LETS LOOK AT THE RECORD

1965 Annual Report

VOCATIONAL AGRICULTURE FARM MANAGEMENT PROGRAM

NORTHWESTERN MINNESOTA

REPORT NO. 11

AREA VOCATIONAL TECHNICAL SCHOOL

THIEF RIVER FALLS, MINNESOTA

In Cooperation With

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

April 1966

1965 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 Agricultural Education Department of the University of Minnesota is conducting a farm management program. The program was initiated in 1955, making eleven years of farm business analysis for farmers who are enrolled in adult or young farmer classes in the public schools of a twelve county area. Awards were made to the following farmers for 10 years of participation in this program: Mr. & Mrs. Arnold Anton, Mr. & Mrs. Erling Lundeen, Mr. & Mrs. Arnold Stanley, Fredolph Swanson, and Mr. & Mrs. Harvey Troska. 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 Pete Probasco of the Area Vocational-Technical School at Thief River Falls. Clerical assistants for this project were: Eunice Hanson, Phylis Moum, Gladys Narverud, Joyce Peterson, Marie Sorensen and Katherine Freeman.

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 seventeen schools in Northwestern Minnesota. The following tabulation shows the number of farmers submitting 1965 farm records for analysis, the schools cooperating and the names of the Vo-Ag instructors from these schools.

School	No. of Records	Instructor
Ada	4	Lowell Gunderson
Climax	1	George Nornes
Fergus Falls	2	Dick Hanson
Fertile	30	Conrad Carlson
Fisher	4	Winslow Helt
Fosston	1	Dean McNelly
Frazee	1	Wayne Stevens
Goodridge	4	Wally Shodean
Greenbush	6	Bernard Nelson
Halstad	5	Pete Fog
Karlstad	6	Rey Ward
Lancaster	5	Wondell Francis
Middle River	5	Fred Fredrickson
Plummer	3	Lloyd Clementson
Perham	19	Gunder Hanson

(cont. on next page)

School (cont.)	No. of Records	Instructor
Roseau	37	Joe Freeman
Thief River Falls	49	C.E. Sisler
Thief River Falls	12	Verne Spengler
Areas not served by Vo-Ag Depts.	8	Pete Probasco Vo-Ag Coordinator

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

INVESTMENT IN FARMING

The capital investment per farm varied from $4952 to $334,300. The average investment for all farms included in this report and for the forty high and the forty low in operator's labor earning is shown on Table 2.

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 3 shows the earnings statement on a cash basis and Table 4 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 6.

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

1965 IN A NUTSHELL

	1964	1965
Return to Capital & Family Labor	$_____	$_____
Net Worth	_____	_____
Ratio of Assets to Liabilities	_____	_____
Expenses per Dollar Income	_____	_____
Return per Dollar Invested	_____	_____

SIZE

Work Units - (One work unit equals one ten hour day)	_____	_____

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 1. 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 1. Net Worth Statement for Those Farmers Who Kept a Complete Record of All Assets and Liabilities, 1965

Items	Your farm Jan. 1	Your farm Dec. 31	186 farms Jan. 1	186 farms Dec. 31
Total acres in farm	____	____	507	
Total farm capital	$____	$____	$39999	$42436
Stocks and bonds	____	____	435	463
Life insurance	____	____	442	466
Accounts receivable	____	____	--	3
Shares in marketing organ.	____	____	520	535
Outside real estate	____	____	218	366
Cash on hand and in bank	____	____	552	755
Household goods and clothing	____	____	1361	1413
Personal share auto & truck	____	____	280	318
Dwelling	____	____	2544	2568
Investment Credit	____	____	73	159
Total non-farm assets	____	____	6425	7046
TOTAL ASSETS	____	____	46424	49482
Federal Land Bank Mortgage	____	____	1080	1378
FHA real estate mortgage	____	____	2717	2712
Other mortgage on land oper.	____	____	1674	1752
Loans on other real estate	____	____	2208	2420
Production Credit. Assoc.	____	____	2250	1816
FHA chattel mortgage	____	____	973	1116
Other chattel mortgages	____	____	4132	4541
Notes payable	____	____	1371	1490
Accounts payable	____	____	1134	1270
TOTAL LIABILITIES	____	____	17539	18495
Farmers Net Worth	____	____	28885	30987
Gain or decrease in net worth	____	____		2102

WHAT IS THE CAPITAL INVESTMENT PICTURE IN OUR FARM BUSINESS?

Table 2. Summary of Farm Inventories, 1965

Items	Your farm Jan. 1	Your farm Dec. 31	Average of 202 farms Jan. 1	Average of 202 farms Dec. 31
Size of farm (acres)	———	———	507	
Size of business (work Units)*	———	———	479	
Dairy cows	———	———	$2381	$2289
Other dairy cattle	———	———	1394	1430
Beef cattle (Incl. feeders)	———	———	3699	3685
Hogs	———	———	348	600
Sheep (including feeders)	———	———	244	254
Poultry (including turkeys)	———	———	181	114
Productive livestock (total)	———	———	8247	8372
Horses, bees, dogs, nursery, rabbits	———	———	49	98
Crop, seed and feed	———	———	3627	4551
Auto & truck (farm share)	———	———	894	1042
Tractors and motors	———	———	1626	1751
Crop and general machinery	———	———	2891	3214
Livestock equipment	———	———	1018	1029
Machinery and equipment (total)	———	———	6429	7036
Land	———	———	16281	16802
Buildings, fences, etc.	———	———	5862	5981
Total farm capital	———	———	40495	42840

Items	40 most profitable farms Jan. 1	40 most profitable farms Dec. 31	40 least profitable farms Jan. 1	40 least profitable farms Dec. 31
Size of farm (acres	638		445	
Size of business (work units)*	612		352	
Dairy cows	$ 1720	$1454	$2548	$2300
Other dairy cattle	877	1005	1457	1393
Beef cattle (incl. feeders)	7181	7564	3283	2982
Hogs	692	1334	123	264
Sheep (including feeders)	113	97	484	484
Poultry (including turkeys)	171	27	109	--
Productive livestock (total)	10754	11481	8004	7423
Horses, bees, etc.	172	358	18	21
Crop, seed and feed	7030	10324	2418	2235
Auto & truck (farm share)	1341	1831	784	824
Tractors and motors	2393	2663	1417	1633
Crop & general machinery	4140	4885	2782	2936
Livestock equipment	1389	1341	992	923
Machinery & equipment (total)	9263	10720	5975	6316
Land	25892	26032	15425	15772
Buildings, fences, etc.	7698	8086	5582	5550
Total farm capital	60809	67001	37422	37317

* See page 23 for an explanation of "work units".

