LETS LOOK AT THE RECORD

1962 Annual Report

VOCATIONAL AGRICULTURE FARM MANAGEMENT PROGRAM

NORTHWESTERN MINNESOTA

REPORT NO. 8

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 1963

1962 REPORT OF THE FARM MANAGEMENT PROGRAM FOR VOCATIONAL AGRICULTURE IN NORTHWESTERN MINNESOTA

HERE'S WHERE YOU'LL FIND THE INFORMATION

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.

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 eleven schools in Northwestern Minnesota. The following tabulation shows the number of farmers submitting 1962 farm records for analysis, the schools cooperating and the names of the Vo-Ag instructors from these schools.

School	No. of Records	Instructor
Fertile	8	Erman Ueland
Frazee	1	Lambert Schilling
Goodridge	6	Charles Alsip
Greenbush	10	Bernard Nelson
Karlstad	3	Dean McNelly
Lancaster	6	Wesley Francis
Middle River	2	Ambrose Moenkedick
Plummer	2	Thomas Hassett
Roseau	14	Joe Freeman
Thief River Falls	23	C. E. Sisler
Warren	2	Harold Johnson
Areas not served by Vo-Ag depts.		Fred Sorensen Vo-Ag Coordinator
Crookston	5	
East Grand Forks	1	
McIntosh	2	

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 $5827 to $296,869. The average investment for all farms included in this report and for the seventeen high and the seventeen 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 the farmer and his family earned with their labor and capital investment. This figure is found in 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.[1]

[1] Britannica Research Service

WHAT IS THE CAPITAL INVESTMENT PICTURE IN OUR FARM BUSINESS?

Table 1. Summary of Farm Inventories, 1962

Items	Your farm Jan. 1	Your farm Dec. 31	Average of 85 farms Jan. 1	Average of 85 farms Dec. 31
Size of farm (acres)			610	
Size of business (work units)*			511	
Dairy and dual purpose cows	$		$ 2476	$ 2505
Other dairy and dual purpose cattle			1376	1621
Beef cattle (incl. feeders)			5172	3528
Hogs			278	381
Sheep (including feeders)			428	502
Poultry (including turkeys)			221	357
Productive livestock (total)			9951	8894
Horses			57	62
Honey			58	--
Crop, seed, and feed			4630	4445
Auto & truck (farm share)			969	882
Tractors and motors			1871	1778
Crop and general machinery			3330	3503
Livestock equipment			916	999
Machinery and equipment (total)			7086	7162
Land			15536	15974
Buildings, fences, etc.			5722	6116
Total farm capital			43040	42653

Items	17 most profitable farms Jan. 1	17 most profitable farms Dec. 31	17 least profitable farms Jan. 1	17 least profitable farms Dec. 31
Size of farm (acres)	787		683	
Size of business (work units)*	686		510	
Dairy & dual purpose cows	$ 3023	$ 3310	$ 1999	$ 1777
Other dairy & dual purp. cattle	1836	2115	1288	1019
Beef cattle (incl. feeders)	4715	4703	10340	6147
Hogs	182	333	673	837
Sheep (including feeders)	606	615	105	44
Poultry (including turkeys)	262	785	95	126
Productive livestock (total)	10624	11861	14500	9950
Horses	21	30	140	167
Crop, seed, and feed	4131	4836	8193	8789
Auto & truck, farm share	737	728	1202	1008
Tractors and motors	1696	1608	2102	2200
Crop & general machinery	2713	3606	4805	4484
Livestock equipment	1178	1249	678	590
Machinery & equipment (total)	6324	7191	8787	8282
Land	14178	14846	21156	21286
Buildings, fences, etc.	5989	6540	7688	7154
Total farm capital	41267	45304	60464	55628

* See page 22 for an explanation of "work units".

Table 2. Summary of Farm Earnings (Cash Statement), 1962

Items	Your farm	Average of 85 farms	17 most prof. farms	17 least prof. farms
FARM RECEIPTS Here's where the money came from.				
Dairy and dual-purpose cattle	$	$ 1214	$ 1789	$ 1047
Dairy products		4204	5191	2556
Beef cattle (including feeders)		5320	4568	10090
Hogs		789	656	1775
Sheep and wool (including feeders)		552	745	111
Horses		142	4	10
Honey		5	--	---
Poultry (including turkeys)		1041	1176	24
Eggs		802	1635	464
Soil bank		218	509	---
Small grain		3899	4687	4985
Other crops, Inc. corn		1018	1593	513
Mach., eq uip. sold & gas tax refund		197	213	149
Income from work off the farm		431	365	642
Miscellaneous		322	264	232
(1) Total farm sales		20154	23395	22598
(2) Increase in farm capital		--	4036	---
(3) Family living from the farm		309	342	210
(4) Total farm receipts (1)+(2)+(3)		20463	27773	22808
FARM EXPENSES Here's where the money went.				
Dairy & dual-purpose cattle bought	$	$ 322	$ 495	$ 232
Beef cattle bought (incl. feeders)		1448	1506	3733
Hogs bought		130	211	210
Sheep bought		69	43	---
Horses bought		34	9	28
Bees bought		9	--	---
Poultry bought (including turkeys)		278	425	31
Misc. livestock expense		441	561	199
Feed bought		2660	3696	2199
Fertilizers		885	831	1864
Other Crop expense		828	1286	775
Custom work hired		630	796	620
Gas, oil & grease bought (farm share)		1118	1275	1363
Rep. of mechanical power (farm share)		611	755	618
Repair and upkeep of real estate		156	140	156
Repair and upkeep of crop & gen. mach.		388	562	408
Repair and upkeep of livestock equip.		88	132	93
Wages of hired labor		921	1228	1285
Electricity expense (farm share)		279	336	263
Real estate & pers. prop. taxes		641	584	931
Tel. & general farm expense		253	282	407
(5) Total cash operating expense		12189	15153	15415
(6) Cap. purchases-mech. power (f.s.)		509	506	990
(7) Cap. purchases-crop & gen. mach.		951	1610	792
(8) Cap. purchases-livestock equip.		235	327	61
(9) Cap. purchases-bldgs. & fencing		1284	1701	210
(10) Total farm purchases (5) to (9)		15168	19297	17468
(11) Decrease in farm capital		387	--	4837
(12) Interest on farm capital		2149	2164	2902
(13) Unpaid family labor		158	49	247
(14) Board furnished hired labor		155	210	249
(15) Total farm expenses (10) to (14)		18017	21720	25703
(16) Labor earnings (4) - (15)		2446	6053	-2895

WHAT IS THE VALUE PRODUCED BY EACH ENTERPRISE?

