

1964
ANNUAL REPORT
WEST CENTRAL MINNESOTA
FARM MANAGEMENT SERVICE

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1964 REPORT OF THE FARM MANAGEMENT SERVICE FOR VOCATIONAL
AGRICULTURE IN WEST CENTRAL MINNESOTA

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INTRODUCTION

The Department of Agricultural Economics and Agricultural Education, the West Central School and Station and the Agricultural Extension Service of the University of Minnesota are cooperating with the Vocational Division, Minnesota Department of Education, in maintaining a farm management service. The service was initiated during 1952 and is available to farmers who are enrolled in adult or young farmer classes in 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 through the use of records as a basis for vocational guidance. 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 West Central Minnesota are handled by T. R. Nodland of the University of Minnesota, Department of Agricultural Economics, with assistance from Mike Cullen, Area Vo-Ag Coordinator, Willmar Community College, and R. E. Smith, West Central School and Experiment Station. The Department of Agricultural Education was represented by M. J. Peterson and the Agricultural Extension Service by Hal Routhe. The State Department of Education was represented by G. R. Cochrane, State Supervisor of Agricultural Education.

Each farmer pays an annual fee which covers a portion of the cost. The balance of the costs were defrayed by the University of Minnesota.

This report deals with farmers enrolled in eight schools in West Central Minnesota. The following tabulation shows by schools the number of 1964 farm records submitted:

School	No. of Records	Instructor
Alexandria	19	Bernard Sonstegard
Appleton	1	Norman Brakken
Canby	2	Norman Haugaard
Dawson	2	Alvin Schwandt
Hoffman	16	Russell Ruud
Lake Benton	1	Heimer Swanson
Renville	2	Marlyn Wacholz
Willmar	<u>2</u>	William Ruf
	45	

The data for 40 farms are shown in the tables on succeeding pages. Five farmers were omitted from the averages because the records were not sufficiently complete.

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. All types of tenure arrangements are represented, ranging from full owners to partnerships in which the operator furnishes a relatively small amount of capital.

FARM INVENTORIES

The capital managed per farm varied from \$12,579 to \$150,575. The average investment for all farms included in this report and for the one-third high and one-third low in labor earnings is shown in Table 1.

Landlords or partners supplied some capital in 22 out of the 40 cases included in this report. The landlord's investment has been included in Table 1 in order to show the total amount used per farm.

FARM EARNINGS

Labor 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. For purposes of comparison, the earnings are presented on a full-owner basis.

There are two methods of computing labor earnings. Table 2 shows the earnings statement on a cash basis and Table 3 shows the earnings on an enterprise or accrual basis. The principal difference in the two statements is in 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.

Table 1. Summary of Farm Inventories, 1964*

Items	Your Farm		Average of 40 farms	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Size of farm (acres)			309	
Size of business (work units)**			545	
Dairy cows			\$ 3648	\$ 3736
Other dairy cattle			1979	2271
Beef cattle (incl. feeders)			4485	4333
Hogs			1454	1514
Sheep (incl. feeders)			149	143
Poultry (incl. turkeys)			393	450
Productive livestock (total)			\$12108	\$12447
Horses			13	12
Crop, seed and feed			6120	5227
Auto (farm share)			919	937
Tractors			1815	1976
Crop and general machinery			3829	4139
Livestock equipment			1879	2272
Machinery and equipment (total)			\$ 8442	\$ 9324
Land			24130	24118
Buildings, fences, etc.			11858	12080
Total farm capital managed			\$62671	\$63208

Items	13 most profitable		13 least profitable	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Size of farm (acres)	359		315	
Size of business (work units)**	688		471	
Dairy cows	\$ 3686	\$ 3638	\$ 3569	\$ 3591
Other dairy cattle	2317	2248	1747	2258
Beef cattle (incl. feeders)	3952	4800	4644	4767
Hogs	990	1358	1211	1426
Sheep (incl. feeders)	377	350	37	55
Poultry (incl. turkeys)	1048	1187	97	140
Productive livestock (total)	\$12370	\$13581	\$11305	\$12237
Horses	-	-	-	-
Crop, seed and feed	7124	7442	6221	4517
Auto (farm share)	853	972	1167	1243
Tractors	1746	2511	2002	1717
Crop and general machinery	3107	3821	4253	4562
Livestock equipment	1626	2438	1770	2005
Machinery and equipment (total)	\$ 7332	\$ 9742	\$ 9192	\$ 9527
Land	32181	32144	20530	20530
Buildings, fences, etc.	12820	13790	11369	10958
Total farm capital managed	\$71827	\$76699	\$58617	\$57769

* For the purpose of comparison, all the data shown in this report, with the exception of Tables 6 and 7, are presented on a full owner basis. The assets, expenses and receipts of the landlord were included in the records from rented farms.

** See page 11 for an explanation of "work units."

Table 2. Summary of Farm Earnings (Cash Statement), 1964

Items	Your farm	Average of 40 farms	13 most profitable farms	13 least profitable farms
FARM RECEIPTS				
Dairy cattle		\$ 1487	\$ 1717	\$ 1485
Dairy products		6193	6345	5663
Beef cattle (incl. feeders)		5401	5375	3203
Hogs		4346	3476	3748
Sheep and wool (incl. feeders)		171	362	27
Poultry		83	176	65
Eggs		1896	5299	330
Corn		936	1633	756
Small grain		689	706	562
Other crops		1407	2568	899
Mach. & equip. sold & gas tax		309	443	312
Income from work off the farm		339	513	279
Miscellaneous		416	440	352
(1) Total farm sales		\$23673	\$29053	\$17681
(2) Increase in farm capital		537	4872	-
(3) Family living from the farm		302	349	274
(4) Total farm receipts 1+2+3		\$24512	\$34274	\$17955
FARM EXPENSES				
Dairy cattle bought		\$ 399	\$ 193	\$ 565
Beef cattle bought (incl. feed.)		2429	2841	1791
Hogs bought		293	408	237
Sheep bought (incl. feeders)		-	-	-
Poultry bought		540	1459	174
Misc. livestock expense		621	672	597
Feed bought		4385	5110	3116
Fertilizers		890	983	942
Other crop expenses		841	897	1042
Custom work hired		850	803	855
Gas, oil, grease (farm share)		988	1089	981
Rep. of mech. power (farm share)		593	537	667
Rep. & upkeep of real estate		323	295	396
Rep. & upkeep of cr. & gen. mach.		384	473	423
Rep. & upkeep of lvstk. equip.		149	124	133
Wages of hired labor		497	819	386
Electricity (farm share)		298	322	303
Real estate & pers. prop. taxes		1016	1244	983
General farm expense		346	421	325
(5) Total cash oper. expense		\$15842	\$18690	\$13916
(6) Mech. power bought (fm. sh.)		765	1472	440
(7) Crop & gen. mach. bought		999	1376	1050
(8) Livestock equip. bought		708	1183	473
(9) Bldgs. & fencings bought		892	1735	214
(10) Total farm purchases		\$19206	\$24456	\$16093
(11) Decrease in farm capital		-	-	848
(12) Interest on farm capital		3147	3713	2910
(13) Unpaid family labor		738	878	1012
(14) Board for hired labor		57	60	93
(15) Total farm expenses		\$23148	\$29107	\$20956
(16) Labor earnings 4-15		1364	5167	-3001