Table 3. Summary of Farm Earnings (Cash Statement), 1965

Items	Your farm	Average of 202 farms	40 most prof. farms	40 least prof. farms
FARM RECEIPTS Here's where the money came from.				
Dairy and dual-purpose cattle	$____	$ 1251	$1090	$1416
Dairy products	____	4105	2819	3645
Beef cattle (Including feeders)	____	2525	6482	1951
Hogs	____	1166	2957	261
Sheep and wool	____	322	170	463
Horses	____	37	--	--
Honey	____	---	183	--
Poultry (including turkeys)	____	2310	7754	2011
Eggs	____	664	158	539
Crops	____	4970	11444	2894
Mach.,Equip. sold & gas tax refund	____	410	1090	401
Income from work off the farm	____	188	268	90
Miscellaneous	____	635	951	496
(1) Total farm sales	____	18683	35366	14167
(2) Increase in farm capital	____	2345	6192	--
(3) Family living from the farm	____	283	319	216
(4) Total farm receipts (1)+(2)+(3)	____	21311	41877	14383
FARM EXPENSES Here's where the money went				
Dairy & dual-purpose cattle bought	____	168	86	258
Beef cattle bought (incl. feeders)	____	641	2358	596
Hogs bought	____	66	178	103
Sheep bought	____	40	2	98
Horses bought	____	25	--	3
Bees and honey bought	____	--	105	--
Poultry bought (including turkeys)	____	425	1109	418
Misc. livestock expense	____	441	671	433
Feed bought	____	3232	7365	2747
Fertilizers	____	867	1538	590
Other crop expense	____	1017	1974	862
Custom work hired	____	659	1085	552
Gas,oil & grease bought (farm share)	____	1002	1498	904
Rep. of mechanical power (farm share)	____	523	863	426
Repair and upkeep of real estate	____	148	214	86
Repair and upkeep of crop & gen. mach.	____	418	618	413
Repair and upkeep of livestock equip.	____	95	132	96
Wages of hired labor	____	654	1385	619
Electricity expense (farm share)	____	262	306	246
Real estate & pers. prop. taxes	____	637	932	586
Tel. & general farm expense	____	272	432	256
(5) Total cash operating expense	____	11592	22851	10292
(6) Cap. purchases - mech. power (f.s.)	____	911	1848	819
(7) Cap. purchases - crop & gen. mach.	____	997	1819	754
(8) Cap. purchases - livestock equip.	____	195	211	77
(9) Cap. purchases - bldgs. & fencing	____	1255	1392	1191
(10) Total farm purchases (5) to (9)	____	14950	28121	13133
(11) Decrease in farm capital	____	--	--	105
(12) Interest on farm capital	____	2068	3123	1869
(13) Unpaid family labor	____	96	81	61
(14) Board furnished hired labor	____	86	141	81
(15) Total farm expenses (10) to (14)	____	17200	31466	15259
(16) Labor earnings (4) - (15)	____	4111	10411	-876

WHAT IS THE VALUE PRODUCED BY EACH ENTERPRISE?

Table 4. Summary of Farm Earnings (Enterprise Statement), 1965*

Items	Your farm	Average of 202 farms	40 most prof. farms	40 least prof. farms
RETURNS AND NET INCREASES				
Dairy and dual-purpose cattle	____	$ 4154	$ 2883	$ 3683
Other dairy & dual-purpose cattle	____	1214	973	1008
Beef breeding herd	____	1016	1417	736
Feeder cattle	____	971	3177	349
Hogs	____	1374	3472	306
Sheep-farm flock	____	295	153	371
Turkeys	____	2085	6519	2028
Chickens	____	410	159	6
All productive livestock	____	11519	18753	8487
Value of feed fed to livestock	____	6506	11162	5364
Return over feed from livestock	____	5013	7591	3123
Crops, seed and feed	____	7283	15079	3837
Income from labor off the farm	____	126	193	62
Agricultural conservation payments	____	274	445	180
Bees	____	50	253	--
Miscellaneous	____	458	992	316
(1) Total returns & Net increases	____	$13204	$24553	$ 7518
EXPENSES AND NET DECREASES				
Horses	$____	$ -5	$ --	$ --
Truck	____	391	727	340
Auto (farm share)	____	371	495	336
Tractor	____	1065	1563	1012
Elec. & gas engine exp.(farm share)	____	261	308	243
Hired power	____	333	470	299
Total power	____	2416	3563	2230
Crop and general machinery	____	1191	1954	1100
Livestock equipment	____	272	377	208
Buildings, fencing & tiling	____	722	1057	739
Misc. productive livestock expense	____	451	758	433
Labor	____	1063	1946	973
Real Estate taxes	____	449	692	406
Personal property tax	____	189	240	180
Insurance	____	117	165	119
General farm	____	155	267	137
Interest on farm capital	____	2068	3123	1868
(2) Total expenses & net decreases	____	9093	14142	8394
(3) Operator's earnings (1)-(2)	____	4111	10411	-876

*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 6.