Table 3. Summary of Farm Earnings (Enterprise Statement), 1962*

Items	Your farm	Average of 85 farms	17 most prof. farms	17 least prof. farms
RETURNS AND NET INCREASES				
Dairy and dual-purpose cows	$____	$4318	$5288	$2593
Other dairy & dual-purpose cattle	____	1435	2061	763
Beef breeding herd	____	740	1483	71
Feeder cattle	____	1398	1526	1832
Hogs	____	788	626	1759
Sheep-farm flock	____	562	727	54
Sheep-feeders	____	2	--	--
Turkeys	____	1044	944	--
Chickens	____	671	1980	508
All productive livestock	____	10958	14635	7580
Value of feed fed to livestock	____	5883	7319	5188
Return over feed from livestock	____	5075	7316	2392
Crops, seed and feed	____	6429	9024	6385
Income from labor off the farm	____	263	255	486
Agricultural conservation payments	____	81	44	78
Bees	____	50	--	--
Miscellaneous	____	247	244	153
(1) Total returns & net increases	____	12145	16883	9494
EXPENSES AND NET DECREASES				
Horses	$____	$ -2	$ -3	$ -9
Truck	____	435	484	674
Auto (farm share)	____	397	372	356
Tractor	____	1276	1467	1757
Elec. & gas engine exp. (farm share)	____	278	337	264
Hired power	____	328	399	335
Total power	____	2712	3056	3377
Crop and general machinery	____	1147	1380	1560
Livestock equipment	____	253	329	210
Buildings, fencing, and tiling	____	606	612	799
Misc. productive livestock expense	____	441	562	199
Labor	____	1496	1861	2003
Real estate taxes	____	442	381	705
Personal property tax	____	199	203	227
Insurance	____	121	167	100
General farm	____	133	115	307
Interest on farm capital	____	2149	2164	2902
(2) Total expenses & net decreases	____	9699	10830	12389
(3) Operator's earnings (1)-(2)	____	2446	6053	-2895

*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 1.5 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 considerably higher as the figures used were conservative.

Table 4. Family living from the farm, 1962

Items	Your farm	Average of 85 farms	Your farm	Average of 85 farms
Number of persons in family	____	4.8		
Adult equivalent-family	____	3.4		
Whole milk	____	1148 qts.	$____	$ 80
Skim milk	____	13 qts.	____	1
Cream	____	54 pts.	____	10
Beef	____	611 lbs.	____	142
Hogs	____	150 lbs.	____	28
Lamb & mutton	____	33 lbs.	____	6
Poultry	____	40 lbs.	____	7
Eggs	____	23 doz.	____	7
VeGetables, fruits, potatoes, & fuel			____	28
Total			$____	$309

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 $282 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, 1962

Items	Your farm	Average of 47 farms	17 most prof. farms	17 least prof. farms
Number of persons-family	_____	4.8	4.4	4.5
Number of adult equivalent-family	_____	3.4	3.1	3.5
Food and meals bought	_____	$ 984	$1040	$ 956
Operating and supplies	_____	223	338	158
Furnishings and equipment	_____	204	256	283
Clothing and clothing material	_____	344	393	261
Personal care, personal spending	_____	111	181	129
Education, recreation and development	_____	173	249	52
Gifts and special events	_____	116	111	95
Medical care and health insurance	_____	354	447	210
Church, welfare	_____	172	84	68
Personal share of auto & truck expense	_____	136	158	108
Operator's share of upkeep on dwelling	_____	26	17	22
Household share of elec. & tel. expense	_____	107	158	63
Total cash living expense	$_____	$2950	$3432	$2405
H.H. & Personal share of new auto	_____	89	118	43
New dwelling	_____	81	---	---
Taxes and other deductions	_____	7	1	6
Life insurance	_____	162	178	52
Other savings and investments	_____	89	60	90
Total H.H. & personal cash expense	$_____	$3378	$3789	$2596
Total family living from the farm	_____	334	401	213
Total cash expense & perquisites	$_____	$3712	$4190	$2809
Receipts:				
Return to capital and family labor	$_____	$3378	$6454	$-676
Income from investments	_____	32	24	85
Sale of outside investments	_____	13	567	---
Other personal income	_____	338	541	353

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, 1962

Items	Your farm Jan. 1	Your farm Dec. 31	58 farms Jan. 1	58 farms Dec. 31
Total acres in farm	____	____	610	
Total farm capital	$____	$____	$38891	$40041
Stocks and bonds	____	____	717	865
Life insurance	____	____	405	449
Accounts receivable	____	____	53	55
Shares in marketing org.	____	____	755	812
Outside real estate	____	____	106	98
Cash on hand and in bank	____	____	757	881
Household goods and clothing	____	____	1634	1692
Personal share auto & truck	____	____	314	308
Dwelling	____	____	3250	3461
Investment credit	____	____	--	36
Total non-farm assets	____	____	7991	8657
TOTAL ASSETS	____	____	46882	48698
Federal Land Bank mortgage	____	____	972	1141
FHA real estate mortgage	____	____	608	828
Other mortgage on land oper.	____	____	4569	5227
Loans on other real estate	____	____	284	278
Production Credit Association	____	____	3620	3292
FHA chattel mortgage	____	____	905	934
Other chattel mortgages	____	____	2995	2935
Notes payable	____	____	1380	1541
Accounts payable	____	____	1683	2137
TOTAL LIABILITIES	____	____	17016	18313
Farmer's Net Worth	____	____	29866	30385
Gain or decrease in net worth	____	____		519