Table 3. Summary of Farm Earnings (Enterprise Statement), 1964*

Items	Your farm	Average of 40 farms	13 most profitable farms	13 least profitable farms
RETURNS AND NET INCREASES				
Dairy cows		\$ 6224	\$ 6390	\$ 5671
Other dairy cattle		1740	1637	1659
Beef breeding herd		322	495	494
Feeder cattle		2490	2950	1089
Hogs		4145	3469	3756
Sheep--farm flock		164	336	45
Chickens		1526	4188	304
All productive livestock		\$16611	\$19465	\$13018
Value of feed fed to livestock		11520	11984	10432
Ret. over feed from livestock		\$ 5091	\$ 7481	\$ 2586
Crops, seed, and feed		7488	10162	5786
Income from labor off farm		130	179	81
Agricultural conservation pay.		19	23	28
Miscellaneous		407	452	324
(1) Total ret. & net increases		\$13135	\$18297	\$ 8805
EXPENSES AND NET DECREASES				
Truck		\$ 273	\$ 231	\$ 328
Auto (farm share)		405	348	484
Tractor		1100	1060	1114
Elec. & gas eng. exp. (fm.sh.)		300	326	303
Hired power		405	363	390
Total power		\$ 2483	\$ 2328	\$ 2619
Crop and gen. machinery		1119	1192	1199
Livestock equipment		463	497	368
Buildings, fencing, tiling		988	1042	1021
Misc. prod. livestock expense		620	672	597
Labor		1589	2021	1784
Real estate taxes		794	992	759
Personal property taxes		222	252	224
Insurance		176	202	186
General farm		170	219	139
Interest on farm capital		3147	3713	2910
(2) Total exp. & net decreases		\$11771	\$13130	\$11806
(3) Labor earnings 1-2		1364	5167	-3001

* 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 labor earnings are the same as those on page 4.

FAMILY LIVING FROM THE FARM

The family living from the farm is the estimated value of the farm produce used in the house 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 income.

The value of the family living as shown in Table 4 amounts to slightly more than 1.0 percent of the total farm receipts on those farms. The values assigned are a conservative market price on the farm. If these products had been purchased, the amount paid out would have been considerably higher.

Table 4. Family Living from the Farm, 1964

Items	Your farm	Average of 40 farms	Your farm	Average of 40 farms
Adult equivalent--family	_____	3.9		
others	_____	.1		
Whole milk	_____	1462 qts.	_____	\$ 90
Skim milk	_____	34 qts.	_____	1
Beef	_____	904 lbs.	_____	150
Pork	_____	215 lbs.	_____	31
Poultry	_____	71 lbs.	_____	17
Eggs	_____	63 doz.	_____	<u>13</u>
				\$302

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 \$331 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, 1964

Items	Your farm	Average of 21 farms
Number of persons - family	_____	4.4
Number of adult equivalent - family	_____	3.7
- other*	_____	.1
Food and meals bought	_____	\$ 948
Operating and supplies	_____	280
Furnishings and equipment	_____	192
Clothing and clothing materials	_____	308
Personal care, personal spending	_____	84
Education, recreation, development	_____	181
Gifts and special events	_____	143
Medical care and health insurance	_____	468
Church, welfare	_____	183
Personal share of auto expense	_____	162
Operator's share of upkeep of dwelling	_____	55
Household share of electric expense	_____	124
Total cash living expense	_____	\$3128
Household and personal share of new auto	_____	38
New dwelling	_____	367
Taxes and other deductions	_____	148
Life insurance	_____	248
Other savings and investments	_____	42
Total household and personal cash expense	_____	\$3971
Total family living from the farm	_____	261
Total cash expense and perquisites	_____	\$4232
Receipts:		
Return to capital and family labor	_____	2947
Income from outside investments	_____	8
Sale of investments	_____	57
Miscellaneous	_____	547

* Hired help or others boarded.

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 for owners, part owners and renters 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, 1964 (Operator's Share)

Items	Your farm		11 owners	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Total acres in farm			239	
Owned			239	
Rented			-	
Total farm capital			\$55183	\$52025
Stocks and bonds			740	771
Life insurance			1969	2014
Accounts receivable			13	5
Shares in co-ops			1204	977
Outside real estate			-	-
Cash on hand			585	488
Household furnishings and clothing			2782	2836
Auto (personal share)			498	530
Dwelling			3831	3698
Total household and personal assets			\$11622	\$11319
TOTAL ASSETS			66805	63344
Federal Land Bank mortgage			3423	3356
FHA real estate mortgage			3049	2978
Other mortgage on land operated			10053	9716
Production Credit Association			4592	2992
FHA chattel mortgage			-	1997
Other chattel mortgages			5463	4472
Notes payable			900	1178
Accounts payable			1260	1053
TOTAL LIABILITIES			\$28740	\$27742
Farmer's net worth			38065	35602
Gain in net worth				-2463

