1959 ANNUAL REPORT

VOCATIONAL AGRICULTURE FARM MANAGEMENT PROGRAM

NORTHWESTERN MINNESOTA

UNIVERSITY OF MINNESOTA
INSTITUTE OF AGRICULTURE

and

MINNESOTA DEPARTMENT OF EDUCATION
VOCATIONAL DIVISION

and

AREA VOCATIONAL TECHNICAL SCHOOL
THIEF RIVER FALLS, MINNESOTA

Cooperating

MARCH 1960

1959 REPORT OF THE FARM MANAGEMENT SERVICE FOR VOCATIONAL AGRICULTURE IN NORTHWESTERN MINNESOTA

ARNT AUNE

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INTRODUCTION

The Department of Agricultural Education of the University of Minnesota, and the Thief River Falls Area Vocational-Technical School are cooperating with the Vocational Division, Minnesota Department of Education, in maintaining a farm management service. The service was initiated during 1955 and is available to farmers who are enrolled in adult or young farmer classes in the public schools.

The purpose of the project as far as the schools are concerned is (1) to give assistance to the instructors in the mechanics of keeping farm records and (2) to aid in the analysis of the farm business. The enrollment is on a voluntary basis insofar as the number of schools participating and the number of farmers enrolled in the service.

The analysis of the records and the preparation of the reports for Northwestern Minnesota are done under the direction of Arnt Aune of the Area Vocational School at Thief River Falls. Clerical assistants for this projectwere Mrs. Arlene Mrkonich and Mrs. Marlys Bergos. Mrs. Viola Jaranson assisted with the closing of the books and preparation of the report.

The Farm Management Program is supervised locally by Irwin T. Mickelson, Superintendent of Education and Dr. Milo Peterson of the University of Minnesota, Department of Agricultural Education. Dr. T. R. Nodland of the Agricultural Economics Department has been available as a consultant.

This report deals with farmers enrolled in 7 schools in Northwestern Minnesota. It also includes four records from two county agents in the area. The following tabulation shows the number of 1959 farm records submitted and the names of the instructor and county agent:

School	No. of Records	Instructor
Goodridge	5	Larry Foley
Greenbush	8	Clifford E. Sisler
Kennedy	1	Einar Palm
Lancaster	7	Grant Johnson
Middle River	1	John Brummond
Plummer	2	Vern Mortenson
Thief River Falls	27	Ted Kusmak
		Jon Metusalem
		Arnt Aune

County	No. of Records	County Agent
Roseau	1	William Provance
Pennington	3	Paul Stelmaschuk
TOTAL	55	

One of the records was not complete enough and 1 book arrived too late to include in the averages.

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

FARM INVENTORIES

The capital investment per farm varied from $6,657 to $79,780. The average investment for all farms included in this report and for the twelve high and the twelve 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.

Table 1. Summary of Farm Inventories, 1959

Items	Your farm Jan. 1	Your farm Dec. 31	Average of 53 farms Jan. 1	Average of 53 farms Dec. 31
Size of farm (acres)	_____		440	
Size of business (work units)*	_____		335	
Dairy and dual purpose cows	_____	_____	$ 1946	$ 1961
Other dairy & dual purpose cattle	_____	_____	972	1245
Beef cattle (incl. feeders)	_____	_____	1123	1293
Hogs	_____	_____	305	150
Sheep (including feeders)	_____	_____	528	694
Poultry (including turkeys)	_____	_____	146	122
Productive livestock	_____	_____	5022	5465
Horses	_____	_____	39	46
Crop, seed and feed	_____	_____	2336	2828
Auto & truck (farm share)	_____	_____	973	940
Tractor & motors	_____	_____	1500	1569
Crop and general machinery	_____	_____	2446	2470
Livestock equipment	_____	_____	491	516
Machinery and equipment (total)	_____	_____	5410	5496
Land	_____	_____	8151	8623
Buildings, fences, etc.	_____	_____	3791	4271
Total farm capital	_____	_____	$ 24749	$ 26729

Items	12 most profitable farms Jan. 1	12 most profitable farms Dec. 31	12 least profitable farms Jan. 1	12 least profitable farms Dec. 31
Size of farm (acres)	571		416	
Size of business (work units)*	487		215	
Dairy & dual purpose cows	$ 2614	$ 3006	$ 497	$ 729
Other dairy & dual purp. cattle	1161	1520	371	271
Beef cattle (incl. feeders)	2938	3831	1217	929
Hogs	189	25	249	130
Sheep (including feeders)	916	1121	519	618
Poultry (including turkeys)	44	203	397	202
Total productive livestock	7862	9706	3250	2879
Horses	48	60	15	13
Crop, seed, and feed	2735	4218	1483	826
Auto & truck (farm share)	1087	1111	1247	1087
Tractors & motors	1847	1853	2045	2004
Crop & general machinery	2517	2947	2932	2751
Livestock equipment	992	1014	354	446
Total machinery & equipment	6445	6925	6578	6288
Land	8790	9865	11130	11663
Buildings, fences, etc.	5838	7082	2486	2621
Total farm capital	$ 31717	$ 37856	$ 24942	$ 20290

* See Page 8 for an explanation of "work units".