RANGE IN EARNINGS

Every study of farm earnings shows a wide variation in earnings among farmers in a given year (Figurel). The average operator's earnings of those farmers ranking in the upper 20 per cent of the range according to earnings was $6053 and of those in the lower 20 per cent was $-2895. This is a range of $8948 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

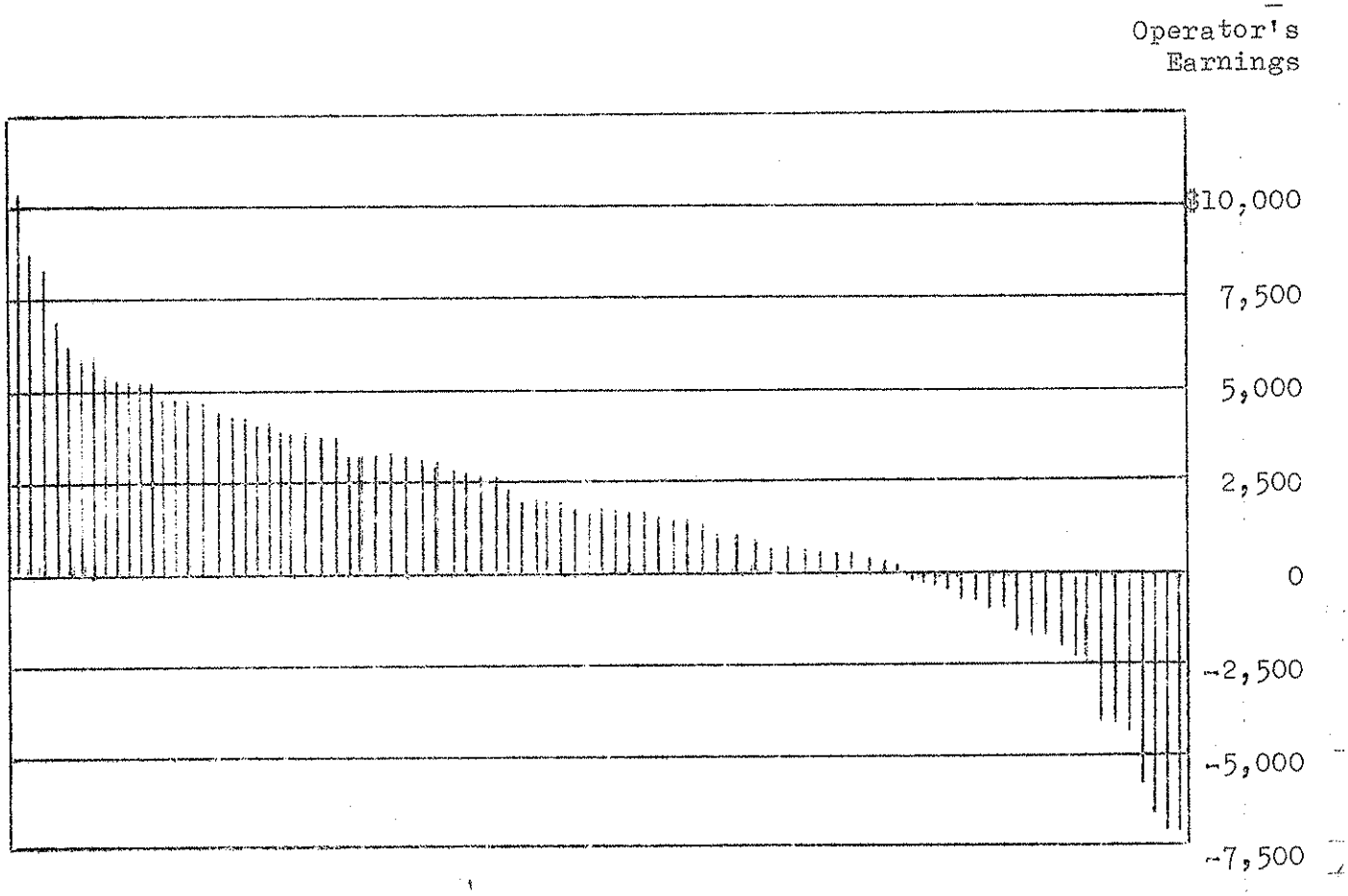

Fig. 1 Range in operator's earnings
Each line represents the earnings of one farmer.

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 7. Measures of Farm Organization and Management Efficiency, 1962

Measures used in chart on page 11	Your farm	Average of 85 farms	17 most prof. farms	17 least prof. farms
Operator's earnings	$____	$2446	$6053	$-2895
(1) Crop yields*	____	100	108	98
(2) Per cent tillable land in high return crops**	____	32.2	40.7	24.3
(3) Return for $100 feed to productive livestock***	____	100	114	87
(4) Productive livestock units per 100 acres****	____	11.7	11.5	8.9
(5) Size of business-work units	____	511	686	510
(6) Work units per worker	____	319	342	311.2
(7) Power, machinery, equipment and building expense per work unit	$____	$9.67	$9.51	$10.87
Items related to some of the above measures:				
Number of animal units (4)	____	62.6	88.2	53.6
Work units on crops (5)	____	232	320	302
Work units on productive livestock (5)	____	277	366	228
Work units on other productive work (5)	____	2	--	--
Number of family workers (6)	____	1.2	1.4	1.3
Number of hired workers (6)	____	.4	.6	.3
Total number of workers (6)	____	1.6	2.0	1.6
Power expenses per work unit (7)	$____	$5.58	$5.41	$6.17
Crop Mach. expense per work unit (7)	$____	2.32	2.44	2.72
Livestock equipment expense per work unit (7)	$____	$ .53	.58	.52
Buildings and fencing expense per work unit (7)	$____	1.24	1.08	1.46
Index of return for $100 feed from: (3)				
Dairy cattle (see pages 15, 16, & 17)	____	100	102	85
Beef cattle-breeding herd (page 20)	____	100	100	178
Feeder cattle (see page 20)	____	100	127	80
Hogs (see page 21)	____	100	68	97
Sheep (see page 18)	____	100	107	48
Turkeys (see page 19)	____	100	82	50
Chickens (see page 19)	____	100	111	143

* Given as percentage of the average.