Items	9 part-owners		5 renters	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Total acres in farm	353		315	
Owned	185		-	
Rented	168		315	
Total farm capital	\$37251	\$44342	\$22418	\$22182
Stocks and bonds	319	430	171	177
Life insurance	1791	1893	510	620
Accounts receivable	41	201	28	25
Shares in co-ops	1070	1384	164	224
Outside real estate	-	325	-	-
Cash on hand	700	659	1410	1479
Household furnishings and clothing	2379	2536	1860	1900
Auto (personal share)	345	262	496	392
Dwelling	3300	3615	-	-
Total household and personal assets	\$ 9945	\$11305	\$ 4639	\$ 4817
TOTAL ASSETS	47196	55647	27057	26999
Federal Land Bank mortgage	2099	3347	-	-
FHA real estate mortgage	1925	1894	-	-
Other mortgages on land operated	6389	11798	-	-
Production Credit Association	853	2876	1000	1155
FHA chattel mortgage	789	-	-	-
Other chattel mortgages	3613	3403	2667	914
Notes payable	1281	994	7124	8427
Accounts payable	330	945	684	449
TOTAL LIABILITIES	\$17279	\$25257	\$11475	\$10945
Farmer's net worth	29917	30390	15582	16054
Gain in net worth		+473		+472

Table 7. Summary of Farm Earnings by Tenure, 1964 (Operator's Share)

Items	Your farm	11 owners	9 part owners	5 renters
FARM RECEIPTS				
Dairy cattle		\$ 921	\$ 1003	\$ 351
Dairy products		4086	3959	2912
Beef cattle (including feeders)		6578	5947	7143
Hogs		6538	6208	4291
Sheep and wool (incl. feeders)		19	-	358
Poultry (incl. turkeys)		-	176	7
Eggs		21	3732	147
Corn		787	368	1530
Small grain		471	484	1391
Other crops		878	2138	1743
Mach. and equip. sold, gas tax		218	265	341
Income from work off the farm		165	217	932
Miscellaneous		358	406	439
(1) Total farm sales		\$21040	\$24903	\$21585
(2) Increase in farm capital		-	7091	-
(3) Family living from the farm		175	224	423
(4) Total farm receipts 1+2+3		\$21215	\$32218	\$22008
FARM EXPENSES				
Dairy cattle bought		\$ 364	\$ 363	\$ 345
Beef cattle bought (incl. feeders)		2164	2241	3747
Hogs bought		371	203	12
Sheep bought (incl. feeders)		-	-	-
Poultry bought (incl. turkeys)		23	523	3
Miscellaneous livestock expense		536	827	424
Feed bought		4919	5041	3694
Fertilizers bought		736	1350	965
Other crop expense		681	944	713
Custom work hired		889	672	932
Gas, oil, grease bought (farm sh.)		823	1092	947
Rep. of mech. power (farm share)		622	661	458
Rep. & upkeep of real estate		270	342	244
Rep. & upkeep of crop & gen. mach.		286	435	345
Rep. & upkeep of livestock equip.		144	162	55
Wages of hired labor		155	992	479
Electric expense (farm share)		217	263	192
Real estate & pers. prop. taxes		851	514	168
Cash rent		-	408	1500
General farm expense		321	306	236
Interest paid		1632	1068	468
(5) Total cash operating expense		\$16004	\$18407	\$15927
(6) Capital purchases -mech power		554	1034	658
(7) Capital purchases-c.& g. mach.		681	1131	877
(8) Capital purchases-lvstk equip.		390	199	265
(9) Capital purchases-bldgs,land		150	7976	-
(10) Total farm purchases		\$17779	\$28747	\$17727
(11) Decrease in farm capital		3158	-	236
(12) Interest on farm capital		1048	972	647
(13) Unpaid family labor		578	542	153
(14) Board for hired labor		15	75	56
(15) Total farm expenses		\$22578	\$30336	\$18819
(16) Labor earnings 4-15		-1363	1882	3189
(17) Ret. to cap. & family labor		263	3396	3989
12+13+16				

RETURNS TO CAPITAL AND FAMILY LABOR

The return to capital and family labor represents the amount available to the operator for living expenses, payment on indebtedness, and savings. The landlord's expenses and receipts are not included.

The average return to capital and family labor for 11 owners, 9 part owners, and 5 renters is shown in Table 7. The statement includes only the operator's share of the earnings of a partnership. The earnings as shown in Table 7 are on an actual basis as compared to the full-owner basis in Table 2 and 3.

RANGE IN EARNINGS

Every study of farm earnings shows a wide variation in earnings among farmers in a given year (figure 1). The average labor earnings of those farmers ranking in the upper 33 percent of the range, according to earnings, was \$5167 and of those in the lower 33 percent, \$-3001. This is a range of \$8168 between the average earnings of these two groups. Some of these causes for the 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. Crop yields | 5. Size of business |
| 2. Choice of crops | 6. Work units per worker |
| 3. Return from livestock | 7. Control over expense |
| 4. Amount of livestock | |

Labor Earnings:

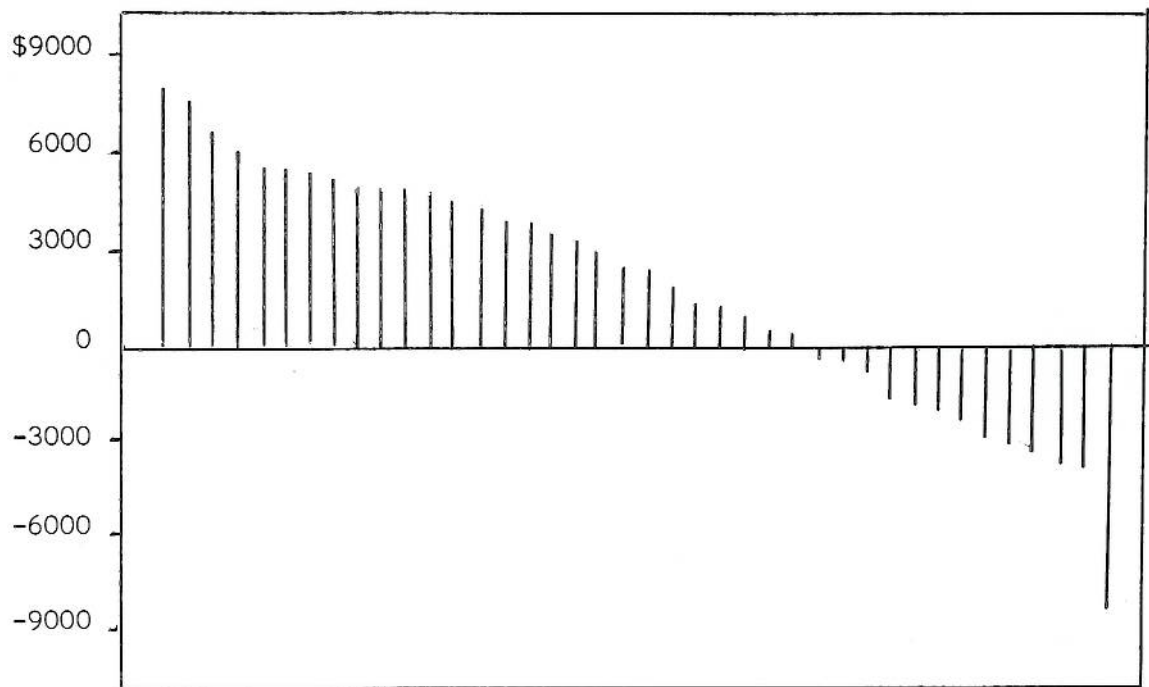


Figure 1. Range in labor earnings. Each line represents the earning of one.

* See Pond, G. A., "Why Farm Earnings Vary." Minnesota Agricultural Experiment Station Bulletin 386, June 1945, and Nodland, T. R. and Pond, G. A., "Some Factors Affecting the Earnings of Farmers in Southwestern Minnesota." University of Minnesota Department of Agricultural Economics, No. 219, November 1954.

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 average efficiency, or ten hours of work off the farm for pay. The number of work units for each class of livestock and each acre of crop are presented in Table 8.

Table 8. Number of Work Units for Each Class of Livestock and Each Acre of Crop

Item	No. of work units	Item	No. of work units
Dairy cows	10.0 per cow	Small grain	.5 per acre
Other dairy cattle	3.5 per an. unit*	Sugar beets	1.5 per acre
Beef breeding herd	3.5 per an. unit	Sweet corn	.7 per acre
Feeder cattle	.25 per 100 pounds	Corn husked	.7 per acre
Sheep - farm flock	1.5 per an. unit	Corn silage	1.0 per acre
Sheep - feeders	.3 per 100 pounds	Alfalfa hay	.6 per acre
Hogs	.2 per 100 pounds	Soybean hay	.8 per acre
Turkeys	.5 per 100 pounds	Other hay crop	.4 per acre
Hens	20.0 per 100 hens	Canning peas	.5 per acre
		Soybeans for grain	.5 per acre

* Animal unit represents one dairy cow or bull, two other dairy cattle, $1\frac{1}{4}$ beef cows or bull, 1 feeder steer or heifer, $3\frac{1}{3}$ other beef cattle, 7 sheep, 14 lambs, $2\frac{1}{2}$ hogs, 5 pigs, 50 hens, or 1,100 pounds of turkeys produced.

Table 9. Measure of Farm Organization and Management Efficiency, 1964

Measures used in chart on page 13	Your farm	Average of 40 farms	13 most profitable farms	13 least profitable farms
Labor earnings	\$ _____	\$ 1364	\$ 5167	\$-3001
(1) Crop yields	_____	100	117	84
(2) Percent tillable land in high return crops*	_____	54.9	59.4	54.1
(3) Return for \$100 feed fed to productive livestock**	_____	100	115	85
(4) Productive livestock units per 100 acres***	_____	32.1	27.2	26.1
(5) Size of business--work units	_____	545	688	471
(6) Work units per worker	_____	341	362	277
(7) Power, machinery, equipment, building expense per work unit	_____	\$9.86	\$7.93	\$11.43

Items related to some of the above measures:

(3) Index of return for \$100 feed from:				
Dairy cattle (pp. 18 & 19)	_____	100	101	89
Beef breed herd	_____	100	-	-
Beef cattle feeders (p. 20)	_____	100	124	90
Hogs (p. 17)	_____	100	105	83
Sheep--farm flock	_____	100	-	-
Chickens (p. 21)	_____	100	124	78
(4) Number of animal units	_____	84.0	95.1	73.6
(5) Work units on crops	_____	144	165	142
Work units on prod. lvstk.	_____	389	507	322
Other work units	_____	12	16	7
(6) Number of family workers	_____	1.4	1.5	1.5
Number of hired workers	_____	.2	.4	.2
Total number of workers	_____	1.6	1.9	1.7
(7) Power expense per work unit	_____	\$4.91	\$3.67	\$5.74
Crop mach exp per work unit	_____	2.19	1.96	2.59
Lvstk equip exp per work unit	_____	.83	.67	.77
Bldg-fenc.exp. per work unit	_____	1.93	1.63	2.33

* Crops are marked in Table 10 as A, B, C, and D. All of the acres in A crops, one-half the acres in B crops, and one-fourth the acres in C crops are used in calculating percent 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 12, locate your standing with respect to the various measures of farm organization and management efficiency. The average for the 40 farms included in this summary are located between the dotted lines across the center of this page.