Table 2. Summary of Farm Earnings (Cash Statement), 1959

Items	Your farm	Average of 53 farms	12 most prof. farms	12 least prof. farms
FARM RECEIPTS				
Dairy and dual-purpose cattle	$_____	$ 1265	$ 1657	$ 681
Dairy products	_____	2603	4540	439
Beef cattle (including feeders)	_____	1033	1973	1912
Hogs	_____	713	292	684
Sheep and wool (including feeders)	_____	528	920	648
Horses	_____	8	12	-
Poultry (including turkeys)	_____	1095	4215	522
Eggs (includes honey)	_____	567	256	633
Corn (includes soil bank)	_____	207	-	404
Small grain	_____	2857	3573	3353
Other crops	_____	223	252	13
Mach. & equip. sold & gas tax refund	_____	277	302	224
Income from work off the farm	_____	254	295	186
Miscellaneous	_____	321	355	123
(1) Total farm sales	_____	11951	19343	9822
(2) Increase in farm capital	_____	1979	6138	-
(3) Family living from the farm	_____	314	372	204
(4) Total farm receipts (1)+(2)+(3)	_____	$14244	$25853	$10026
FARM EXPENSES				
Dairy & dual-purpose cattle bought	$_____	394	482	2580
Beef cattle bought (incl. feeders)	_____	575	1181	1054
Hogs bought	_____	46	20	123
Sheep bought (including feeders)	_____	173	192	349
Horses bought (includes bees)	_____	79	174	-
Poultry bought (including turkeys)	_____	214	720	92
Misc. livestock expense	_____	226	401	132
Feed bought	_____	1619	3329	1399
Fertilizers	_____	472	600	486
Other crop expense	_____	604	691	504
Custom work hired	_____	372	474	260
Gas, oil & grease bought (farm share)	_____	828	991	834
Rep. of mechanical power (farm share)	_____	388	395	347
Repair and upkeep of real estate	_____	112	77	134
Repair and upkeep of crop & gen. mach.	_____	214	269	162
Repair and upkeep of livestock equip.	_____	60	76	47
Wages of hired labor	_____	392	558	476
Electricity expense (farm share)	_____	174	237	149
Real estate & pers. prop. taxes	_____	435	551	412
General farm expense	_____	132	186	95
(5) Total cash operating expense	_____	7509	11759	7270
(6) Cap. purchases-mech. power (f.s.)	_____	616	420	718
(7) Cap. purchases-crop & gen. mach.	_____	530	789	475
(8) Cap. purchases-livestock equip,	_____	133	304	140
(9) Cap. purchases-bldgs. & fencing	_____	1323	2838	990
(10) Total farm purchases (5) to (9)	_____	10111	16110	9593
(11) Decrease in farm capital	_____	-	-	653
(12) Interest on farm capital	_____	1287	1739	1231
(13) Unpaid family labor	_____	222	147	196
(14) Board furnished hired labor	_____	109	178	102
(15) Total farm expenses (10)-(14)	_____	11729	18174	11775
(16) Labor earnings (4) - (15)	$_____	$ 2515	$ 7679	$-1749

Table 3. Summary of Farm Earnings (Enterprise Statement) 1959*

Items	Your farm	Average of 53 farms	12 most prof. farms	12 least prof. farms
RETURNS AND NET INCREASES				
Dairy and dual-purpose cows	$_____	$ 2704	$ 4908	$ 625
Other dairy & dual-purpose cattle	_____	1388	1886	601
Beef breedingherd	_____	183	377	149
Feeder cattle	_____	454	1325	407
Hogs	_____	550	140	465
Sheep-farm flock	_____	508	932	336
Sheep-feeders	_____	14	-	62
Turkeys	_____	901	3496	484
Chickens	_____	351	275	397
All productive livestock	_____	7053	13339	3526
Value of feed fed to livestock	_____	3726	6773	2158
Return over feed from livestock	_____	3327	6566	1368
Crops, seed and feed	_____	4723	7447	2874
Income from labor off the farm	_____	144	92	135
Agricultural conservation payments	_____	135	207	91
Bees	_____	125	6652	-
Miscellaneous	_____	186	554	32
(1) Total returns & net increases	_____	8640	15013	4500
EXPENSES AND NET DECREASES				
Horses	$_____	$ + 2	$ 8	$ 2
Truck	_____	287	220	526
Auto (farm share)	_____	392	507	263
Tractor	_____	850	704	1046
Elec. & gas engine exp. (farm share)	_____	179	240	157
Hired power	_____	202	248	112
Total power	_____	1908	1927	2106
Crop and general machinery	_____	699	609	866
Livestock equipment	_____	145	275	95
Buildings, fencing, and tiling	_____	445	596	457
Misc. productive livestock expense	_____	226	401	132
Labor	_____	847	1048	856
Real estate taxes	_____	299	334	310
Personal property tax	_____	136	218	102
Insurance	_____	51	78	35
General farm	_____	82	109	59
Interest on farm capital	_____	1287	1739	1231
(2) Total expenses & net decreases	$_____	$ 6125	$ 7334	$ 6249
(3) Operator's earnings (1) - (2)	$_____	$ 2515	$ 7679	$-1749

* 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 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 2.2 per cent of the total farm receipts on these farms. The values used are shown in Table 23. 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, 1959

Items	Your farm	Average of 53 farms	Your farm	Average of 53 farms
Number of persons in family	_____	4.0		
Adult equivalent - family	_____	3.1		
Lamb & mutton	_____	4 lbs.	$_____	1
Whole milk	_____	791 qts.	_____	73
Skim milk	_____	116 qts.	_____	2
Cream	_____	103 pts.	_____	22
Beef	_____	424 lbs.	_____	121
Hogs	_____	253 lbs.	_____	40
Poultry	_____	32 lbs.	_____	10
Eggs	_____	166 doz.	_____	12
Farm made butter	_____	1 lb.	_____	1
Vegetables, fruits, potatoes, & fuel			_____	38
Total			$_____	320

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 $202 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, 1959