** Crops are marked in Table 8 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 acre 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 85 farms included in this summary are located between the dotted lines across the center of this page.

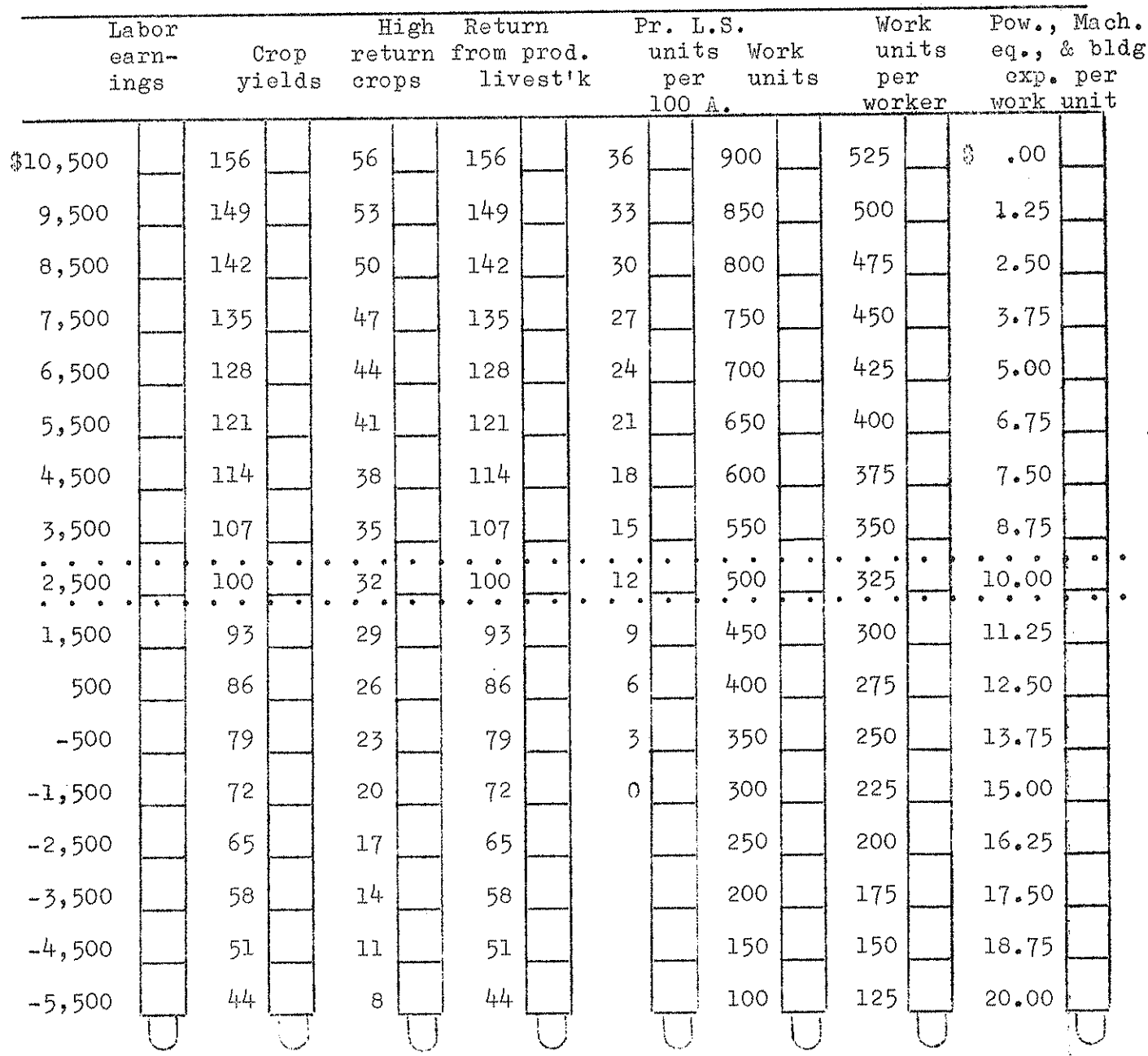

Table 8. Distribution of Acres in Farm, 1962

Crop	Crop ratings*	Your farm	Average of 85 farms
Flax	B	____	12.3
Barley	B	____	31.3
Wheat	A	____	23.1
Oats & Oats Mixtures	B	____	59.6
Rye	C	____	4.3
Peas or Beans	A	____	.3
Buckwheat	D	____	.8
Millet	B	____	2.6
Total Small Grain		____	134.3
Sugar Beets	A	____	2.4
Corn Fodder	C	____	.3
Sunflowers	B	____	.7
Potatoes	A	____	2.2
Corn Grain	B	____	1.2
Corn Silage	B	____	15.7
Total Cultivated Crops		____	22.5
Alfalfa and alfalfa mixture	B	____	48.7
Alfalfa seed	B	____	--
Red or alsike clover hay	B	____	1.7
Red or alsike clover seed	B	____	.7
Sweet clover hay	C	____	--
Sweet clover seed	C	____	1.5
Other legumes and legume mixture hay	C	____	34.6
Brome or timothy hay	C	____	5.7
Brome or timothy grass seed	C	____	4.6
Wild hay (Includes soil bank hay)	D	____	24.2
Annual hay	D	____	.6
Oats and peas silage	B	____	2.4
Total tillable land in hay		____	124.7
Alfalfa pasture	B	____	1.7
Other legumes and mixtures (including oats)	B	____	28.3
Soil bank or diverted acres	B	____	24.6
Other tillable pasture	D	____	12.9
Total tillable land in pasture		____	67.5
Tillable land not cropped	D	____	135.9
Total tillable land		____	484.9
Wild hay (includes soil bank hay)		____	6.5
Non-tillable pasture		____	47.3
Timber (not pastured)		____	27.2
Roads and waste		____	31.1
Farmstead		____	13.3
Total acres in farm		____	610.3
Percent land tillable		____	79.
Percent tillable land in high return crops		____	32.2