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 6. These farmers spent an average of $295 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 6. Household and Personal Expenses for Those Farms Which Kept Complete Accounts of These Expenses, 1965

Items	Your farm	Average of 99 farms	20% most prof. farms	20 % least prof. farms
Number of persons-family	____	5.3	5.4	4.2
Number of adult equilvalent-family	____	3.0	4.0	3.3
Food and meals bought	$____	$1025	$1341	$ 824
Operating and supplies	____	237	284	222
Furnishings and equipment	____	188	234	154
Clothing and clothing material	____	328	417	269
Personal care, personal spending	____	113	152	103
Education, recreation and development	____	179	302	113
Gifts and special events	____	98	138	94
Medical care and health insurance	____	413	516	358
Church, welfare	____	173	268	104
Personal share of auto & truck expense	____	158	206	141
Operator's share of upkeep on dwelling	____	42	88	21
Household share of elec. & tel. expense	____	96	105	116
Total cash living expense	$____	$3050	$4051	$2521
H.H. & Personal share of new auto	____	128	303	73
New dwelling	____	87	--	118
Taxes and other deductions	____	6	--	8
Life insurance	____	196	332	201
Other savings and investments	____	69	160	31
Total H.H. & Personal cash expense	$____	$3536	$4846	$2952
Total family living from the farm	____	333	390	230
Total cash expense & perquisites	$____	$3869	$5236	$3182
Receipts:				
Return to capital and family labor	$____	$5736	$11759	$1523
Income from investments	____	19	67	7
Sale of outside investments	____	5	24	-
Other personal income	____	248	371	499

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 $10,411 and of those in the lower 20 per cent was -$876. This is a range of $11,287 between the average 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) returns from livestock
3) amount of livestock
4) size of business
5) work units per worker
6) control over expenses

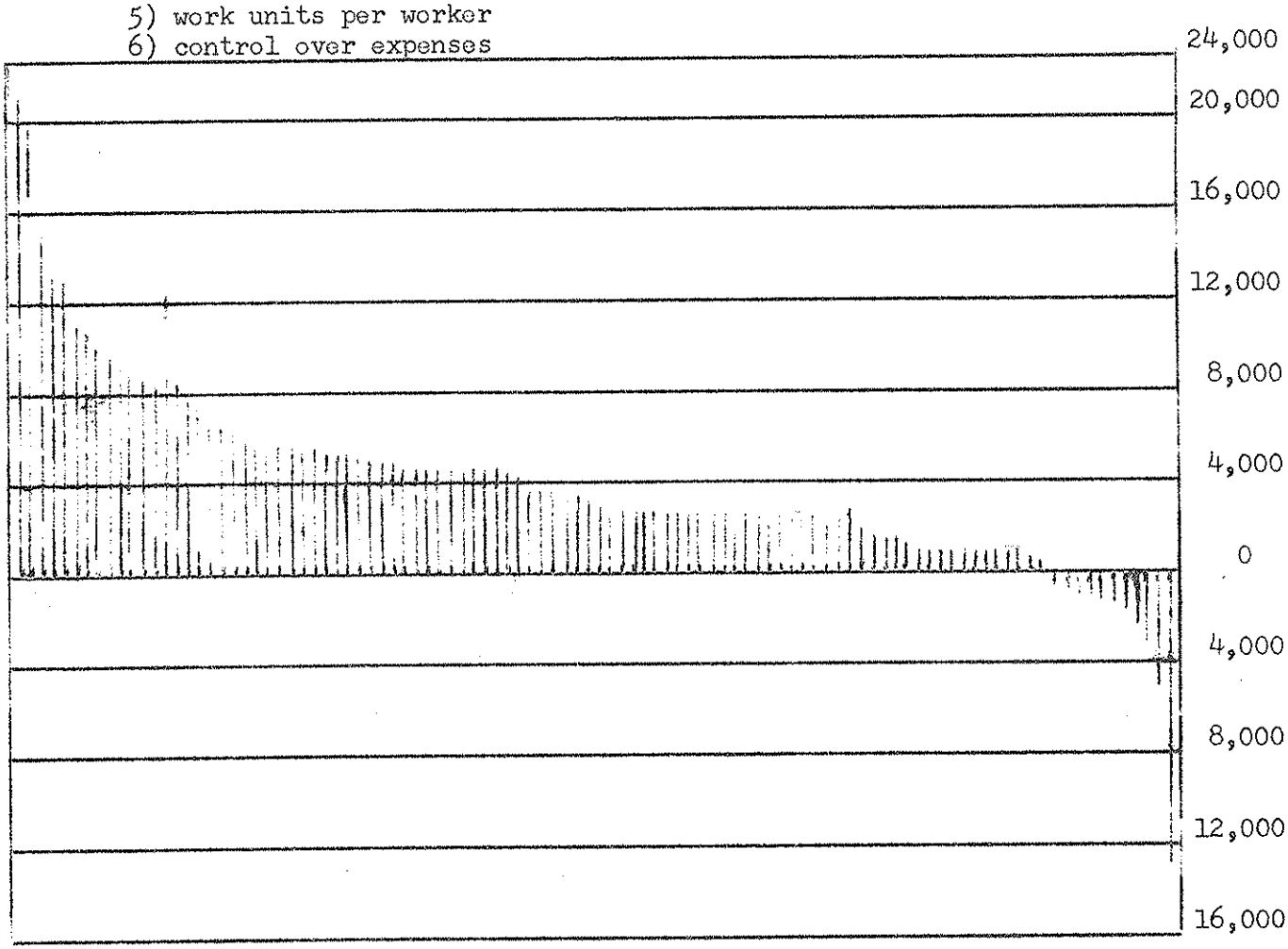

Fig. 1 Range in Operator's earnings. Each line represents the earnings of two farmers.

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, 1965

Measures used in chart on page 12.	Your farm	Average of 202 farms	40 most prof. farms	40 least prof. farms
Operator's earnings	$____	$4111	$10411	$-876
(1) Crop yields*	____	100	106	79
(2) Average net per acre on crops**	____	13.21	20.49	5.06
(3) Return for $100 feed to productive livestock***	____	100	108	92
(4) Productive livestock units per 100 acres****	____	13.5	16.1	12.4
(5) Size of business-work units	____	479	612	352
(6) Work units per worker	____	329	365	288
(7) Power, machinery, equipment and building expense per work unit	____	$10.90	$12.27	$12.13
Items related to some of the above measures:				
Number of animal units (4)	____	67.6	108.0	48.6
Work units on crops (5)	____	205	291	141
Work units on productive livestock (5)	____	273	314	211
Work units on other productive work (5)	____	1	8	--
Number of family workers (6)	____	1.3	1.2	1.0
Number of hired workers (6)	____	.2	.5	.2
Total number of workers (6)	____	1.5	1.7	1.2
Power expenses per work unit (7)	$____	$5.73	$6.29	$6.32
Crop Mach. expense per work unit (7)	$____	2.82	3.45	3.12
Livestock equipment expense per work unit (7)	$____	.64	.66	.59
Buildings and fencing expense per work unit (7)	$____	1.71	1.87	2.10
Index of return for $100 feed from:(3)				
Dairy cattle (see pages 15,16 &17)	____	100	108	99
Beef cattle-breeding herd (page 20)	____	100	95	97
Feeder cattle (see page 20)	____	100	108	87
Hogs (page 21)	____	100	110	52
Sheep (see page 18)	____	100	170	89
Turkey poults (page 19)	____	100	107	87
Turkey Breeder Hens (page 19)	____	100	--	83
Chickens (see page 22)	____	100	86	18

* Given as percentage of the average

** Average net per is the total net income on crops divided by the total crop acres

*** 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 11, locate your standing with respect to the various measures of farm organization and management efficiency. The averages for the 202 farmers included in this summary are located between the dotted lines across the center of this page.