Items	Your farm	Average of 38 farms	10 most prof. farms	10 least prof. farms
Number of persons - family	_____	4.0	5.0	4.1
Number of adult equivalent-family	_____	3.1	3.9	2.8
Food and meals bought	$_____	$ 785	$ 890	$ 785
Operating and supplies	_____	170	238	75
Furnishings and equipment	_____	222	207	69
Clothing and clothing material	_____	253	278	193
Personal care, personal spending	_____	68	50	59
Education, recreation and development	_____	167	181	198
Gifts and special events	_____	89	85	80
Medical care and health insurance	_____	277	305	257
Church, welfare	_____	134	211	68
Personal share of auto & truck exp.	_____	89	92	70
Operator's share of upkeep on dwelling	_____	78	22	104
Household share of elec. & tel. expense	_____	93	85	90
Total Cash Living Expense	$_____	$2425	$2644	$2048
H.H. & Personal share of new auto	_____	305	375	26
New dwelling	_____	104	315	-
Taxes and other deductions	_____	8	26	2
Life insurance	_____	110	136	34
Other savings and investments	_____	99	94	92
Total H.H. & Personal Cash Exp.	$_____	$3051	$3590	$2202
Total family living from the farm	_____	326	320	203
Total Cash Expense & Perquisites	$_____	$3377	$3910	$2405
Receipts:				
Return to capital and family labor	$_____	$3702	$6937	$ 950
Income from investments	_____	106	9	-
Sale of outside investments	_____	4	-	-
Other personal income	_____	519	208	901

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.

Table 6. Net Worth Statement for Those Farmers Who Kept a Complete Record of All Assets and Liabilities, 1959

Items	Your farm Jan. 1	Your farm Dec. 31	53 farms Jan. 1	53 farms Dec. 31
Total acres in farm	_____		440	
Total farm capital	_____	_____	24,749	$26,729
Stocks and bonds	_____	_____	1,082	1,112
Life insurance	_____	_____	710	726
Accounts receivable	_____	_____	1	1
Shares in marketing organizations	_____	_____	230	295
Outside real estate	_____	_____	11	29
Cash on hand and in bank	_____	_____	784	742
Household goods and clothing	_____	_____	1,547	1,705
Personal share of auto & truck	_____	_____	405	371
Dwelling	_____	_____	2,315	2,385
Total non-farm assets	_____	_____	7,085	7,366
TOTAL ASSETS	_____	_____	$31,834	$34,095
Federal Land Bank mortgage	_____	_____	311	296
FHA real estate mortgage	_____	_____	334	313
Other mortgage on land operated	_____	_____	2,228	2,310
Loans on other real estate	_____	_____	202	194
Production Credit Association	_____	_____	153	81
FHA Chattel mortgage	_____	_____	142	116
Other chattel mortgages	_____	_____	1,878	1,974
Notes payable	_____	_____	1,109	1,670
Accounts payable	_____	_____	1,056	1,289
TOTAL LIABILITIES	_____	_____	7,413	8,243
Farmer's Net Worth	_____	_____	$24,421	$25,852
Gain or decrease in net worth	_____	_____	-	+ $ 1,431

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 Livestock & Each 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 acre
Other dairy & du.-pur.cattle	3.5 per an. unit*	Corn husked	.7 per acre
Beef breeding herd	3.5 per an. unit*	Corn, silage	1.0 per acre
Feeder cattle	.25 per 100 lbs.	Corn, fodder	1.0 per acre
Sheep - farm flock	1.5 per an. unit*	Alfalfa hay	.6 per acre
Sheep - feeders	.3 per 100 lbs.	Other hay crops	.4 per acre
Hogs	.2 per 100 lbs.	Legume seed	1.0 per acre
Hens	20.0 per 100 hens	Grass silage	.6 per acre
Potatoes	3.8 per acre		

* 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 1,100 pounds of 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 25 per cent of the range according to earnings was $7127 and of those in the lower 25 per cent was $-1375. This is a range of $8502 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