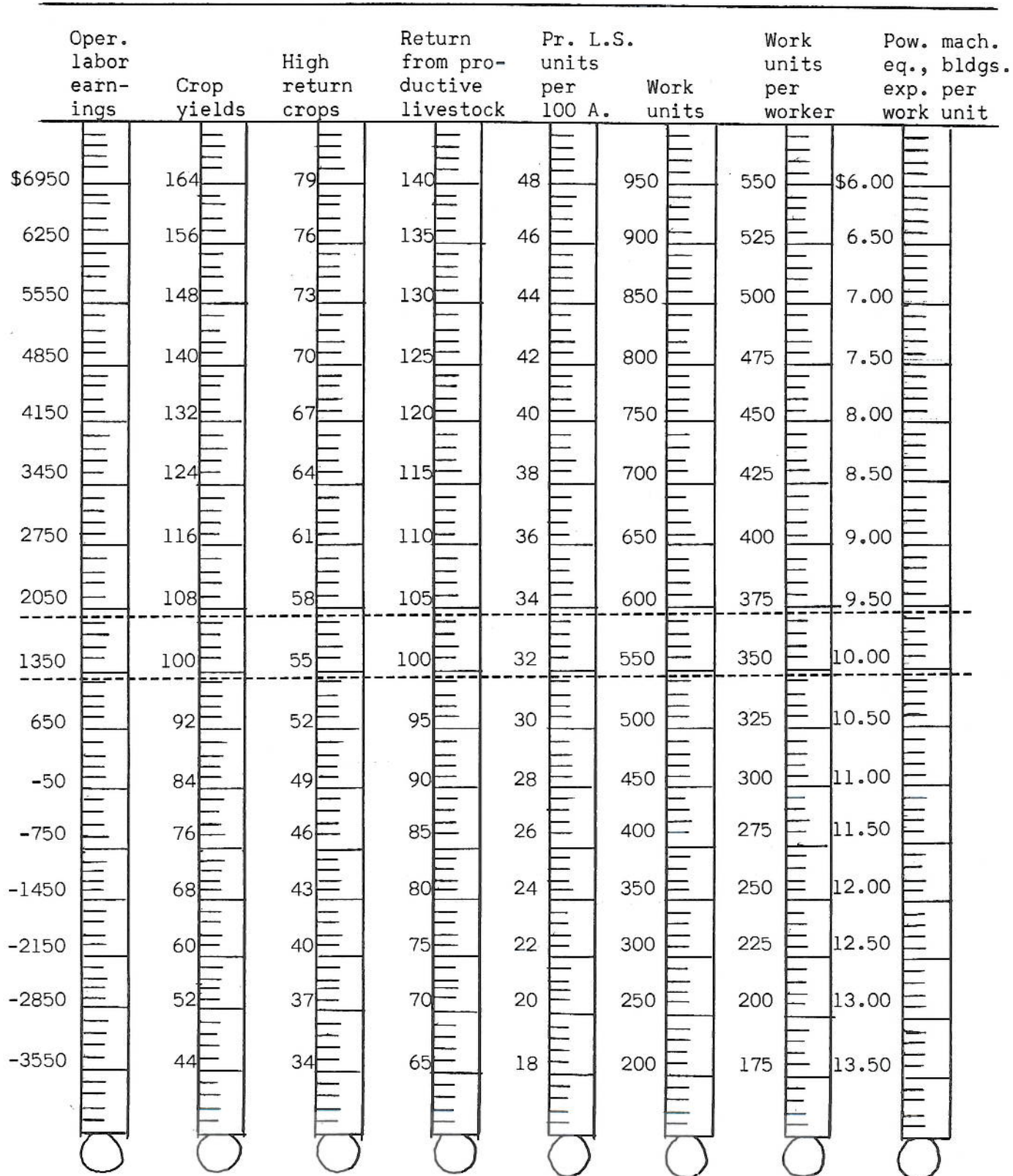


Table 10. Distribution of Acres in Farm, 1964

Crop	Crop ratings*	Number growing this crop	Your farm	Average of 40 farms	Ave. per farm growing each crop
Flax	C	7	_____	4.0	23.0
Barley	C	2	_____	.6	11.8
Wheat	C	20	_____	9.6	19.2
Oat silage	C	5	_____	1.6	13.0
Oats and oat mixture	D	38	_____	40.4	42.5
Miscellaneous	D	2	_____	.4	8.0
Total small grain and peas		40	_____	56.6	
Potatoes	A	1	_____	.1	4.5
Corn grain	A	36	_____	65.3	72.6
Soybeans for grain	B	18	_____	18.7	41.6
Sweet corn	A	1	_____	.8	30.0
Corn or sorghum silage	B	34	_____	32.7	37.8
Total cultivated crops		40	_____	117.6	
Alfalfa hay	B	39	_____	41.2	42.3
Other hay and seed crops	D	9	_____	2.8	12.6
Total tillable land in hay		39	_____	44.0	
Alfalfa pasture	B	13	_____	5.9	18.1
Other tillable pasture	D	5	_____	1.6	13.2
Total tillable land in pasture		17	_____	7.5	
Soil bank	B	13	_____	10.3	31.8
Tillable land not cropped	D	2	_____	.5	9.0
Total tillable land		40	_____	236.5	
Wild hay		16	_____	3.9	9.8
Non-tillable pasture		28	_____	33.2	47.4
Timber (not pastured)		11	_____	6.2	22.5
Roads and waste			_____	19.8	
Farmstead			_____	9.8	
Total acres in farm			_____	309.4	
Percent land tillable			_____	76.4	
Percent tillable land in high return crops			_____	54.9	

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

Table 11. Crop Yields per Acre, 1964

Crop	Your farm	Average of farms growing each crop
Flax, bu.	_____	12.5
Barley, bu.	_____	48.8
Wheat, bu.	_____	19.6
Oat silage, tons	_____	4.7
Oats, bu.	_____	44.6
Corn grain, bu.	_____	36.7
Soybeans, bu.	_____	13.1
Corn silage, tons	_____	7.5
Alfalfa hay, tons	_____	2.4
Soil bank, dollars	_____	\$35.62
Wild hay, tons	_____	.7

POWER AND MACHINERY EXPENSES

Power and machinery expense per crop acre is an indication of the economy with which capital is invested in these items. The crop acres per farm ranged from 77 to 560, with an average of 222 (table 12). The expenses are high on the farms with a small acreage. In some cases, the 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 12. Power and Machinery Expenses per Crop Acre, 1964

Item	Your farm	Average of 40 farms	13 most profitable farms	13 least profitable farms
Crop acres per farm	_____	222	258	217
Tractor expense per crop acre	_____	\$5.05	\$3.89	\$4.92
Crop & general machinery expense per crop acre	_____	5.29	4.88	4.90