	Labor earnings	Crop yields	Net per acre crops	Ret.fr. prod. livestk.	Pr.L.S. units per 100A.	work units	Work units per worker	Pow.,Mach., eq.,&bldgs. exp. per work unit
	$22,000	163	$30	163	42	920	550	$ .00
	20,000	156	28	156	39	870	525	1.25
	18,000	149	26	149	36	820	500	2.50
	16,000	142	24	142	32	770	475	3.75
	14,000	135	22	135	29	720	450	5.00
	12,000	128	20	128	26	670	425	6.75
	10,000	121	18	121	22	620	400	7.50
	8,000	114	16	114	19	570	375	8.75
	6,000	107	14	107	16	520	350	10.00
	4,000	100	12	100	13	470	325	11.25
	2,000	93	10	93	10	420	300	12.50
	0	86	8	86	7	370	275	13.75
	-2,000	79	6	79	4	320	250	15.00
	-4,000	72	4	72	1	270	225	16.25
	-6,000	65	2	65	0	220	200	17.50
	-8,000	58	0	58		170	175	18.75
	-10,000	51	-2	51		120	150	20.00
	-12,000	44	-4	44		70	125	21.25
	-14,000	37	-6	37		20	100	22.50

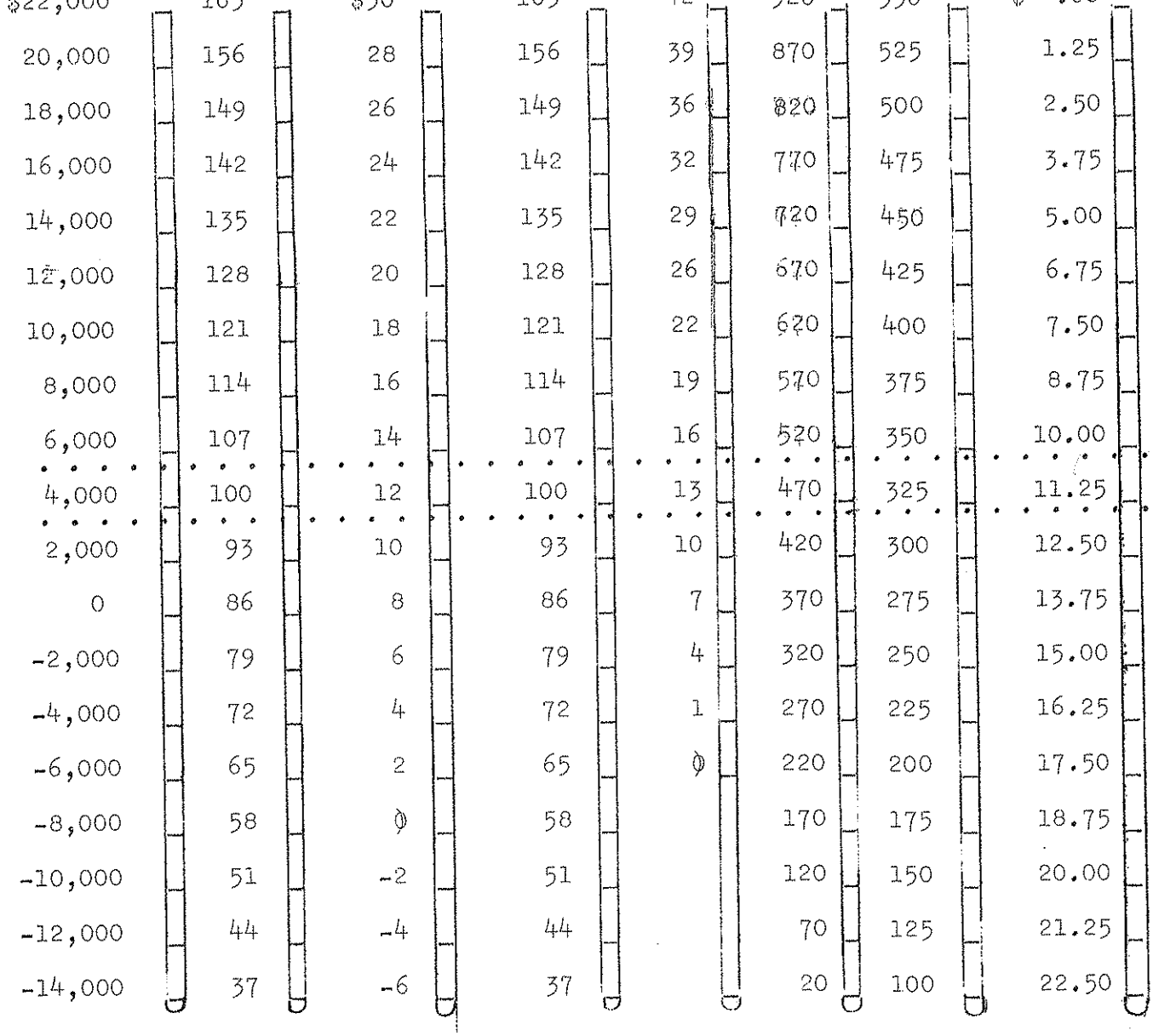

Table 8. Crop Yields Per Acre, 1965

Crop	No. of cases	Your farm	1965 Ave. yield	Acres Your Farm	1964 Ave. acres
Oats, bu.	152	____	53.1	____	117.7
Barley, bu.	59	____	43.5	____	75.8
Flax, bu.	54	____	8.2	____	41.4
Wheat, bu.	111	____	27.2	____	46.6
Soybeans, bu.	9	____	12.6	____	43.4
Potatoes, cwt	5	____	86.2	____	29.6
Red Clover seed, lbs.	10	____	170.6	____	50.0
Sweet Clover seed, lbs.	5	____	161.2	____	39.4
Trefoil seed, lbs.	2	____	53.4	____	9.5
Alfalfa Hay, tons	130	____	1.9	____	79.3
Mixed Hay, tons	30	____	1.2	____	86.3
Corn silage, tons	88	____	5.7	____	35.0
Grass silage, tons	7	____	5.1	____	15.1
Millet, lbs.	16	____	314.9	____	39.2
Sugar beets, tons	4	____	9.3	____	70.7
Corn grain, bu.	38	____	33.3	____	34.6
Oats & wheat, bu.	5	____	58.5	____	37.8
Oats & barley, bu.	7	____	50.9	____	40.9
Sunflowers, lbs.	7	____	813.3	____	74.6
Mustard, lbs.	4	____	259.3	____	81.7
Rye, bu.	12	____	22.5	____	34.2
Durum, bu.	9	____	32.8	____	61.9
Wild & soil bank hay, tons	11	____	.9	____	33.2
Timothy seed, lbs.	21	____	264.9	____	72.1
Grass hay, tons	7	____	.9	____	12.3

*Five farmers with red clover seed also harvested an average of .8 tons of hay from the same acres.

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 40 to 2561 with an average of 386, Table 9. 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, mach., and labor combined.

Table 9. Power and Machinery Expenses Per Crop Acre, 1965

Items	Your farm	Average of 202 farms	20% most prof. farms	20% least prof. farms
Crop acres per farm	____	491	332	289
Tractor expense per crop acre	$____	$3.19	$3.20	$3.50
Crop & gen. mach. exp. per crop acre	____	3.98	3.59	3.81

AMOUNT OF LIVESTOCK

The farmers cooperating in this study are predominantly livestock farmers. 50% of these farmers maintained dairy cattle, 8% poultry, 13% raised sheep, 29% kept beef cattle, 3% breeder hens, 25% raised one or more hogs, 23% raised feeder cattle, and 5% raised turkeys.

Table 10. Amount of Livestock, 1965

	Your farm	Average of 202 farms	40 most prof. farms	40 least prof. farms