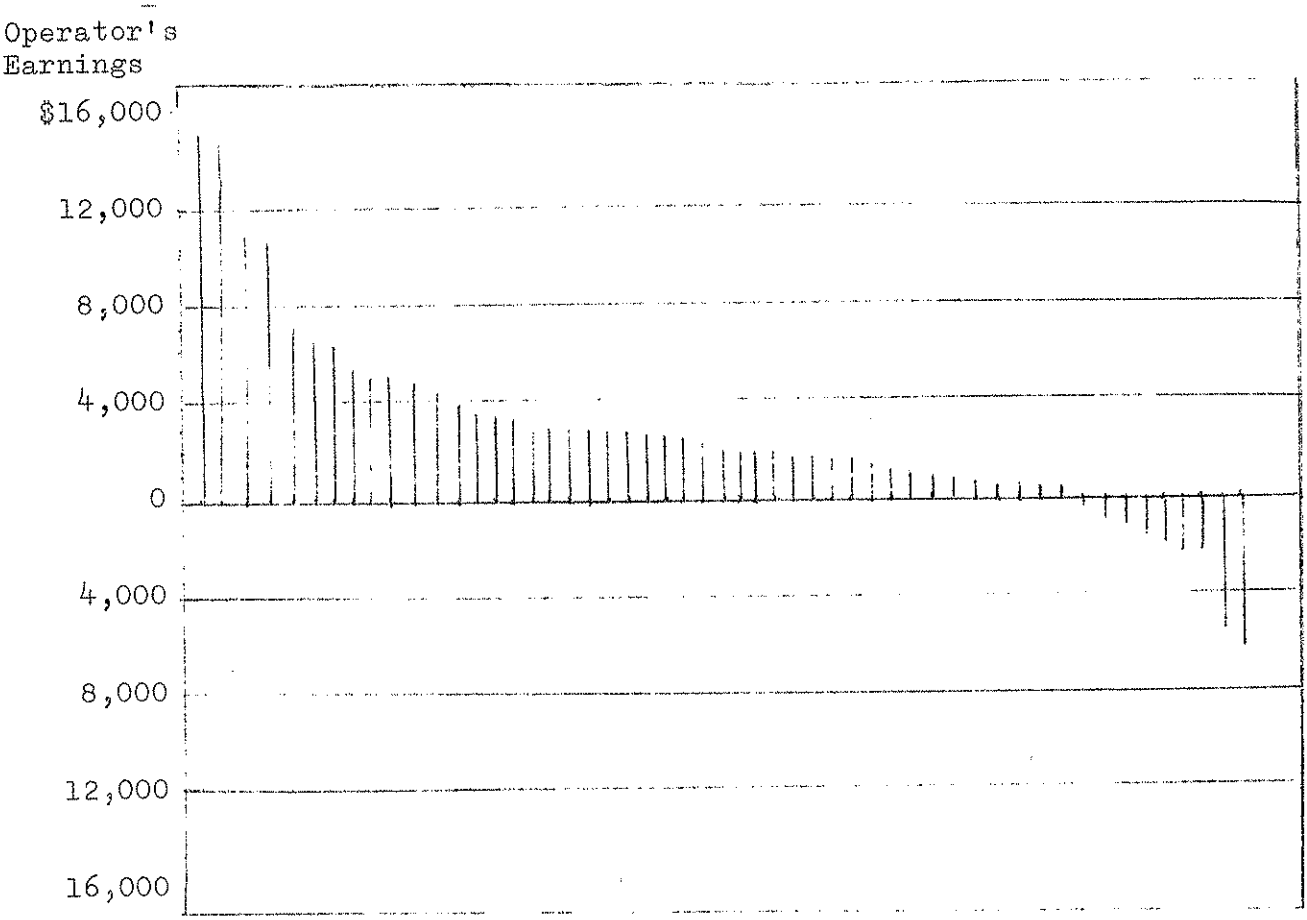

Fig. 1 Range in operator's earnings
Each line represents the earnings of one farmer

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 8. Measures of Farm Organization and Management Efficiency, 1959

Measures used in chart on page 11	Your farm	Average of 53 farms	12 most prof. farms	12 least prof. farms
Operator's earnings	$_____	$ 2515	$ 7679	$-1749
(1) Crop yields*	_____	100	112	86
(2) Percent tillable land in high return crops**	_____	50	51	50
(3) Return for $100 feed to productive livestock***	_____	100	103	113
(4) Productive livestock units per 100 acres****	_____	10.8	13.8	8.4
(5) Size of business - work units	_____	335	487	215
(6) Work units per worker	_____	206	280	123
(7) Power, machinery, equipment and building expense per work unit	$_____	$12.25	$ 6.77	$25.03
Items related to some of the above measures:				
Number of animal units (4)	_____	40.5	67.1	28.4
Work units on crops (5)	_____	124	151	109
Work units on productive livestock (5)	_____	211	336	17
Number of family workers (6)	_____	1.1	1.2	1.1
Number of hired workers (6)	_____	.5	.5	.5
Total number of workers (6)	_____	1.6	1.7	1.6
Power expense per work unit (7)	$_____	7.34	3.89	14.50
Crop Mach. expense per work unit (7)	$_____	2.69	1.39	5.64
Livestock equipment expense per work unit (7)	$_____	.44	.44	.76
Buildings and fencing expense per work unit (7)	$_____	1.78	1.06	4.13
Index of return for $100 feed from: (3)				
Dairy cattle (see pages	_____	100	109	114
Beef cattle-breeding herd (page	_____	100	132	102
Hogs (see page	_____	100	130	85
Sheep (see page	_____	100	122	86
Chickens (see page	_____	100	116	117
Feeder cattle (see page	_____	100	92	113

* 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 53 farms included in this summary are located between the dotted lines across the center of this page.

