cooperating in this analysis kept chickens.

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 19. Feed Costs and Returns from Chickens, 1961\*

Items	Your farm	Average of 11 farms
Feed per hen, lbs.:		
Grain	_____	57
Commercial feeds	_____	74
Total concentrates	_____	131
Milk	_____	---
TOTAL FEED COST PER HEN	\$ _____	\$2.76
Value of produce per hen:		
Eggs sold and used in house	\$ _____	\$4.57
Net inc. in value of chickens	\$ _____	\$-.08
TOTAL VALUE PRODUCED	\$ _____	\$4.49
RETURNS ABOVE FEED COST PER HEN	\$ _____	\$1.73
Returns for \$100 of Feed	\$ _____	\$ 162
Price rec'd per doz. eggs sold (cents)	\$ _____	\$ .29
Eggs laid per hen	_____	185
Ave. no. of hens on farm during year	_____	458
Per cent death loss of hens	_____	13%

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

Table 20. Feed Costs and Returns from Feeder Cattle, 1961

Items	Your farm	Average of 11 farms
Feed per cwt. beef produced, lbs.:		
Corn	_____	83
Small grain	_____	358
Commercial feeds	_____	33
Legume hay	_____	468
Other hay	_____	120
Total concentrates	_____	474
Total hay and fodder	_____	588
Silage	_____	834
Feed cost per cwt. beef produced:		
Concentrates	\$ _____	\$ 8.82
Roughages	\$ _____	5.46
Pasture	\$ _____	.70
TOTAL FEED COSTS	\$ _____	\$14.98
Net increase in value of feeders	\$ _____	\$19.80
Returns above feed per cwt. beef produced	_____	4.82
Returns for \$100 feed	_____	132
Price paid per cwt. beef bot.	_____	21.83
Price rec'd for feeders sold	\$ _____	\$21.49
Number of animal units	_____	34.8
Pounds of beef produced	_____	20108

Table 21. Feed costs and Returns from Beef Cattle, 1961

Items	Your farm	Average of 12 farms
Feed per animal unit, lbs.:		
Concentrates	_____	546
Legume hay	_____	2330
Other hay	_____	3750
Fodder & Stover	_____	45
Silage	_____	2850
Skim milk	_____	12
Feed cost per animal unit:		
Concentrates	\$ _____	\$11.17
Roughages	_____	36.61
Pasture	_____	5.55
Milk	_____	.09
TOTAL FEED COSTS	\$ _____	\$53.42
Value of produce per animal unit:		
Dairy products	\$ _____	\$ .95
Net increase in value of animals	_____	113.77
TOTAL VALUE PRODUCED	_____	114.72
RETURNS ABOVE FEED COST PER ANIMAL UNIT	_____	61.30
Returns for \$100 of feed	\$ _____	\$ 215
Number of animal units in the herd	_____	32.0

Table 22. Feed Costs and Return from Market Hogs, 1961

Items	Your farm	Average of 15 farms
Feed per cwt. of hogs produced, lbs.:		
Corn	_____	130
Small grain	_____	319
Commercial feeds	_____	54
Total concentrates	_____	503
Skim milk	_____	25
Roughages	_____	12
Feed cost per cwt. hogs produced:		
Concentrates	\$ _____	\$ 9.48
Skim milk	_____	.19
Pasture	_____	.05
TOTAL FEED COST	\$ _____	\$ 9.72
Net increase in val. per cwt. hogs produced	\$ _____	\$17.08
RETURNS ABOVE FEED COST PER CWT HOGS PRODUCED	\$ _____	\$ 7.36
Returns for \$100 feed	\$ _____	\$ 176
Price received per cwt. hogs sold	\$ _____	\$17.21
Total no. of litters raised	_____	2.7
No. of pigs born per litter	_____	10.0
No. of pigs weaned per litter	_____	8.2
Pounds of hogs produced	_____	4037

Table 23. Feed Costs and Returns from Feeder Pig Production, 1961

Items	Your farm	Average of 7 farms
Feed per litter, lbs.:		
Corn	_____	124
Small grain	_____	1804
Commercial feeds	_____	642
Total concentrates	_____	2570
Feed cost per litter:		
Concentrates	\$ _____	\$ 57.81
TOTAL FEED COST	\$ _____	\$ 57.81
Net increase in value per litter	\$ _____	\$108.51
RETURNS ABOVE FEED COST PER LITTER	\$ _____	\$ 50.70
Returns for \$100 feed	\$ _____	188
Price received per cwt.	\$ _____	\$ 22.95
Total no. of litters raised	_____	15.7
No. of pigs born per litter	_____	10.3
No. of pigs weaned per litter	_____	8.5
Pounds of hogs produced	_____	7457

Table 24. Average Prices of Feed, and Produce used in Home, 1961

Feed Prices

Farm Grown Grains

Oats	\$ .57
Barley	.85
Wheat	1.95
Wheat & Oats	1.20
Rye	.85
Corn	.85
Oats & Peas	.74

Hay

Alfalfa-Brome	\$14.00 per ton
Red Clover	10.00 per ton
Wild Hay	6.00 per ton
Sweet Clover	9.00 per ton
Brome	8.00 per ton
Soil Bank Hay	7.00 per ton

Other Roughages

Corn silage	\$5.00 per ton
Grass silage	5.00 per ton
Oats & oats mix silage	5.00 per ton

Milk for Feed

Whole milk	\$3.25 per cwt.
Skim milk	.76 per cwt.

Pasture

\$1.75 an animal unit per month

Home Produce

Milk	7¢ per quart
Cream	20¢ per pint
Poultry (live)	9¢ per pound
Beef (live)	25¢ per pound
Hogs (live)	17¢ per pound
Eggs	30¢ per dozen

Unpaid family labor 5.00 per day  
 Board for hired labor 2.50 per day unless otherwise specified.