*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 9. Crop Yields Per Acre, 1962

Crop	No. of cases	Your farm	1962 ave. yield	1960 ave. yield
Flax, bu.	23	____	9.9	10.8
Barley, bu.	30	____	24.6	31.1
Wheat, bu.	45	____	25.4	29.3
Oats, bu.	67	____	37.1	53.8
Rye, bu.	10	____	13.6	12.5
Buckwheat, lbs.	1	____	7.7	---
Peas, Beans and Oats & Peas, bu.	3	____	13.3	25.0
Millet, bu.	6	____	7.1	---
Potatoes, bu.	4	____	182.0	---
Sugar Beets, ton	2	____	10.8	---
Corn grain, bu.	4	____	50.9	54.2
Corn Fodder, ton	1	____	4.0	---
Corn silage, tons	36	____	5.6	6.6
Sunflowers, lbs.	1	____	740.0	---
Alfalfa hay, tons	63	____	2.1	1.6
Alfalfa seed, lbs.	0	____	--	60.2
Red or alsike clover hay, tons	8	____	1.0	1.3
Red or alsike clover seed, lbs.	3	____	39.5	141.2
Sweet clover hay, tons	0	____	--	---
Sweet clover seed, lbs.	6	____	310.5	251.4
Other leg. & leg. mix, hay, tons	35	____	1.6	1.2
Brome or timothy hay, tons	12	____	1.3	1.1
Brome or timothy seed, lbs.	13	____	213.6	167.3
Wild hay, tons (includes soil bk.hay)	24	____	1.0	.8
Annual hay, tons	4	____	.9	1.4
Oats and oats mix. silage, tons	8	____	6.0	3.7

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 45 to 1980 with an average of 417, Table 10. 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 10. Power and Machinery Expenses Per Crop Acre, 1962

Items	Your farm	Average of 85 farms	17 most prof. farms	17 least prof. farms
Crop acres per farm	____	398	463	568
Tractor expense per crop acre	$____	$3.20	$3.17	$3.09
Crop & gen. mach. exp. per crop acre	____	2.88	2.98	2.75

AMOUNT OF LIVESTOCK

The farmers cooperating in this study are predominantly livestock farmers. 68% of these farmers maintained dairy cattle, 15% poultry, 22% raised sheep, 22% kept beef cattle, 27% raised one or more hogs, 12% raised feeder cattle, and 5% raised turkeys.

Table 11. Amount of Livestock, 1962

	Your farm	Average of 85 farms	17 most prof. farms	17 least prof. farms
Number of milk cows	_____	15.3	19.3	12.8
Number of other dairy cattle	_____	19.8	26.9	17.9
Number of beef cattle (inc.feeders)	_____	26.3	42.5	20.3
Number of ewes	_____	28.6	48.2	4.4
Number of hens	_____	135.3	411.0	100.9
Litters of pigs raised	_____	6.0	7.4	10.1
Pounds of hogs produced	_____	3749	3877	5400

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 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 12. Total Feed Costs & Returns from Your Livestock Enterprises, 1962

	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 considerable 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 13, 15, & 16. The return over feed cost per cow varied from $-28.53 to $280.62 among the 55 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 13. Factors of Cost and Returns from Dairy Cows, 1962

Items	Your farm	Average of 55 farms	11 farms highest in butterfat per cow	11 farms lowest in butterfat per cow
Pounds of butterfat per cow	_____	333	414	241
Pounds of milk per cow	_____	9059	11871	6763
Price recld per lb. B.F. (cream)	_____	$ .67	$ .59	$ .62
Price rec'd per lb. B.F. (milk)	_____	.97	.95	.82
Feed per cow, lbs.:				
Corn	_____	435	592	241
Small grain	_____	2356	2144	1877
Commercial feeds	_____	658	1697	108
Legume hay	_____	7011	8259	6106
Other hay	_____	1100	163	725
Total concentrates	_____	3449	4432	2226
Total dry roughages	_____	8111	8422	6830
Silage	_____	5076	5565	3350
Feed cost per cow:				
Concentrates	$_____	$71.04	$107.95	$40.75
Roughages	_____	63.13	67.07	50.14
Pasture	_____	7.70	7.62	7.73
TOTAL FEED COSTS	_____	141.87	182.64	98.62
Value of produce per cow:				
Butterfat sales	$_____	$293.88	$386.23	$182.85
Dairy produce used in home	_____	5.91	5.74	5.96
Milk to livestock	_____	3.88	2.12	10.74
Net increase in value of cows	_____	-4.37	-.59	4.45
TOTAL VALUE PRODUCED	$_____	$299.30	$393.50	$204.00
RETURNS ABOVE FEED COST PER COW	_____	157.42	210.86	105.38
Returns for $100 of feed	$_____	$ 211	$ 215	$ 207
Feed Cost per lb. B.F. (cents)	_____	.43	.44	.41
Number of cows	_____	21.5	24.6	18.1

DAIRY AND DUAL PURPOSE CATTLE

In Table 13 the costs and returns are compared on the basis of level of production. Table 14 shows the same dairy herds compared on the basis of how the product is marketed.