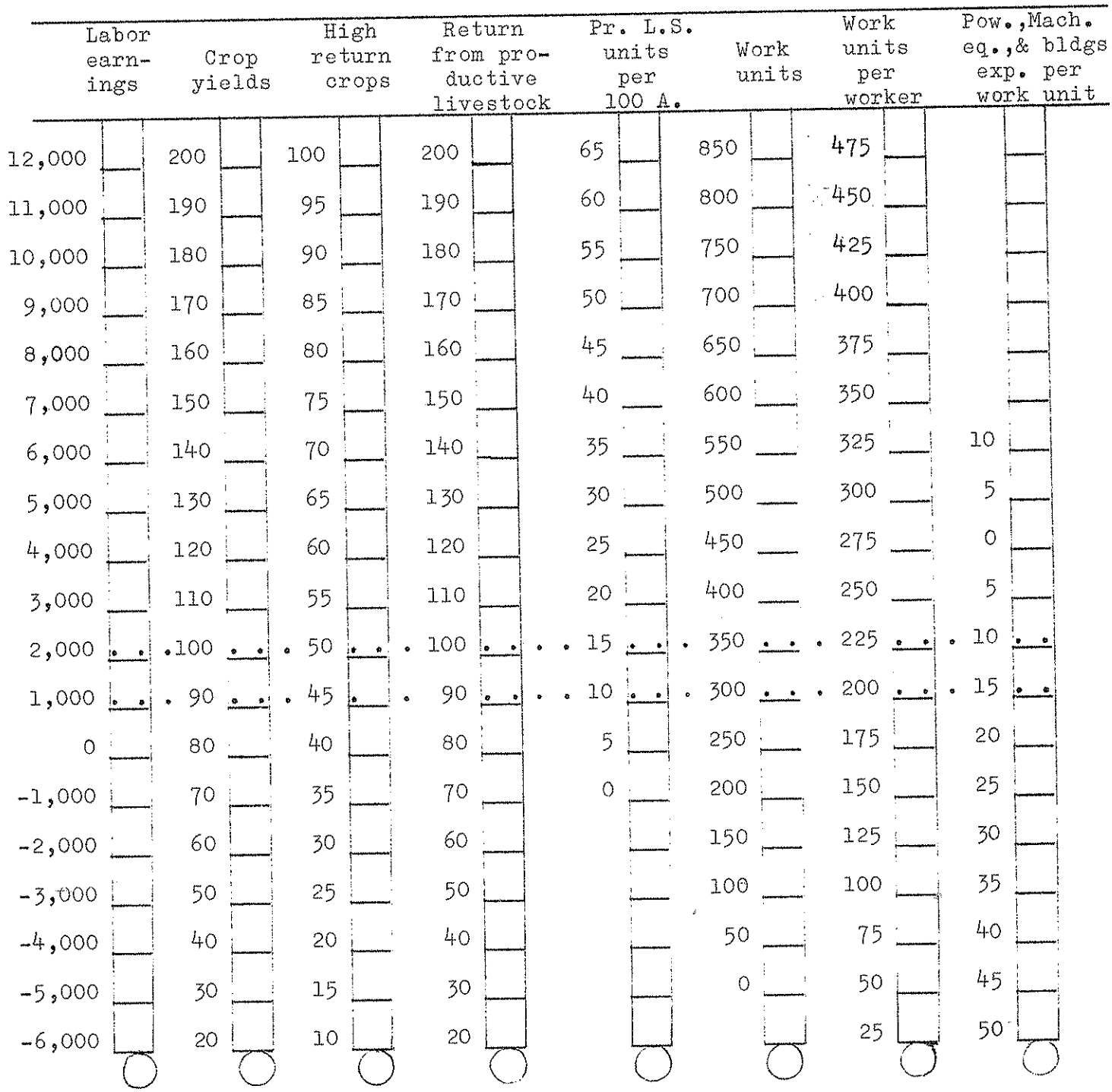

Table 9. Distribution of Acres in Farm, 1959

Crop	Crop ratings*	Your farm	Average of 53 farms
Flax	B	_____	10.3
Barley	B	_____	33.4
Wheat	A	_____	21.7
Oats & Oats Mixtures	B	_____	85.0
Rye, millet	C	_____	2.0
Total Small Grain		_____	152.4
Sugar beets	A	_____	.7
Oats and oats mix silage	B	_____	2.0
Corn grain	B	_____	.9
Corn fodder	C	_____	.3
Corn silage	B	_____	7.0
Total Cultivated Crops		_____	10.9
Alfalfa and alfalfa mixture	A	_____	43.2
Red or alsike clover hay	B	_____	2.8
Red or alsike clover seed	B	_____	2.5
Sweet clover hay	C	_____	.9
Sweet clover seed	C	_____	1.1
Other legumes and legume mixture hay	C	_____	19.0
Brome or timothy grass seed	C	_____	3.0
Brome or timothy hay	C	_____	5.5
Wild hay	D	_____	2.8
Annual hay	D	_____	3.9
Total tillable land in hay		_____	84.7
Alfalfa pasture	A	_____	1.5
Other legumes and mixtures	B	_____	3.4
Soil bank	B	_____	43.1
Other tillable pasture	D	_____	31.5
Total tillable land in pasture		_____	79.5
Tillable land not cropped	D	_____	13.5
Total Tillable Land		_____	341.0
Wild hay		_____	2.8
Non-tillable pasture		_____	31.2
Timber (not pastured)		_____	36.5
Roads and waste		_____	19.0
Farmstead		_____	9.6
Total Acres in Farm		_____	440.1
Percent land tillable		_____	77.
Percent tillable land in high return crops		_____	49.4

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

Table 10. Crop Yields Per Acre, 1959

Crop	Your farm	No. of cases	Average of farms growing each crop
Flax, bu.	____	20	10.5
Barley, bu.	____	31	24.3
Wheat, bu.	____	40	18.4
Oats, bu.	____	49	44.5
Rye, bu.	____	6	10.3
Sugar beets, tons	____	1	8.5
Corn grain, bu.	____	5	55.8
Corn fodder, tons	____	1	10.0
Corn silage, tons	____	22	6.7
Alfalfa hay, tons	____	36	1.4
Red or alsike clover hay, tons	____	7	1.5
Red or alsike clover seed, lbs.	____	6	104.5
Sweet clover hay, tons	____	1	2.1
Sweetclover seed	____	2	41.1
Other leg. & leg. mix. hay, tons	____	20	1.2
Brome or timothy seed	____	5	153.4
Brome or timothy hay, tons	____	6	.9
Wild hay, tons	____	3	.3
Annual hay, tons	____	7	.7
Oats and oats mix. silage	____	8	4.1

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 67 to 708 with an average of 285, (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, 1959

Items	Your farm	Average of 53 farms	12 most prof. farms	12 least prof. farms
Crop acres per farm	____	285	342	331
Tractor expense per crop acre	____	$3.69	$3.39	$4.63
Crop & gen. mach. exp. per crop acre	____	2.98	2.82	3.79

AMOUNT OF LIVESTOCK

The farmers cooperating in this study are predominantly livestock farmers. 68% of these farmers maintained dairy cattle, 26% poultry, 34% raised sheep, 15% kept beef cattle, 53% raised one or more hogs, and 13% raised feeder cattle.

Table 12. Amount of Livestock, 1959

	Your farm	Average of 53 farms	12 most prof. farms	12 least prof. farms
Number of milk cows	____	10.9	14.4	3.2
Number of other dairy cattle	____	12.8	13.9	3.7
Number of beef cattle (inc. feeders)	____	10.0	26.2	11.7
Number of ewes	____	29.2	41.3	27.5
Number of hens	____	218.1	168.3	469.5
Litters of pigs raised	____	4.0	.5	4.3
Pounds of hogs produced	____	4096	970	3262

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 other dual purpose cattle. The value of milk consumed by calves is not included in either the total returns or the feed cost of "all dairy" or "all dual purpose" cattle. The return over feed is not a net return, but rather the amount available from the gross income, after paying the feed bill, to cover the outlay for hired labor, power, equipment, taxes, insurance, interest and veterinary bills and to provide a return for the use of family labor and capital.