Number of milk cows	_____	14.6	8.7	12.0
Number of other dairy cattle	_____	19.2	12.7	15.4
Number of beef cattle(inc. feeders)	_____	38.3	54.7	49.3
Number of ewes	_____	16.3	7.5	20.2
Number of hens	_____	101.0	43.0	--
Litters of pigs raised	_____	1.9	4.0	.1
CWT. of turkey poults	_____	11015	38605	8513

TOTAL FEED COSTS AND RETURNS FROM YOUR LIVESTOCK ENTERPRISES

The total "return over feed costs" for each class of livestock is shown in Table 11. 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 lbs.". 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 7. The value of milk consumed by calves is included in the total returns from dairy cows and in the total feed cost for other dairy cattle. The value of milk consumed by calves is not included in either the total returns of the feed cost of "all dairy". 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 11. Total Feed Costs & Returns from Your Livestock Enterprises, 1965

	Dairy cows	Other dairy	All	Beef breeding
Total returns	_____	_____	_____	_____
Total feedcost	_____	_____	_____	_____
Total return over feed	_____	_____	_____	_____

	Feeder cattle	Hogs	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 CATTLE

The quantity of feed consumed, value of feeds and returns from dairy cattle are presented in Tables 12, 14 & 15. The return over feed cost per cow varied from $-51.00 to $404.66 among the 89 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 12. Factors of Cost and Returns from Dairy Cows, 1965

Items	Your Farm	Average of 89 farms	18 farms highest in butterfat per cow	18 farms lowest in butterfat per cow
Pounds of butterfat per cow	____	361	447	249
Pounds of milk per cow	____	9995	12203	7104
Price rec'd per lb. B.F. (milk)	____	$ .97	$ .98	$ .89
Feed per cow, lbs.:				
Corn	____	638	1401	470
Small grain	____	2735	2635	2317
Commercial feeds	____	755	1298	374
Legume hay	____	6516	7125	4859
Other hay	____	874	1241	1588
Total concentrates	____	4129	5335	3161
Total dry roughages	____	7389	8366	6447
Silage	____	7331	6848	4983
Feed cost per cow:				
Concentrates	$____	$ 85.40	$115.90	$ 62.34
Roughages	$____	73.91	82.19	58.69
Pasture	$____	6.08	4.98	7.22
TOTAL FEED COST	$____	$165.39	$203.07	$ 128.25
Value of produce per cow:				
Butterfat sales	$____	$339.07	$428.16	$ 210.11
Dairy produce used in home	____	4.90	4.57	5.67
Milk to livestock	____	4.38	5.38	6.51
Net inc. in value of cows	____	-6.21	-2.06	-6.42
TOTAL VALUE PRODUCED	$____	$342.14	$436.05	$ 215.87
RETURNS ABOVE FEED COST PER COW	____	$176.75	$232.98	$ 87.62
Returns for $100 of feed	$____	$ 207	$ 215	$ 168
Feed Cost per lb. B.F. (¢)	____	.46	.45	.52
Number of cows	____	26.1	29.6	19.4

DAIRY CATTLE

In Table 12 the costs and returns are compared on the basis of level of production. Table 13 shows the same dairy herds compared on the basis of how the product is marketed.