Table 14. Factors of Cost and Returns from Dairy Cows, 1962

Items	Your farm	Grade A Average of 16 farms	Grade B Average of 36 farms	Cream Average of 3 farms
Pounds of butter fat per cow	_____	367	314	192
Pounds of milk produced per cow	_____	10659	8689	--
Price rec. per lb. B.F. sold	_____	$ 1.01	$ .83	$ .62
Feed per cow, lbs.:				
Corn	_____	492	366	809
Small grain	_____	2631	2150	1663
Commercial feeds	_____	1216	243	135
Legume hay	_____	7812	6450	5733
Other hay	_____	694	1328	2079
Total Concentrates	_____	4339	2759	2607
Total dry roughages	_____	8506	7779	7813
Silage	_____	6989	3641	2404
Feed cost per cow:				
Concentrates	$_____	$94.19	$53.84	$40.79
Roughages	_____	71.73	56.53	52.82
Pasture	_____	7.56	7.78	8.31
TOTAL FEED COST	$_____	$173.48	$118.15	$101.92
Value of produce per cow:				
Butterfat sales	$_____	$360.31	$252.58	$112.15
Dairy produce used in home	_____	6.55	5.26	7.95
Milk fed to livestock	_____	2.24	3.69	25.50
Net increase in value of cows	_____	-4.53	-4.53	1.44
TOTAL VALUE PRODUCED	$_____	$364.57	$257.00	$147.04
RETURNS ABOVE FEED COST PER COW	$_____	$191.09	$138.85	45.12
Returns for $100 of feed	$_____	210	218	144
Feed cost per lb. B.F. (cents)	_____	.47	.38	.53
Number of cows	_____	29.9	18.1	13.9

Table 15. Feed Costs & Returns from Other Dairy & Dual Purpose Cattle, 1962

Items	Your farm	Average of 55 farms	11 farms highest in butterfat per cow	11 farms lowest in butterfat per cow
Feeds per head, lbs.:				
Concentrates	_____	451	645	367
Hay and fodder	_____	2828	3407	3170
Silage	_____	1345	1931	411
Skim milk	_____	49	--	261
Whole milk	_____	56	54	57
Feed cost per head:				
Concentrates	$_____	$11.88	$17.06	$ 8.06
Roughages	_____	19.23	26.66	17.44
Milk	_____	2.69	1.74	6.56
Pasture	_____	3.47	4.11	2.89
TOTAL FEED COSTS PER HEAD	_____	$37.27	$49.57	$34.95
Net inc. in value of other cattle	_____	$78.27	$93.12	$58.24
RETURNS ABOVE FEED COST PER HEAD	_____	$41.01	$43.55	$23.29
Return for $100 of feed	$_____	$ 210	$ 188	$ 167
Number of head of other cattle	_____	27.9	29.9	23.5

Table 16. Feed Costs and Returns from All Dairy & Dual Purpose Cattle, 1962

Items	Your farm	Average of 55 farms	11 farms highest in butterfat per cow	11 farms lowest in butterfat per cow
Feeds per animal unit, lbs:				
Concentrates	_____	2448	3243	1639
Hay and fodder	_____	7145	7813	6638
Silage	_____	4138	4921	2357
TOTAL FEED COSTS PER AN. UNIT	$_____	$110.58	$149.72	$ 82.19
Value of produce per an. unit:				
Dairy products	$_____	$181.98	$243.66	$114.64
Net inc. in value of dairy cattle	$_____	$ 58.84	$ 70.08	$ 48.46
TOTAL VALUE PRODUCED	$_____	$240.82	$313.74	$163.10
RETURNS ABOVE FEED PER AN. UNIT	_____	$130.25	$164.02	$ 80.92
Returns for $100 of Feed	$_____	$ 212	$ 209	$ 198
Animal units of cattle	_____	35.5	39.6	29.9

Table 17. Feed Costs and Returns from Farm Flock of Sheep, 1962

Items	Your farm	Average of 19 farms	Ave of 4 high in feed cost per ewe	Ave of 4 low in feed cost per ewe
Feeds per Ewe,* lbs.:				
Concentrates	_____	157	191	10
Legume hay	_____	708	600	41
Other hay	_____	284	201	1171
Silage	_____	70	--	309
Feed cost per ewe:				
Concentrates	$_____	$ 3.24	$ 3.48	$ 1.25
Roughages	_____	6.11	4.98	6.59
Pasture	_____	1.87	1.85	1.83
TOTAL FEED COSTS	$_____	$11.22	$10.31	$ 9.67
Value of produce per ewe:				
Wool	$_____	$ 8.26	$10.62	$ 5.12
Net increase in value of sheep	_____	19.58	25.66	6.33
TOTAL VALUE PRODUCED	$_____	$27.84	$36.28	$11.45
RETURNS ABOVE FEED COST PER EWE	$_____	$16.62	$25.97	$ 1.78
Returns for $100 of feed	$_____	$ 248	$ 352	$ 118
Price per cwt. of lambs sold	$_____	$18.62	$20.32	$13.90
Price per lb. of wool sold (cents)	_____	77.0	88.3	79.0
Pounds of wool per sheep sheared	_____	8.3	8.2	8.6
Number of ewes kept for lambing	_____	78.6	127.5	45.2
Per cent lamb crop**	_____	134	152	92
Per cent death loss**	_____	12.0	5.7	16.2

* Average number of sheep minus rams

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

Table 18. Feed Costs and Returns from Chickens, 1962*

Items	Your farm	Average of 12 farms
Feed per hen, lbs.:		
Grain	_____	55
Commercial feeds	_____	63
Total concentrates	_____	118
TOTAL FEED COST PER HEN	$_____	$3.23
Value of produce per hen:		
Eggs sold and used in house	$_____	$4.88
Net inc. in value of chickens	$_____	$ .54
TOTAL VALUE PRODUCED	$_____	$5.42
RETURNS ABOVE FEED COST PER HEN	$_____	$2.19
Returns for $100 of Feed	$_____	$ 168
Price rec'd per doz. eggs sold (cents)	$_____	$ .29
Eggs laid per hen	_____	198
Ave. no. of hens on farm during year	_____	761
Per cent death loss of hens	_____	10%