Table 13. Total Feed Costs & Returns From Your Livestock Enterprises, 1959

	Dairy or Dual Purpose Cows	Other Cattle All	Beef 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 - $73.57 to $294.75 among the 36 herds covered by this study. Some of the important factors that affected the return over feed were:

1. Rate of production (pounds butterfat per cow)
2. Price received for butterfat
3. Feeding efficiency
4. Quality of ration
5. Economy of ration (Feed cost per pound butterfat)

Table 14. Factors of Cost and Returns from Dairy Cows, 1959

Items	Your farm	Average of 36 farms	9 farms highest in butterfat per cow	9 farms lowest in butterfat per cow
Pounds of butterfat per cow	_____	300	381	160
Price rec. per lb. B.F. sold (cream)	_____	$ .62	$ .63	$ .61
Price rec. per lb. B.F. sold (milk)	_____	.92	.95	.78
Feed per cow, lbs.:				
Corn	_____	191	532	4
Small grain	_____	2451	3196	1691
Commercial feeds	_____	594	661	71
Legume hay	_____	1586	2236	739
Other hay	_____	5370	4539	6728
Fodder and stover	_____	35	-	-
Total concentrates	_____	3236	4390	1766
Total dry roughages	_____	6992	6775	7467
Silage	_____	3925	5997	1531
Feed cost per cow:				
Concentrates	$_____	$ 60.20	$ 84.31	$ 30.50
Roughages	_____	53.08	59.74	48.05
Pasture	_____	7.15	7.00	7.18
TOTAL FEED COSTS	_____	$120.43	$151.05	$85.73
Value of produce per cow:				
Butterfat sales	$_____	$235.72	$324.15	$95.35
Dairy produce used in house	_____	7.93	8.00	12.13
Milk to livestock	_____	10.46	6.33	1.25
Net increase in value of cows	_____	-10.97	5.09	-15.75
TOTAL VALUE PRODUCED	$_____	$243.13	$343.57	$92.98
RETURNS ABOVE FEED COST PER COW	$_____	$122.70	$192.52	$ 7.25
RETURNS FOR $100 OF FEED	$_____	$ 202	$ 227	$ 108
Feed cost per lb. B.F. (cents)	$_____	$ .40	$ .39	$ .53
Number of cows	_____	15.7	21.6	8.3

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. (Two herds in Table 14 sold both milk and cream and are omitted from the averages in Table 15.)

Table 15. Factors of Cost and Returns from Dairy Cows, 1959

Items	Your farm	Grade A Average of 8 farms	Grade B Average of 9 farms	Cream Average of 16 farms
Pounds of butterfat per cow	_____	347.6	304	240
Price rec. per lb. B.F. sold(m)	_____	.98	.79	.62
Feed per cow, lbs.:				
Corn	_____	433	38	18
Small grain	_____	2549	3063	1967
Commercial feeds	_____	881	210	536
Legume hay	_____	1991	957	1447
Other hay	_____	4378	7801	4919
Fodder and stover	_____	-	171	-
Total concentrates	_____	3864	3312	2522
Total dry roughages	_____	6369	8930	6366
Silage	_____	5081	2573	3234
Feed cost per cow:				
Concentrates	$_____	$ 78.06	$ 57.26	$ 41.35
Roughages	_____	57.79	48.43	49.22
Pasture	_____	7.00	7.21	7.24
TOTAL FEED COSTS	$_____	$142.85	$112.90	$ 97.81
Value of produce per cow:				
Butterfat sales	$_____	$332.19	$201.31	$144.31
Dairy produce used in house	_____	6.51	7.73	9.01
Milk to livestock	_____	2.70	6.21	23.51
Net increase in value of cows	_____	- 30.80	2.70	3.59
TOTAL VALUE PRODUCED	$_____	$310.60	$217.95	$180.42
RETURNS ABOVE FEED COST PER COW	$_____	$167.75	$105.05	$ 82.61
RETURNS FOR $100 OF FEED	$_____	$ 217	$ 193	$ 185
Feed cost per lb. B.F. (cents)	$_____	$ .41	$ .37	$ .40
Number of cows	_____	28.9	13.0	11.8

Table 16. Feed Costs & Returns from Other Dairy & Dual Purpose Cattle, 1959

Items	Your farm	Average of 36 farms	9 farms highest in butterfat per cow	9 farms lowest in butterfat per cow
Feeds per head, lbs.:				
Concentrates	_____	436	729	215
Hay and fodder	_____	2808	3268	3232
Silage	_____	1386	2536	517
Skim milk	_____	195	222	44
Whole milk	_____	108	88	25
Feed cost per head:				
Concentrates	$_____	$10.13	$ 15.56	$ 6.08
Roughages	_____	21.37	28.17	19.77
Milk	_____	5.50	5.39	1.02
Pasture	_____	3.50	3.30	3.54
TOTAL FEED COSTS PER HEAD	_____	$40.50	$ 52.42	$30.41
Net inc. in value of other cattle	_____	106.41	116.41	114.52
RETURNS ABOVE FEED COST PER HEAD	_____	65.91	63.99	84.11
RETURN FOR $100 OF FEED	$_____	$ 263	$ 222	$ 376
Number of head of other cattle	_____	18.5	22.6	10.1

Table 17. Feed Costs and Returns from All Dairy & Dual Purpose Cattle, 1959

Items	Your farm	Average of 36 farms	9 farms highest in butterfat per cow	9 farms lowest in butterfat per cow
Feeds per animal unit, lbs:				
Concentrates	_____	2292	3379	1259
Hay and fodder	_____	6484	6696	7089
Silage	_____	3500	5681	1343
TOTAL FEED COSTS PER ANIMAL UNIT	$_____	$101.77	$131.41	$75.54
Value of produce per animal unit:				
Dairy products	$_____	$153.45	$217.47	$66.75
Net inc. in val. of dairy cattle	_____	71.98	83.84	77.10
TOTAL VALUE PRODUCED	$_____	$225.43	$301.31	$143.85
RETURNS ABOVE FEED PER ANIMAL UNIT	$_____	$123.66	$169.90	$ 68.31
RETURNS FOR $100 OF FEED	$_____	221	229	190
Animal units of cattle	_____	25.0	32.9	13.3