Table 13. Factors of Cost and Returns from Dairy Cows, 1965

ITEMS	Your Farm	Grade A Average of 41 farms	Grade B Average of 48 farms
Pounds of butter fat per cow	____	387	328
Pounds of milk produced per cow	____	10711	9102
Price rec. per lb. B.F. sold	____	$ 1.03	$ .87
Feed per cow, lbs.:	____		
Corn	____	943	258
Small Grain	____	2982	2428
Commercial feeds	____	843	645
Legume hay	____	6936	6046
Other hay	____	811	951
Total Concentrates	____	4769	3331
Total dry roughages	____	7748	6998
Silage	____	8886	5392
Feed cost per cow:			
Concentrates	$____	$ 97.31	$ 70.55
Roughages	____	81.90	64.19
Pasture	____	5.38	6.95
TOTAL FEED COST	$____	$184.59	$141.69
Value of produce per cow:			
Butter fat sales	$____	$388.99	$276.83
Dairy produce used in home	____	3.95	6.09
Milk fed to livestock	____	4.64	4.05
Net increase in value of cows	____	-7.56	-4.53
TOTAL VALUE PRODUCED	$____	$390.02	$282.44
RETURNS ABOVE FEED COST PER COW	$____	$205.43	$140.75
Returns for $100 of feed	$____	$ 211	$ 199
Feed cost per lb. B.F. (cents)	____	.48	.43
Number of cows	____	31.4	21.5

Table 14. Feed Costs & Returns from Other Dairy Cattle, 1965

Items	Your Farm	Average of 89 farms	18 farms highest in butterfat per cow	18 farms lowest in butterfat per cow
Feed per head, lbs.:				
Concentrates	_____	559	690	485
Hay and fodder	_____	2895	3219	1828
Silage	_____	1745	1357	1166
Skim Milk	_____	7	--	16
Whole Milk	_____	99	118	166
Feed cost per head:				
Concentrates	$_____	$13.87	$16.69	$11.11
Roughages	_____	25.05	27.08	15.74
Milk	_____	3.30	3.82	5.51
Pasture	_____	3.35	2.95	3.82
TOTAL FEED COSTS PER HEAD	_____	$45.57	$50.54	$36.18
Net inc. in value of other cattle	_____	$73.19	$89.33	$62.62
RETURNS ABOVE FEED COST PER HEAD	_____	$27.62	$38.79	$26.44
Return for $100 of feed	_____	$ 161	$ 177	$ 173
Number of head of other cattle	_____	35.0	41.8	23.0

Table 15. Feed Costs and Returns from All Dairy Cattle, 1965

Items	Your Farm	Average of 89 farms	18 farms highest in butterfat per cow	18 farms lowest in butterfat per cow
Feed per cow, lbs:				
Concentrates	_____	4879	6311	3734
Hay and fodder	_____	11277	12917	8607
Silage	_____	9675	8767	6360
TOTAL FEED COSTS PER COW	$_____	$222.14	$269.15	$164.48
Value of produce per cow:				
Dairy products	$_____	$343.97	$432.73	$215.78
Net inc. in value of dairy cattle	$_____	$ 92.08	$124.27	$ 67.55
TOTAL VALUE PRODUCED	$_____	$436.05	$557.00	$283.33
RETURNS ABOVE FEED PER COW	$_____	$213.91	$287.85	$118.85
Returns for $100 of feed	$_____	$ 196	$ 207	$ 172
Number of cows	_____	26.1	29.6	19.4

Table 16. Feed Costs and Returns from Farm Flock of Sheep, 1965

Items	Your Farm	Ave. of 26 farms	Ave. of 5 high in ret. above feed cost	Ave. of5 low in ret. above feed cost
Feeds per Ewe*, lbs.:				
Concentrates	____	146	200	221
Legume hay	____	604	1044	639
Other hay	____	400	21	514
Silage	____	11	4	--
Feed cost per ewe:				
Concentrates	$____	$ 2.64	$ 4.13	$ 3.96
Roughages	____	7.00	8.44	8.33
Pasture	____	1.92	2.27	1.99
TOTAL FEED COSTS	$____	$11.56	$14.84	$14.28
Value of produce per ewe:				
Wool	$____	$ 5.51	$ 6.70	$ 4.28
Net increase in value of sheep	____	20.65	31.81	12.24
TOTAL VALUE PRODUCED	$____	$26.16	$38.51	$16.52
RETURNS ABOVE FEED COST PER EWE	$____	$14.60	$23.67	$ 2.24
Returns for $100 of feed	$____	$ 226	$ 259	$ 116
Price per cwt. of lambs sold	$____	$23.28	$24.63	$22.97
Price per lb. of wool sold (¢)	$____	64.7	64.8	67.7
Pounds of wool per sheep sheared	____	8.1	8.8	6.4
Number of ewes kept for lambing	____	85.0	95.4	81.0
Per cent lamb crop**	____	106	146	73
Per cent death loss**	____	12.7	9.3	17.5

* Average number of sheep minus rams.
** Lambs which die during month of birth not included.

Table 17. Feed Costs and Returns from Turkey Breeder Hens, 1965

Items	Your farm	Average of 6 farms
Feed per hen, lbs.:		
Maintenance Feed	____	70
Breeder Feed	____	142
Total concentrates	____	212
TOTAL FEED COST PER HEN	$____	$6.75
Value of produce per hen:		
Eggs sold	$____	$16.07
Net inc. in value of breeder hens	$____	-.41
TOTAL VALUE PRODUCED	$____	$15.66
RETURNS ABOVE FEED COST PER HEN	$____	8.91
Returns for $100 of Feed	$____	2.32
Price per egg (cents)	$____	24.8
Eggs per hen	____	66.1
Ave. no. of hens on farm during year	____	862.3

Table 18. Feed Costs and Returns from Turkey Poults, 1965

Items	Your farm	Average of 11 farms
Feed per cwt.:		
Grain	____	94
Commercial feeds	____	317
Total concentrates	____	411
TOTAL FEED COST PER CWT.	$____	$12.95
Net inc. in value of turkeys per cwt.	$____	$18.12
Return above feed cost per cwt.	$____	$ 5.17
Return for $100 of feed	$____	$ 140
Number of poults purt on feed	____	10172
% death loss	____	9.5%
Price per pound sold	$____	21.4
Weight per bird sold	____	20.2
Pounds turkey produced	____	189752