# 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.

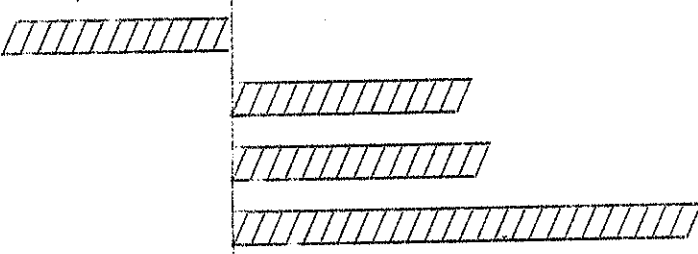
No. of factors in which farmers excelled	No. of farms	-2000	-1000	0	1000	2000	3000	4000
0	2							\$-1569
1 or 2	16							1392
3 or 4	24							1767
5 or 6	11							3059

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.

Table 26. Summary of Farm Earnings by Years

Years	1957	1958	1959	1960	1961
Number of Farms	54	52	53	57	54
<b>FARM RECEIPTS</b>					
Dairy and dual-purpose cattle	\$ 936	\$1311	\$1265	\$ 986	\$1460
Dairy products	2992	3093	2603	2962	3531
Beef cattle (including feeders)	350	565	1033	1770	1876
Hogs	343	609	713	483	364
Sheep and wool (including feeders)	279	274	528	786	1064
Horses	7	2	8	4	10
Poultry (including turkeys)	226	24	1095	1047	680
Eggs	252	388	408	511	353
Honey sold	74	90	159	137	101
Corn (includes soil bank in '59, '60 & '61)	62	1	207	276	274
Small grain	2405	2741	2859	3134	3298
Other crops	94	155	223	163	193
Mach. & equip. sold & gas tax refund	386	160	277	335	579
Pulp sold	26	-	-	-	-
Income from work off the farm	238	314	254	373	345
Miscellaneous	264	534	321	241	281
(1) Total farm sales	8934	10261	11951	13208	14409
(2) Increase in farm capital	-	1355	1979	1704	-
(3) Family living from the farm	250	286	314	337	287
(4) Total farm receipts (1)+(2)+(3)	9184	11902	14244	15249	14696
<b>FARM EXPENSES</b>					
Dairy and dual-purpose cattle bought	169	228	394	325	355
Beef cattle bought (incl. feeders)	27	478	575	988	928
Hogs bought	58	73	46	38	49
Sheep bought (including feeders)	16	76	173	222	20
Horses bought	2	3	44	8	10
Bees bought	52	56	35	51	37
Poultry bought (including turkeys)	76	39	214	210	178
Misc. livestock expense	202	228	226	304	371
Feed bought	800	896	1619	1460	1626
Fertilizers	238	398	472	504	807
Other crop expense	550	461	604	694	728
Custom work hired	268	341	372	431	526
Gas, oil and grease bought (farm share)	826	860	828	1058	1014
Rep. of mechanical power (farm share)	315	338	388	447	476
Repair and upkeep of real estate	130	107	112	118	115
Repair and upkeep of crop & gen. mach.	208	232	214	287	297
Repair and upkeep of livestock equip.	52	52	60	67	69
Wages of hired labor	538	549	392	437	454
Electricity expense (farm share)	164	164	174	191	215
Real estate & pers. property taxes	382	403	435	519	547
General farm expense	123	130	132	173	192
(5) Total cash operating expense	5196	6112	7509	8532	9014
(6) Cap. purchases-mech. power (f.s.)	596	505	616	456	745
(7) Cap. purchases-crop & gen. mach.	411	456	530	575	451
(8) Cap. purchases-livestock equip.	235	65	133	122	188
(9) Cap. purchases-bldgs. & fencing	959	454	1323	894	493
(10) Total farm purchases (5) to (9)	7397	7592	10111	10579	10891
(11) Decrease in farm capital	200	-	-	-	-
(12) Interest on farm capital	1269	1249	1287	1500	1517
(13) Unpaid family labor	123	272	222	409	345
(14) Board furnished hired labor	121	117	109	130	147
(15) Total farm expenses (10) to (14)	9110	9230	11729	12618	12900
(16) Labor earnings (4) - (15)	74	2672	2515	2631	1796
(17) Net cash income (1) - (10)	\$1537	\$2669	\$1840	\$2629	\$3518

Table 27. Costs and Returns to Crops

Gross income/crop acre

My Farm \_\_\_\_\_

Average \$15.06

# RETURNS FROM CROPS AND LIVESTOCK

ENTERPRISE \_\_\_\_\_

## Crops Grown and Returns from Crops

Crop	Amount	Yield	Acres	Net	Hours	Acres/
Total			A.	B.	C.	
Net/Acre (B÷A)			XXX		XXX	
Net/Hour (B÷C)			XXX	XXX		

## Kind of Livestock

## Size of Enterprise

Item	Total	Per	Average/Unit
Value Produced			
Feed Cost			
Misc. Costs (P. 20-21)			
Repair, Upkeep ( P. 43-45)			
Dep. Bldgs & Equip.			
Real & Pers. Prop. Taxes			
Expenses (P. 38)			
Electricity			
Total Costs			
Returns-Livestock			
Labor-Livestock			
Return/Hour Livestock		XXXXXXXX	

## Returns \* Crops + Livestock (The complete Enterprise)

Item	Total	Per	Average/Unit
Net-crops+livestock			
Labor-crops+livestock			
Return/hour		XXXXXXXX	
% of total work load		XXXXXXXX	