Table 18. Feed Costs and Returns from Farm Flock of Sheep, 1959

Items	Your farm	Average of 18 farms
Feeds per head, * lbs.		
Concentrates	_____	140
Legume hay	_____	439
Other hay	_____	345
Silage	_____	206
Feed cost per head:		
Concentrates	$_____	$ 2.51
Roughages	_____	5.49
Pasture	_____	1.26
TOTAL FEED COSTS	$_____	$ 9.26
Value of produce per head:		
Wool	$_____	$ 4.73
Net increase in value of sheep	_____	11.46
TOTAL VALUE PRODUCED	$_____	$16.19
RETURNS ABOVE FEED COST PER HEAD	$_____	$ 6.93
RETURNS FOR $100 OF FEED	$_____	$ 175
Price per cwt. of lambs sold	$_____	$17.57
Price per lb. of wool sold (cents)	_____	50.0
Pounds of wool per sheep sheared	_____	10.4
Number of ewes kept for lambing	_____	86
Per cent lamb crop**	_____	102%
Per cent death loss**	_____	11.0%
Pounds of sheep produced	_____	7147

* Two lambs under six months of age considered as one head.
** Lambs which die during month of birth are not included.

CHICKENS

Twenty-six 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, 1959*

Items	Your farm	Average of 14 farms
Feed per hen, lbs.:		
Grain	_____	57
Commercial feeds	_____	42
Total concentrates	_____	99
Milk	_____	1
TOTAL FEED COST PER HEN	$_____	$2.51
Value of Produce per Hen:		
Eggs sold and used in house	$_____	$3.33
Net inc. in value of chickens	$_____	-.54
TOTAL VALUE PRODUCED	$_____	$2.79
RETURNS ABOVE FEED COST PER HEN	$_____	$ .28
RETURNS FOR $100 OF FEED	$_____	$ 111
Price rec'd per doz. eggs sold (cents)	$_____	$ .24
Eggs laid per hen	_____	166
Ave. no. of hens on farm during year	_____	510
Percent death loss of hens	_____	10%

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

Table 20. Feed Costs and Returns from Feeder Cattle, 1959

Items	Your farm	Average of 7 farms
Feed per cwt. beef produced, lbs.:		
Corn		49
Small grain		244
Commercial feeds		39
Legume hay		292
Other hay		402
Total concentrates		332
Total hay and fodder		694
Silage		311
Feed cost per cwt. beef produced:		
Concentrates	$	$ 5.12
Roughages		6.17
Pasture		.98
TOTAL FEED COSTS		$12.27
Net increase in value of feeders	$	$18.81
Returns above feed per cwt. beef produced		6.54
Returns for $100 feed		153
Price paid per cwt. beef bot.		14.86
Price rec'd for feeders sold		31.18
Number of animal units		20.8
Pounds of beef produced		17074

Table 21. Feed Costs and Returns from Beef Cattle, 1959

Items	Your farm	Average of 8 farms
Feeds per animal unit, lbs.:		
Concentrates		82
Legume hay		2650
Other hay		1435
Silage		3138
Feed Cost per animal unit:		
Concentrates	$	$ 1.91
Roughages		33.93
Pasture		7.68
TOTAL FEED COSTS	$	$43.52
Value of produce per animal unit:		
Dairy products	$	$ .42
Net increase in value of animals		80.42
TOTAL VALUE PRODUCED	$	$80.84
RETURNS ABOVE FEED COST PER ANIMAL UNIT	$	$37.32
RETURNS FOR $100 OF FEED	$	$ 186
Number of animal units in the herd		27.3

LABOR EARNINGS CORRELATED WITH EXCELLED FACTORS

Studies of earnings of farmers in this area show that there are se major management factors causing variations in earnings among farmers within a given year. These seven factors are (1) crop yields, (2) choi 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 manageme factors on earnings is shown in Table 24. The farmer's earnings are determined to a considerable extent by his accomplishments in these se factors.

Table 24.

No. of factors in which farmers excelled	No. of farms	Average Labor Earnings
0	1	$-2309
1 or 2	11	92(
3 or 4	20	1157
5 or 6	16	311(
7	5	1051