Table 19. Feed Costs and Returns from Feeder Cattle, 1965

Items	Your Farm	Average of 28 farms	6 most prof. farms	6 least prof. farms
Feed per cwt. beef produced, lbs.:				
Corn	____	119	116	---
Small grain	____	339	253	689
Commercial feeds	____	90	28	21
Legume hay	____	377	304	220
Other hay	____	75	23	295
Fodder	____	1304	1983	497
Milk	____	---	--	--
Total concentrates	____	548	397	710
Total hay and fodder	____	454	327	515
Silage	____	1302	1983	497
Feed cost per cwt. beef produced:				
Concentrates	$____	$10.03	$ 8.38	$14.38
Roughages	$____	6.55	5.99	4.98
Pasture	$____	.75	2.14	.96
Milk	$____	---	--	---
TOTAL FEED COSTS	$____	$17.33	$ 16.51	$20.32
Net increase in value of feeders	$____	$25.40	$ 33.46	$18.12
Returns above feed per cwt. beef prod.	$____	$ 8.07	$ 16.95	$-2.20
Returns for $100 feed	$____	$ 147	$ 203	$ 89
Price paid por cwt. beef bought	$____	$20.61	$ 18.51	$19.29
Price rec'd for feeders sold	$____	$21.32	$ 21.97	$21.40
Number of animal units	____	60.7	75.1	42.0
Pounds of beef produced	____	25,457	27,931	[illegible]

Table 20. Feed Costs and Returns from Beef Cattle, 1965

Items	Your Farm	Average of 45 farms	9 most prof. farms	9 least prof. farms
Feed per cow, lbs.:				
Concentrates	____	521	888	1251
Legume hay	____	2838	3412	4355
Other hay	____	1911	1583	740
Fodder	____	151	--	--
Silage	____	3550	2355	2988
Feed cost per cow:				
Concentrates	$____	$ 9.71	$18.42	$15.71
Roughages	____	43.33	44.14	51.17
Pasture	____	7.23	5.71	6.32
TOTAL FEED COSTS	$____	$60.27	$68.27	$73.20
Value of produce per cow:				
Dairy products	$____	$ .16	$ --	$ --
Net increase in value of animals	$____	85.37	131.71	58.62
TOTAL VALUE PRODUCED	$____	$85.53	$131.71	$58.62
RETURNS ABOVE FEED COST PER COW	$____	$25.26	$ 63.44	$-14.58
Returns for $100 of feed	$____	$ 142	$ 193	$ 80
Number of cows in the herd	____	44.6	36.0	37.1
Per cent calf crop	____	91.0	94.0	87.0

Table 21. Feed Costs and Returns from Market Hogs, 1965

Items	Your farm	Average of 30 farms	6 most prof farms	6 least prof. farms
Feed per cwt. of hogs produced, lbs.:				
Corn	____	196	290	237
Small grain	____	208	129	237
Commercial feeds	____	129	142	203
Total concentrates	____	533	561	677
Alfalfa	____	15	42	1
Feed cost per cwt. hogs produced:				
Alfalfa & silage	$____	.14	.46	.01
Concentrates	$____	$12.31	$10.69	$16.67
Pasture	$____	.01	.01	--
TOTAL FEED COST	$____	$12.46	$11.16	$16.68
Net increase in valuo per cwt.	$____	$23.83	$26.36	$21.70
RETURNS ABOVE FEED PER CWT.	$____	$11.37	$15.20	$ 5.02
Returns for $100 feed	$____	$ 191	$ 236	$ 130
Price received per cwt. hogs sold	$____	$21.16	$23.07	$20.11
Pounds of hogs produced	____	28842	36527	21338
Total no. of litters raised	____	21.4	29.4	20.3
No. of pigs born per litter	____	9.6	9.1	8.4
No. of pigs weaned per litter	____	8.1	8.2	7.4

Table 22. Feed Costs and Returns from Feeder Pig Production, 1965

Items	Your farm	Average of 13 farms	3 most prof. farms	3 least prof. farms
Feed per litter, lbs.:				
Corn	____	469	418	--
Small grain	____	1470	766	2343
Commercial feeds	____	562	819	2963
Total concentrates	____	2501	2003	5306
Roughages	____	143	79	222
Feed cost per litter:				
Concentrates	$____	$62.13	$51.37	$114.07
Roughages	$____	1.11	.55	1.33
Pasture	$____	1.32	--	1.73
TOTAL FEED COST	$____	$64.56	$51.92	$117.13
Net increaso in value per litter	$____	$147.21	$178.96	$125.19
RETURNS ABOVE FEED COST PER LITTER	$____	$ 82.65	$127.04	$ 8.06
Returns for $100 feed	$____	$ 228	$ 345	$ 107
Total no. of litters raised	____	28.6	25.3	6.0
No. of pigs born per litter	____	9.4	9.9	9.4
No. of pigs weaned per litter	____	8.0	8.5	6.3

Table 23. Feed Costs and Returns from Chickens, *1965

Items	Your farm	Ave. of 5 farms over/500 birds	Ave. of 11 farms under/500 birds
Feed per hen, lbs.:			
Grain	_____	55	52
Commercial feeds	_____	39	49
Total concentrates	_____	94	101
TOTAL FEED COST PER HEN	$_____	$2.92	$3.01
Value of produce per hen:			
Eggs sold and used in house	$_____	$5.20	$2.98
Net inc. in value of chickens	$_____	-.57	.84
TOTAL VALUE PRODUCED	$_____	$4.63	$3.82
RETURNS ABOVE FEED COST PER HEN	$_____	$1.71	$ .81
Returns for $100 of Feed	$_____	$ 158	$ 127
Price rec'd per doz. eggs sold (¢)	_____	28.9¢	27.1¢
Eggs laid per hen	_____	221	134
Ave. no. of hens on farm during year	_____	2569	195
Per cent death loss of hens	_____%	5%	14%

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

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) net return per acre on 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	0 500 1000 2000 3000 4000 5000 6000	
0 or 1	29		231
2 or 3	83		4105
4 or 5	75		6608
6 or 7	19		5558

Table 26 indicates that it might be worth while for each co-operator to study carefully his ranking on pages 11 and 12 and learn his standing in respect to each of the above factors and the elements of strength and weakness in his farm business.