Table 13. Amount of Livestock, 1964

Item	Your farm	Average of 40 farms	13 most profitable farms	13 least profitable farms
Number of milk cows	_____	17.7	17.6	17.1
Number of other dairy cattle	_____	23.0	20.9	24.7
Number of beef cows	_____	3.6	6.3	4.9
Number of feeder cattle	_____	24.2	25.6	15.9
Number of ewes	_____	7.1	16.9	1.3
Number of hens	_____	343	912	97
Litters of pigs raised	_____	16.2	12.6	16.2
Pounds of feeder cattle produced	_____	12952	15175	6267
Pounds of hogs produced	_____	27436	23084	24216

TOTAL FEED COSTS AND RETURNS FROM YOUR LIVESTOCK ENTERPRISES

The total "return over feed costs" for each class of livestock is shown in Table 14. 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 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 14. Total Feed Costs and Returns from Your Livestock Enterprises, 1964

	Dairy cattle			Beef breeding herd
	Cows	Other	All	
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 percent of the total costs of maintaining dairy cattle and poultry, 50 percent in the case of a farm flock of sheep, and 75 to 90 percent 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.

HOGS

The return over feed cost per 100 pounds of hogs produced averaged \$3.26 for 22 farms with breeding stock. Three farms with purchased feeder pigs averaged \$2.38 return over feed. Some of the important factors that affected return over feed were:

1. Quantity of feed required to produce 100 pounds of hogs.
2. Price received.
3. Number of pigs born per litter.
4. Number of pigs weaned per litter.

Table 15. Feed Costs and Returns from Hogs, 1964

Items	Your farm	Average of 22 farms with breeding stock	Average of 3 farms with purchased feeder pigs
Feed per cwt. hogs produced, lbs.:			
Corn	_____	311	428
Small grain	_____	108	27
Commercial feeds	_____	97	20
Total concentrates	_____	516	475
Feed cost per cwt. produced	\$ _____	\$12.03	\$10.30
Net increase in value per cwt. produced	\$ _____	15.29	12.68
Return above feed cost per cwt. produced	\$ _____	3.26	2.38
RETURN FOR \$100 FEED	\$ _____	\$134	\$138
Price received per cwt. sold	\$ _____	\$15.44	14.53
Total number of litters raised	_____	29	0
No. of pigs born per litter	_____	9.5	-
No. of pigs weaned per litter	_____	7.7	-
No. of feeder pigs purchased	_____	8	88
Total weight of feeders purchased	_____	344	3683
Price paid per feeder pig	\$ _____	\$11.71	\$11.05
Pounds of hogs produced	_____	47590	16042

DAIRY CATTLE

The quantity of feed consumed, value of feeds and returns from dairy cattle are presented in Tables 16, 17, and 18.

The return over feed cost per cow varied from \$-32.49 to \$311.81 among the 26 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 16. Factors of Cost and Returns from Dairy Cows, 1964

Items	Your Farm	Average of 26 farms	13 farms highest in butterfat per cow	13 farms lowest in butterfat per cow
Pounds of butterfat per cow	_____	388	431	345
Pounds of milk per cow	_____	10831	12104	9559
Percent fat in milk	_____	3.6	3.6	3.6
Price rec. per lb. B.F. sold(¢)	_____	91.6	91.9	91.3
Price rec. per 100 lbs. milk	_____	\$3.31	\$3.29	\$3.34
Feeds per cow, lbs.:				
Corn	_____	2054	2261	1846
Small grain	_____	1227	1118	1336
Commercial feeds	_____	682	777	588
Legume hay	_____	5850	5776	5924
Other hay	_____	15	-	30
Total concentrates	_____	3963	4156	3770
Total dry roughage	_____	5865	5776	5954
Silage	_____	11347	11570	11126
Feed cost per cow:				
Concentrates	_____	\$91.79	\$96.86	\$86.73
Roughages	_____	95.14	94.67	95.61
Pasture	_____	9.44	8.85	10.04
TOTAL FEED COSTS	_____	\$196.37	\$200.38	\$192.38
Value of produce per cow:				
B. F. sales	_____	\$347.95	\$388.44	\$307.49
Dairy produce used in house	_____	4.57	4.07	5.07
Milk to livestock	_____	3.23	4.28	2.17
Net increase in value of cows	_____	-7.57	-6.87	-8.27
TOTAL VALUE PRODUCED	_____	\$348.18	\$389.92	\$306.46
RETURNS ABOVE FEED COST PER COW	_____	\$151.81	\$189.54	\$114.08
RETURNS FOR \$100 FEED	_____	\$185	\$196	\$174
Feed cost per lb. B. F. (Cents)	_____	50.6	46.5	55.6
Number of cows*	_____	27.1	28.7	25.4

*All dairy cows which have at some time in the past freshened are included in the dairy herd, and affect the average number of cows used in computing this table. There is some variation in the number of months of dry period per cow; however, this variation is small for the majority of farms.

Table 17. Feed Costs and Returns from Other Dairy Cattle, 1964

Items	Your Farm	Average of 26 farms	13 farms highest in butterfat per cow	13 farms lowest in butterfat per cow
Feeds per head, lbs.:				
Concentrates	_____	1082	1105	1060
Hay and fodder	_____	2622	2213	3031
Silage	_____	3880	3672	4087
Whole milk	_____	67	91	43
Feed cost per head:				
Concentrates	_____	\$25.49	\$24.04	\$26.93
Roughages	_____	38.23	32.77	43.69
Milk	_____	2.25	3.01	1.49
Pasture	_____	3.50	2.79	4.21
TOTAL FEED COSTS PER HEAD	_____	\$69.47	\$62.61	\$76.32
Net inc. in value of other cattle	_____	80.49	83.92	77.06
RETURNS ABOVE FEED COST PER HEAD	_____	11.02	21.31	.74
RETURNS FOR \$100 OF FEED	_____	\$141	\$142	\$140
Number of head of other cattle	_____	35.2	38.6	31.9