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

Table 19. Feed Costs and Returns from Turkeys, 1962

Items	Your farm	Average of 4 farms
Feed per cwt.		
Grain	_____	170
Commercial feeds	_____	234
Total concentrates	_____	404
TOTAL FEED COST PER CWT.	$_____	$13.60
Net Inc. in value of turkeys per cwt.	$_____	$19.37
Return above feed cost per cwt.	$_____	$ 5.77
Return for $100 of feed	$_____	$ 142
Number poults put on feed	_____	6900
Price paid per poults bot.	$_____	$ .60
% death loss	_____	5.6%
Price per pound sold	_____	23.1
Weight per bird sold	_____	16.9
Pounds turkey produced	_____	109,664

Table 20. Feed Costs and Returns from Feeder Cattle, 1962

Items	Your farm	Average of 22 farms
Feed per cwt. beef produced, lbs.:		
Corn	____	112
Small grain	____	133
Commercial feeds	____	83
Legume hay	____	308
Other hay	____	22
Fodder & stover	____	42
Total concentrates	____	329
Total hay and fodder	____	372
Silage	____	1236
Feed cost per cwt. beef produced:		
Concentrates	$____	$ 8.78
Roughages	$____	6.71
Pasture	$____	.56
TOTAL FEED COSTS	$____	16.05
Net increase in value of feeders	$____	$21.51
Returns above feed per cwt. beef produced	____	5.46
Returns for $100 feed	____	134
Price paid per cwt. beef bot.	____	24.04
Price rec'd for feeders sold	$____	$21.31
Number of animal units	____	81.6
Pounds of beef produced	____	38676

Table 21. Feed costs and Returns from Beef Cattle, 1962

Items	Your farm	Average of 19 farms
Feed per cow, lbs.:		
Concentrates	____	331
Legume hay	____	2323
Other hay	____	5412
Fodder & Stover	____	--
Silage	____	2727
Skim milk	____	--
Feed cost per cow:		
Concentrates	$____	$ 7.67
Roughages	____	42.00
Pasture	____	5.22
Milk	____	--
TOTAL FEED COSTS	$____	$54.89
Value of produce per cow:		
Dairy products	$____	$ 1.54
Net increase in value of animals	____	120.04
TOTAL VALUE PRODUCED	____	121.58
RETURNS ABOVE FEED COST PER COW	____	66.69
Returns for $100 of feed	$____	$ 221
Number of cows in the herd	____	26.0

Table 22. Feed Costs and Return from Market Hogs, 1962

Items	Your farm	Average of 7 farms
Feed per cwt. of hogs produced, lbs.:		
Corn	_____	194
Small grain	_____	186
Commercial feeds	_____	63
Total concentrates	_____	443
Skim milk	_____	3
Alfalfa	_____	5
Feed cost per cwt. hogs produced:		
Alfalfa	$_____	$ .03
Concentrates	$_____	$11.02
Skim milk	$_____	$ .09
Pasture	$_____	$ .29
TOTAL FEED COST	$_____	$11.43
Net increase in val. per cwt. hogs produced	$_____	$16.67
RETURNS ABOVE FEED COST PER CWT HOGS PRODUCED	$_____	$ 5.24
Returns for $100 feed	$_____	$ 146
Price received per cwt. hogs sold	$_____	17.14
Total no. of litters raised	_____	11.3
No. of pigs born per litter	_____	9.9
No. of pigs weaned per litter	_____	7.2
Pounds of hogs produced	_____	21,564

Table 23. Feed Costs and Returns from Feeder Pig Production, 1962

Items	Your farm	Average of 16 farms
Feed per litter, lbs.:		
Corn	_____	251
Small grain	_____	1111
Commercial feeds	_____	749
Total concentrates	_____	2111
Silage	_____	51
Alfalfa	_____	135
Feed cost per litter:		
Concentrates	$_____	$ 56.70
Roughages	$_____	$ 1.08
Pasture	$_____	$ 2.21
TOTAL FEED COST	$_____	$ 59.99
Net increase in value per litter	$_____	$100.98
RETURNS ABOVE FEED COST PER LITTER	$_____	$ 40.99
Returns for $100 feed	$_____	$ 168
Price received per cwt.	$_____	$ 25.22
Total no. of litters raised	_____	24.8
No. of pigs born per litter	_____	9.6
No. of pigs weaned per litter	_____	7.5
Pounds of hogs produced	_____	10,622

Table 24. Average Prices of Feed, and Produce used in Home, 1962

Feed Prices

Farm Grown Grains	
Oats	$ .57
Barley	.85
Wheat	1.95
Wheat & Oats	1.20
Rye	.85
Corn	.85
Oats & Peas	.74

Other Roughages	
Corn silage	$5.00 per ton
Grass silage	5.00 per ton
Oats & oats mix silage	5.00 per ton

Pasture
$1.75 an animal unit per month

Unpaid family labor $5.00 per day

Board for hired labor 2.50 per day unless otherwise specified

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

Milk for Feed	
Whole milk	$3.25 per cwt.
Skim milk	.76 per cwt.

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

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

Table 25. 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	.3 per 100 lbs.	Potatoes	2.0 per A.
Turkeys, breeder hens	45.0 per 100 hens	Sugar beets	2.0 per A.
Bees	3.3 per hive	Fallow ('62 only)	.5 per A.

*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.