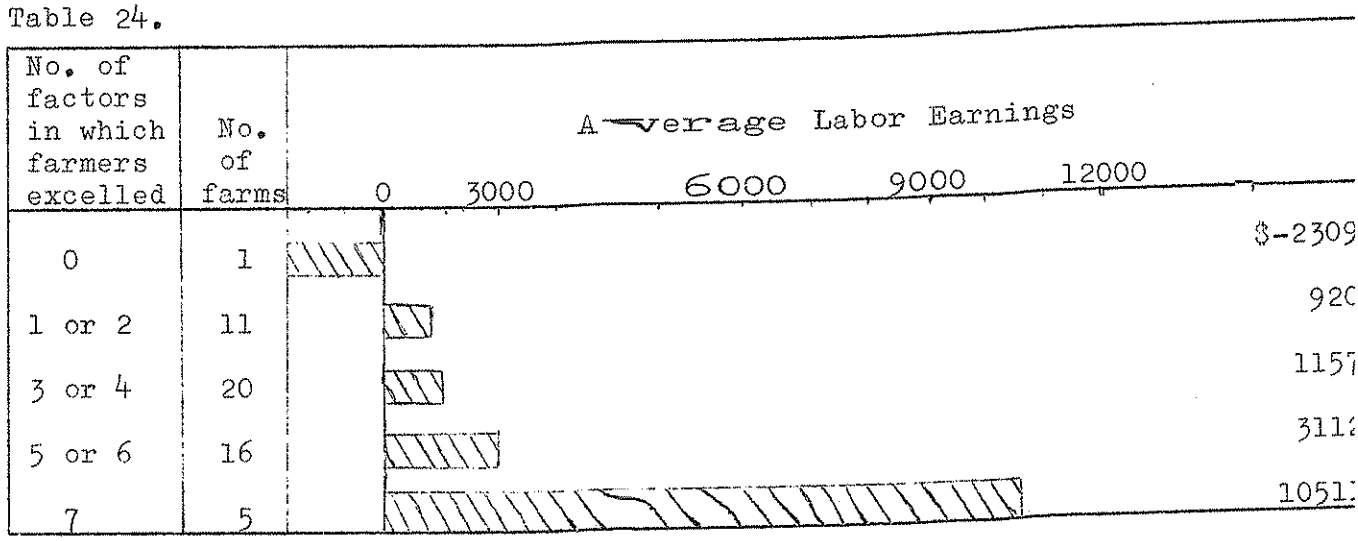

Table 24 indicates that it will be worth while for each co-operat to study carefully his ranking on pages 10 and 11 and learn his standi in respect to each of the above factors and the elements of strength weakness in his farm business.

Table 25. Summary of Farm Earnings by Years

Years	1955	1956	1957	1958	1959
Number of Farms	50	60	54	52	53
FARM RECEIPTS					
Dairy and dual-purpose cattle	$ 613	$ 833	$ 936	$ 1311	$ 1265
Dairy products	2305	2606	2992	3093	2603
Beef cattle (including feeders)	361	282	350	565	1033
Hogs	227	298	343	609	713
Sheep and wool (including feeders)	395	262	279	274	528
Horses	10	1	7	2	8
Poultry (including turkeys)	56	226	226	24	1095
Eggs	417	271	252	388	408
Honey sold	41	70	74	90	159
Corn (includes soil bank in 1959)	1	14	62	1	207
Small grain	3202	3318	2405	2741	2859
Other crops	22	485	94	155	223
Mach. & equip. sold & gas tax refund	172	229	386	160	277
Pulp sold	-	173	26	-	-
Income from work off the farm	179	278	238	314	254
Miscellaneous	214	268	264	534	321
(1) Total farm sales	8214	9614	8934	10261	11951
(2) Increase in farm capital	370	535	-	1355	1979
(3) Family living from the farm	277	284	250	286	314
(4) Total farm receipts (1)+(2)+(3)	8861	10433	9184	11902	14244
FARM EXPENSES					
Dairy and dual-purpose cattle bought	188	380	169	228	394
Beef cattle bought (incl. feeders)	18	22	27	478	575
Hogs bought	12	16	58	73	46
Sheep bought (including feeders)	23	21	16	76	173
Horses bought	8	4	2	3	44
Bees bought	18	29	52	56	35
Poultry bought (including turkeys)	39	61	76	39	214
Misc. livestock expense	177	195	202	228	226
Feed bought	460	696	800	896	1619
Fertilizers	334	295	238	398	472
Other crop expense	567	573	550	461	604
Custom work hired	327	390	268	341	372
Gas, oil and grease bought (f.s.)	855	800	826	860	828
Rep. of mechanical power (f.s.)	295	313	315	338	388
Repair and upkeep of real estate	116	86	130	107	112
Repair and upkeep of crop & gen. mach.	222	220	208	232	214
Repair and upkeep of livestock equip.	61	47	52	52	60
Wages of hired labor	398	444	538	549	392
Electricity expense (farm share)	152	137	164	164	174
Real estate & pers. property taxes	370	345	382	403	435
General farm expense	101	164	123	130	132
(5) Total cash operating expense	4742	5238	5196	6112	7509
(6) Cap. purchases-mech. power (f.s.)	635	421	596	505	616
(7) Cap. purchases-crop & gen. mach.	803	863	411	456	530
(8) Cap. purchases-livestock equip.	84	61	235	65	133
(9) Cap. purchases-bldgs. & fencing	450	254	959	454	1323
(10) Total farm purchases (5) to (9)	6713	6837	7397	7592	10111
(11) Decrease in farm capital	-	-	200	-	-
(12) Interest on farm capital	1303	1234	1269	1249	1287
(13) Unpaid family labor	140	199	123	272	222
(14) Board furnished hired labor	76	72	121	117	109
(15) Total farm expenses (10) - (14)	8232	8342	9110	9230	11729
(16) Labor earnings (4) - (15)	629	2091	74	2672	2515
(17) Net cash income (1) - (10)	$1501	$2777	$1537	$ 2669	$ 1840

CROP SUMMARY

The following summary is a two year average (1958-59) of costs and returns on ten farms. In 1958 there were ten expense records detailed enough to get accurate figures on costs and returns on each crop. The same books were used in 1959. The table below represents a two year average of these ten farms. The power and machinery costs represent gas, oil, repair, custom work hired, and depreciation. Other expenses include seed, week spraying, fertilizer, seed treating, etc. The "net per acre" does not include any charges for land or labor.

Table 26. Costs and Returns on Crops

Your farm	Crop	Yield per A.	Price	Gross Inc per acre	Power, Mach exp. per A.	Other exp. per acre	Total exp.	Net per acre
	Oats	54.1	$ .54	$29.39	$7.86	$5.28	$13.14	$16.25
1958								
1959								
	Barley	31.1	.84	26.45	7.18	4.67	11.85	14.60
1958								
1959								
	Flax	9.1	2.88	28.12	8.11	3.30	11.41	16.71
1958								
1959								
	Wheat	29.2	1.87	55.52	7.42	8.40	15.82	39.70
1958								
1959								
	Alfalfa hay	1.3	13.22	17.18	9.03	2.52	11.55	5.62
1958								
1959								
	Corn silage	6.1	4.78	29.21	15.26	4.37	19.63	9.58
1958								
1959								