Table 18. Feed Costs and Returns from all Dairy Cattle, 1964

Items	Your Farm	Average of 26 farms	13 farms highest in butterfat per cow	13 farms lowest in butterfat per cow
Feeds per cow, lbs.:				
Concentrates	_____	5110	5494	4725
Hay and fodder	_____	8802	8667	8937
Silage	_____	16460	16844	16075
TOTAL FEED COSTS PER COW	_____	\$271.90	\$277.94	\$265.86
Value of produce per cow:				
Dairy products	_____	\$52.53	\$392.50	\$312.55
Net inc. in value dairy cattle	_____	88.83	99.92	77.73
TOTAL VALUE PRODUCED	_____	\$441.36	\$492.42	\$390.28
RETURNS ABOVE FEED PER COW	_____	\$169.46	\$214.48	\$124.42
RETURNS PER \$100 OF FEED	_____	\$171	\$179	\$162

Table 19. Feed Costs and Returns from Feeding Cattle, 1964

Items	Your Farm	Average of 16 farms
Feeds per cwt. beef produced:		
Corn	_____	444
Small grain	_____	18
Commercial feeds	_____	45
Legume hay	_____	308
Other hay	_____	-
Total concentrates	_____	507
Total hay and fodder	_____	308
Silage	_____	804
Feed cost per cwt. beef produced:		
Concentrates	_____	\$11.43
Roughages	_____	5.53
Pasture	_____	.23
TOTAL FEED COSTS	_____	\$17.19
Net increase in value of feeders	_____	\$18.81
RETURNS ABOVE FEED COST PER CWT. BEEF PRODUCED	_____	1.62
RETURNS FOR \$100 OF FEED	_____	\$119
Price paid per cwt. beef bought	_____	\$19.27
Price rec'd for feeder cattle sold	_____	\$20.07
Number of animal units	_____	59.7
Pounds of beef produced	_____	32696

CHICKENS

The average return over feed from the 9 flocks included in this report was 57 cents per hen (Table 21).

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. Per cent of hens that are pullets.
5. Percentage death loss of hens.

Table 20. Feed Costs and Returns from Chickens, 1964*

Items	Your Farm	Average of 9 farms
Feed per hen, lbs.:		
Grain	_____	64
Commercial feed	_____	46
Total Concentrates	_____	110
TOTAL FEED COST PER HEN	_____	\$3.16
Value of produce per hen:		
Eggs sold & used in house	_____	\$4.17
Net increase in value of chickens	_____	-.44
TOTAL VALUE PRODUCED	_____	3.73
RETURNS ABOVE FEED COST PER HEN	_____	.57
RETURNS FOR \$100 OF FEED	_____	\$124
Price rec'd per doz.eggs sold(cts)	_____	24.9
Eggs laid per hen	_____	200
Ave. No. hens on farm during year	_____	1520
Per cent of hens that are pullets	_____	82
Per cent death loss of hens	_____	7
No. of chicks bought - pullets	_____	980
- straight run	_____	78
- cockerels	_____	46
No. of hens bought	_____	866

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

Table 21. Summary of Miscellaneous Items by Years

	1953-58	1959	1960	1961	1962	1963	1964
Acres in Farm							
Small grains	72.1	34.3	64.5	83	76.6	66.4	56.6
Cultivated crops	88.8	172.2	153.7	146	129.6	98.2	117.6
Tillable land in hay	31.8	30.9	32.7	31	35.2	37.9	44.0
Tillable land in pasture	12.1	5.2	7.6	9	11.1	10.5	7.5
Soil Bank	1.5	---	---	25	27.9	11.8	10.3
Tillable land not cropped	2.0	---	1.9	1	.9	1.1	.5
Total tillable land	208.3	242.6	260.4	295	281.3	225.9	236.5
Wild hay & non-till. past.	28.9	22.9	32.8	26	32.4	34.2	37.1
Other non-tillable land	32.2	37.5	25.5	27	27.5	31.0	35.8
Total acres in farm	269.4	303.0	318.7	348	341.2	291.1	309.4
Yields per acre							
Flax, bu.	10.5	8.9	13.1	11.2	9.7	12.5	12.5
Barley, bu.	32.2	38.1	37.7	39.5	29.5	44.9	48.8
Wheat, bu.	20.9	22.4	26.1	27.0	22.0	26.6	19.6
Oats, bu.	41.4	43.1	55.6	56.6	51.5	55.8	44.6
Oat silage, ton	-	5.8	5.8	8.6	9.0	9.2	4.7
Corn grain, bu.	49.1	48.8	57.7	55.0	49.5	65.0	36.7
Soybeans, bu.	19.5	19.7	20.8	20.3	17.2	24.8	13.1
Corn silage, tons	8.8	10.3	10.3	10.5	10.8	10.2	7.5
Alfalfa hay, tons	2.6	2.6	2.8	2.0	2.8	3.4	2.4
Measures of farm org. & management:							
Percent of land in high return crops	51.6	67.2	59.2	57.5	55.8	55.3	54.9
Prod. L.S. units per 100 A	19.3	38.0	23.3	24.6	24.3	29.5	32.1
Size of bus. work units	347.8	519	469	540	470	513	545
Work units per worker	235.2	325	312	338	297	342	341
Exp. per work unit	\$11.26	\$11.64	\$10.64	\$10.44	\$13.52	\$10.47	\$9.86
Return above feed cost per:							
Dairy cow	\$86.30	\$145.92	\$119.44	\$171.15	157.43	\$124.88	\$151.81
An. unit in beef breeding herd	25.22	76.52	53.59	4.23	26.05	23.43	-10.97
100 lbs. feeder cattle prod.	3.41	2.30	3.92	5.41	8.34	-3.06	1.62
100 lbs. hogs produced	6.11	1.07	6.65	5.34	5.44	3.55	3.15
Ewe	4.65	---	.97	3.79	9.92	5.03	4.72
Hen	1.20	-.14	.78	1.64	.98	.72	.57
Feed cost per:							
Dairy cow	\$135.00	\$136.18	\$147.80	\$174.51	174.29	\$175.67	\$196.37
An. unit in beef breeding herd	13.52	57.94	51.84	73.54	69.18	98.99	92.15
100 lbs. feed cattle produced	19.21	17.92	16.22	15.56	17.81	20.59	17.19
100 lbs. hogs produced	11.81	9.91	10.05	9.83	10.80	10.90	11.82
Ewe	7.91	---	10.83	9.39	15.24	20.29	20.71
Hen	3.75	3.95	2.98	3.54	3.44	3.43	3.16