Table 27. Summary of Farm Earnings by Years

Years	1961	1962	1963	1964	1965
Number of Farms	54	85	137	151	202
FARM RECEIPTS					
Dairy and dual-purpose cattle	$1460	$1214	$1045	$ 918	$1251
Dairy products	3531	4204	3631	4030	4105
Beef cattle (including feeders)	1876	5320	1744	2640	2625
Hogs	364	789	750	883	1166
Sheep and wool (including feeders)	1064	552	640	378	322
Horses (includes rabbits,dogs,etc.)	10	5	6	14	37
Poultry (including turkeys)	680	1041	1651	1929	2310
Eggs	353	802	682	829	664
Honey sold	101	142	7	103	
Crops	3765	5135	5840	4731	4970
Mach. & equip. sold & gas tax refund	579	197	316	319	410
Income from work off the farm	345	431	346	323	188
Miscellaneous	281	322	399	537	635
(1) Total farm sales	14409	20154	17057	17634	18683
(2) Increase in farm capital	--	--	3918	1748	2345
(3) Family living from the farm	287	309	304	264	283
(4) Total farm receipts (1)+(2)+(3)	14696	20463	21279	19646	21311
FARM EXPENSES					
Dairy and dual-purpose cattle bought	355	322	235	172	168
Beef cattle bought (incl. feeders)	928	1448	1266	1137	641
Hogs bought	49	130	69	56	66
Sheep bought (including feeders)	20	69	135	43	40
Horses, bees,etc. bought	47	43	32	26	25
Poultry bought (including turkeys)	178	278	310	404	425
Misc. livestock expense	371	441	413	457	441
Feed bought	1626	2660	2609	2776	3232
Fertilizers	807	885	614	838	867
Other crop expense	728	828	880	960	1017
Custom work hired	526	630	550	627	659
Gas,oil & grease bought (farm share)	1014	1118	1061	1042	1002
Rep. of mechanical power (farm share)	476	611	525	504	523
Repair and upkeep of real estate	115	156	128	149	148
Repair and upkeep of crop & gen. mach.	297	388	432	415	418
Repair & upkeep of livestock equip.	69	88	82	98	95
Wages of hired labor	454	921	707	748	654
Electricity expense (Farm share)	215	279	267	269	262
Real estate & pers. property taxes	547	641	636	675	637
General farm expense	192	253	230	259	272
(5) Total cash operating expenses	9014	12189	11181	11655	11592
(6) Cap. purchases-mech. power (f.s.)	745	509	636	836	911
(7) Cap. purchases-crop & gen. machinery	451	951	745	1019	997
(8) Cap. purchases-livestock equip.	188	235	240	196	195
(9) Cap. purchases-bldgs. & fencing	493	1284	1645	1628	1255
(10)Total farm purchases (5) to (9)	10891	15168	14447	15334	14950
(11)Decrease in farm capital	--	387	--	--	--
(12)Interest on farm capital	1517	2149	1961	2075	2068
(13)Unpaid family labor	345	158	83	115	96
(14)Board furnished hired labor	147	155	122	146	86
(15)Total farm expenses (10) to (14)	12900	18017	16614	17670	17200
(16)Labor earnings (4) - (15)	1796	2446	4630	1976	4111
(17)Net cash income (1) - (10)	$3518	$4986	$2610	$2300	$3733

WHICH ARE MY HIGH RETURN CROPS

The following summary is an attemp 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	Tax	Total Exp. Per Acre	Net Per Acre
Oats	53.1	$ .54	$28.84	$8.20	$6.08	$1.33	$15.61	$13.23
Barley	43.5	$1.03	$44.90	$8.20	$7.19	$1.33	$16.72	$28.18
Flax	8.2	$2.68	$22.09	$8.20	$4.10	$1.33	$13.63	$ 8.46
Wheat	27.2	$1.52	$41.49	$8.20	$8.63	$1.33	$18.16	$23.33
Durum	32.8	$1.16	$37.97	$8.20	$9.18	$1.33	$18.71	$19.26
Rye	22.5	$ .96	$21.57	$8.20	$3.26	$1.33	$12.79	$ 8.78
Alfalfa hay	1.9	$15.33	$28.65	$9.85	$4.57	$1.33	$15.75	$12.90
Leg.Mix hay	1.2	$11.62	$14.47	$6.56	$2.12	$1.33	$10.01	$ 4.46
Grass Hay	.9	$9.29	$8.53	$6.56	$2.48	$1.33	$10.37	$-1.84
Wild hay	.9	$9.60	$9.10	$6.56	$ .67	$1.33	$ 8.56	$ .54
Corn Sil.	5.7	$5.43	$30.83	$16.41	$6.47	$1.33	$24.21	$ 6.62
Corn Grain	33.3	$1.05	$35.15	$11.49	$8.46	$1.33	$21.28	$13.87
Sugar Beets	9.3	$12.52	$116.22	$24.61	$17.67	$1.33	$43.61	$72.61
Potatoes	86.2	$ .85	$73.17	$32.82	$62.96	$1.33	$97.11	-$23.94

Table 28. Continued

Crop	Yield Per Acre	Price	Gross Inc. per Acre	Power, Mach, Exp. Per Acre	Other Exp. Per Acre	Tax	Total Exp. Per Acre	Net Per Acre
Sweet Clover Seed	161.2	$ .07	$11.13	$ 6.56	$ .50	$1.33	$8.39	$2.74
*Red Clover Seed	170.6	$ .08	$15.71	$ 8.64	$ 6.80	$1.33	$16.77	$-1.06
Oats or Grass Silage	5.7	$ 5.00	$28.55	$ 9.84	$ 4.64	$1.33	$15.81	$12.74
Oats Mixture	53.9	$ .62	$33.61	$ 8.20	$ 5.49	$1.33	$15.02	$18.59
Sun-flowers	813.3	$ .04	$30.43	$ 8.20	$ 6.27	$1.33	$15.80	$14.63
Mustard	259.3	$ .04	$10.81	$ 8.20	$ 3.17	$1.33	$12.70	$-1.89
Millet	314.9	$ .02	$ 6.25	$ 8.20	$ 2.27	$1.33	$11.80	$-5.55
Soybeans	12.6	$ 2.26	$28.62	$ 8.20	$ 4.90	$1.33	$14.43	$14.19
Trefoil seed	53.4	$ .79	$42.14	$ 6.56	--	$1.33	$ 7.89	$34.25
Timothy seed	264.9	$ .15	$40.75	$ 6.56	$ 6.68	$1.33	$14.57	$26.18

*Five farmers with red clover seed also harvested an average of .8 tons of hay from the same acres. Value of hay is included in income per acre.

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		XXXXXX	

Returns* Crops + Livestock (The Complete Enterprise)

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