Table 27. Summary of Farm Earnings by Years

Years	1958	1959	1960	1961	1962
Number of Farms	52	53	57	54	85
FARM RECEIPTS					
Dairy and dual-purpose cattle	$1311	$1265	$ 986	$1460	$1214
Dairy products	3093	2603	2962	3531	4204
Beef cattle (including feeders)	565	1033	1770	1876	5320
Hogs	609	713	483	364	789
Sheep and wool (including feeders)	274	528	786	1064	552
Horses	2	8	4	10	5
Poultry (including turkeys)	24	1095	1047	680	1041
Eggs	388	408	511	353	802
Honey sold	90	159	137	101	142
Corn (includes soil bank)	1	207	276	274	304
Small grain	2741	2859	3134	3298	3899
Other crops	155	223	163	193	932
Mach. & equip. sold & gas tax refund	160	277	335	579	197
Income from work off the farm	314	254	373	345	431
Miscellaneous	534	321	241	281	322
(1) Total farm sales	10261	11951	13208	14409	20154
(2) Increase in farm capital	1355	1979	1704	---	---
(3) Family living from the farm	286	314	337	287	309
(4) Total farm receipts (1)+(2)+(3)	11902	14244	15249	14696	20463
FARM EXPENSES					
Dairy and Dual-purpose cattle bought	228	394	325	355	322
Beef cattle bought (incl. feeders)	478	575	988	928	1448
Hogs bought	73	46	38	49	130
Sheep bought (including feeders)	76	173	222	20	69
Horses bought	3	44	8	10	9
Bees bought	56	35	51	37	34
Poultry bought (including turkeys)	39	214	210	178	278
Misc. livestock expense	228	226	304	371	441
Feed bought	896	1619	1460	1626	2660
Fertilizers	398	472	504	807	885
Other crop expense	461	604	694	728	828
Custom work hired	341	372	431	526	630
Gas, oil and grease bought (farm share)	860	828	1058	1014	1118
Rep. of mechanical power (farm share)	338	388	447	476	611
Repair and upkeep of real estate	107	112	118	115	156
Repair and upkeep of crop & gen. mach.	232	214	287	297	388
Rep. and upkeep of livestock equip.	52	60	67	69	88
Wages of hired labor	549	392	437	454	921
Electricity expense (farm share)	164	174	191	215	279
Real estate & pers. property taxes	403	435	519	547	641
General farm expense	130	132	173	192	253
(5) Total cash operating expense	6112	7509	8532	9014	12189
(6) Cap. purchases-mech. power (f.s.)	505	616	456	745	509
(7) Cap. purchases-crop & gen. mach.	456	530	575	451	951
(8) Cap. purchases-livestock equip.	65	133	122	188	235
(9) Cap. purchases-bldgs. & fencing	454	1323	894	493	1284
(10) Total farm purchases (5) to (9)	7592	10111	10579	10891	15168
(11) Decrease in farm capital	--	--	--	--	387
(12) Interest on farm capital	1249	1287	1500	1517	2149
(13) Unpaid family labor	272	222	409	345	158
(14) Board furnished hired labor	117	109	130	147	155
(15) Total farm expenses (10) to (14)	9230	11729	12618	12900	18017
(16) Labor earnings (4) - (15)	2672	2515	2631	1796	2446
(17) Net cash income (1) - (10)	$2669	$1840	$2629	$3518	$4986

WHICH ARE MY HIGH RETURN CROPS

The following summary is an attempt to show net return per acre from each crop. The costs charged against each crop are based on: (1) The power and machinery costs, and (2) the other costs as listed in the farm account book. Power and machinery costs include gas, oil, repairs, custom work hired and depreciation. Other costs include such items as purchased seed, fertilizer, chemicals, twine, seed treatment etc. The net per acre represents return to land and labor.

Table 28. Costs and Returns to Crops

Crop	Yield per Acre	Price	Gross Inc. per Acre	Power, Mach. Exp. Per Acre	Other Exp. Per Acre	Total Exp. Per Acre	Net Per Acre
Oats	38.0	$ .57	$21.66	$9.28	$4.51	$13.79	$ 7.87
Barley	24.6	$ .85	$20.91	$8.30	$6.24	$14.54	$ 6.37
Flax	9.9	$3.25	$32.18	$8.87	$4.28	$13.15	$19.03
Wheat	25.6	$1.95	$49.92	$9.55	$7.90	$17.45	$32.47
Alfalfa Hay	2.0	$14.00	$28.00	$11.32	$3.67	$14.99	$13.01
Corn Silage	5.8	$5.00	$29.00	$18.22	$6.88	$25.10	$ 3.90
Soil Bank Hay	1.0	$7.00	$ 7.00	$ 6.33	$ .52	$ 6.85	$ .15
Potatoes	182.0	$ .75	$136.50	$35.38	$41.67	$76.95	$59.55
Sugar Beets	10.8	$12.60	$136.08	$28.71	$ 6.97	$35.68	$100.40

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		XXXXXXXXXXX	

Returns * Crops + Livestock (The complete Enterprise)

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

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 26. The farmer's earnings are determined to a considerable extent by his accomplishments in these seven factors.

Table 26.

No. of factors in which farmers excelled	No. of farms	
0 or 1	11	$ 133
2 or 3	34	923
4 or 5	37	3793
6 or 7	3	7803

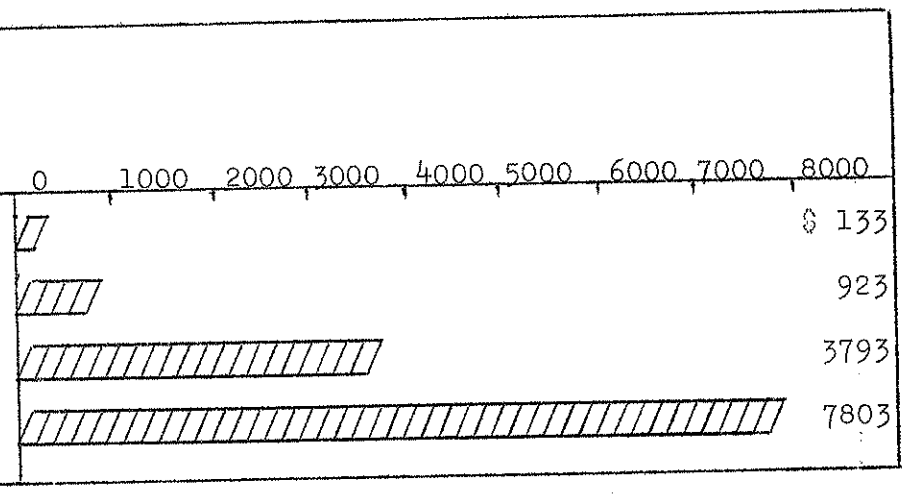

Table 26 indicates that it will be worth while for each co-operator to study carefully his ranking on pages 10 and 11 and learn his standing in respect to each of the above factors and the elements of strength and weakness in his farm business.