Table 21. Summary of Miscellaneous Items by Years (Continued)

	1953-58	1959	1960	1961	1962	1963	1964
Misc. livestock information							
No. dairy cows	14.30	17	10.4	8.7	10.6	15.0	17.7
Lbs. beef produced	11780	30424	12299	13624	12542	15067	12952
Litter of pigs	9.3	---	13.0	19.3	17.4	12.7	16.2
Lbs. hogs produced	18198	33173	27936	40612	29777	23261	27436
Number of hens	247	291	276	317	251	229	343
Lbs. butterfat per cow	280	311	324	364.6	361	354	388
No. pigs weaned/litter	6.5	7.3	6.5	6.6	6.8	7.5	7.7
Percent lamb crop	---	---	197	101	90	108	117
Eggs per hen	180	199	161	215	204	206	200
Price received per:							
Lb. butterfat (cts.)	86.5	88.7	87.3	88.8	94.1	87.7	91.6
100 lbs. fat cattle	\$19.58	\$25.10	\$22.89	\$22.36	\$23.93	\$20.52	\$20.07
100 lbs. hogs	18.29	14.05	15.37	16.24	17.45	15.27	15.33
100 lbs. lambs	15.63	---	17.84	14.26	19.09	19.81	20.44
Lbs. of wool	.34	---	.43	.50	.45	.55	.59
Dozen eggs (cts)	32.1	24.8	28.2	29.5	26.8	26.8	24.9
Price of feed:							
Corn, bu.	\$1.20	\$.98	\$.96	\$.94	\$.96	\$1.05	\$1.06
Oats, bu.	.63	.58	.58	.60	.61	.62	.63
Barley, bu.	.97	.92	.87	.93	.99	.84	.90
Alfalfa hay, ton	17.46	22.00	19.50	19.50	19.00	18.50	20.00
Timothy hay, ton	10.22	11.50	11.10	11.30	11.00	10.70	11.60
Corn silage, ton	5.90	6.60	6.50	6.75	6.50	6.25	6.75
Soybean meal, cwt.	3.84	3.85	3.83	4.35	4.40	4.60	4.60

Table 22. Summary of Farm Earnings by Years

	1953-58	1959	1960	1961	1962	1963	1964
Number of farms	39	16	38	35	43	45	40
FARM RECEIPTS							
Dairy cattle	\$ 726	\$ 724	\$ 768	\$ 970	\$ 997	\$ 1367	\$ 1487
Dairy products	2342	2682	2856	2966	3412	4621	6193
Beef cattle	3000	15373	6033	5802	6789	6301	5401
Hogs	2742	5906	4535	6551	5452	3547	4346
Sheep and wool	131	65	182	1020	313	238	171
Horses	6	-	-	-	-	-	-
Poultry	103	90	112	146	76	1579	83
Eggs	825	1369	1364	2371	1394	1361	1896
Corn	1537	2290	3268	3278	2511	1774	936
Small grain	1315	753	1342	2611	1883	1283	689
Other crops	995	1190	1558	2297	1931	1605	1407
Machinery & equipment sold	203	265	256	361	487	336	309
Income from work off farm	339	319	347	572	414	475	339
Miscellaneous	185	217	180	526	856	348	416
Total farm sales	\$14449	\$31243	\$22801	\$29471	\$26515	\$24835	\$23673
Increase in farm capital	1612	920	4044	1473	2448	3025	537
Family living from farm	249	244	286	316	295	306	302
Total farm receipts	\$16310	\$32407	\$27131	\$31260	\$29258	\$28166	\$24512
FARM EXPENSES							
Dairy cattle bought	\$ 226	\$ -	\$ 236	\$ 140	\$ 239	\$ 139	\$ 399
Beef cattle bought	1630	5250	3549	3477	3922	3493	2429
Hogs bought	307	4165	745	761	607	295	293
Sheep bought	38	591	345	42	49	47	-
Horses bought	4	-	-	-	2	-	-
Poultry bought	101	253	118	321	282	461	540
Miscellaneous livestock exp.	256	530	482	597	612	658	621
Feed bought	1796	6489	3877	4623	4701	5655	4385
Fertilizers	341	901	714	933	795	669	890
Other crop expenses	529	874	790	855	953	796	841
Custom work hired	478	674	588	752	636	859	850
Gas, oil, grease bought	821	1127	1130	1123	1164	982	988
Repairs for mechanical power	363	555	562	620	624	573	593
Rep. & upkeep of real estate	166	141	166	257	321	271	323
Rep. of crop machinery	296	498	388	565	502	391	384
Rep. of livestock equipment	85	156	92	146	129	127	149
Wages of hired labor	434	896	431	876	799	502	497
Electricity expense	148	246	238	278	255	257	298
Real est. & pers. prop. taxes	558	943	966	1169	983	946	1016
General farm expense	174	321	240	304	304	287	346
Total cash operating exp.	\$ 8751	\$24610	\$15657	\$17839	\$17879	\$17408	\$15842
Cap. purch.-mech. power	667	804	487	614	939	542	765
Cap. purch.-cr. & gen. mach.	894	1400	1214	1152	1328	999	999
Cap. purch.-lvstk. equip.	215	688	369	424	476	495	708
Cap. purch.-bldg. & fencing	561	603	602	1566	989	1479	892
Total farm purchases	\$11088	\$28105	\$18329	\$21595	\$21611	\$20923	\$19206
Decrease in farm capital	-	-	-	-	-	-	-
Interest on farm capital	2118	3609	3240	3530	3238	2912	3147
Unpaid family labor	321	263	331	345	341	604	738
Board for hired labor	97	135	40	100	147	65	57
Total farm expense	\$13624	\$32112	\$21990	\$25570	\$25337	\$24504	\$23148
Labor earnings	2686	295	5141	5690	3921	3662	1364
Net cash income	3361	3138	4472	7876	4904	3912	4467

