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1955 REPORT
VOCATIONAL AGRICULTURE
FARM MANAGEMENT SERVICE
WEST CENTRAL MINNESOTA

UNIVERSITY OF MINNESOTA
Institute of Agriculture
and
Vocational Division
MINNESOTA DEPARTMENT OF EDUCATION
Cooperating

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1955 REPORT OF THE FARM MANAGEMENT SERVICE FOR VOCATIONAL
 AGRICULTURE IN WEST CENTRAL MINNESOTA

Ralph Smith, T. R. Nodland and G. A. Pond

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INTRODUCTION

The Departments 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 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 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 Ralph Smith of the West Central School and Station at Morris. The project is under the general direction of T. R. Nodland and G. A. Pond of the University of Minnesota Department of Agricultural Economics. The Department of Agricultural Education was represented by M. J. Peterson and the Agricultural Extension Service by E. Hartmans. The State Department of Education was represented by G. R. Cochran, State Supervisor of Agricultural Education.

Each farmer pays an annual fee which covers a portion of the cost. Through a grant of funds from the Hill Family Foundation, Lauren Granger was employed by the Department of Agricultural Education as a co-ordinator for the project. The balance of the costs were defrayed by the University of Minnesota.

This report deals with farmers enrolled in 9 schools in West Central Minnesota. The following tabulation shows by schools the number of 1955 farm records submitted:

<u>SCHOOL</u>	<u>No. of Records</u>	<u>INSTRUCTOR</u>
Alexandria	14	Clarence Hemming
Alberta	1	William Dreschel
Cyrus	1	Lowell Doebbert
Elbow Lake	1	Ronald Coleman
Evenhoe	4	Norbert Phillips
Lake Benton	6	Heimer Swanson
Madison	4	Dwight L. Quam
Morris	2	
Redwood Falls	2	Ben Broberg
Tyler	3	Truman Maursetter
Wood Lake	1	Fred Sorenson

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. All types of tenure arrangements are represented ranging from full owners to partnerships in which the operator furnishes little or no capital.

FARM INVENTORIES

The capital investment per farm varied from \$10,655 to \$146,957. The average investment for all farms included in this report and for the one-third high and the one-third low in operator's labor earnings is shown in Table 1.

Landlords or partners supplied some capital in 26 out of the 38 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

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

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 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, 1955*

Items	Your Farm		Average of 38 Farms	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Size of farm (acres)			265	
Size of business (work units)**			356	
Dairy and dual purpose cows			\$ 1882	\$ 1898
Other dairy & dual purpose cattle			668	765
Beef cattle (incl. feeders)			1686	1877
Hogs			896	703
Sheep (including feeders)			196	178
Poultry (including turkeys)			110	180
Productive livestock (total)			5438	5601
Horses			3	2
Crop, seed and feed			4069	4016
Power mach. (farm share)			2883	3023
Crop and general machinery			3455	3656
Livestock equipment			511	588
Machinery & equipment (total)			6849	7267
Miscellaneous			--	--
Land			16281	16283
Buildings, fences, etc.			6750	6717
Total farm capital			39390	39886

Items	10 most profitable farms		10 least profitable	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Size of farm (acres)	346		251	
Size of business (work units)**	423		349	
Dairy and dual purpose cows	\$ 1318	\$ 1274	\$ 2458	\$ 2521
Other dairy & dual purpose cattle	367	520	925	902
Beef cattle (incl. feeders)	3694	4480	1349	1034
Hogs	848	1003	1177	664
Sheep (including feeders)	362	318	384	359
Poultry (including turkeys)	68	128	129	292
Productive livestock (total)	6657	7723	6422	5772
Horses	--	--	--	--
Crop, seed, and feed	5640	6217	3700	2747
Power mach. (farm share)	2901	3526	2990	2990
Crop & general machinery	3831	4457	3281	3281
Livestock equipment	538	511	745	882
Machinery & equipment (total)	7270	8494	7016	7153
Miscellaneous	--	--	--	--
Land	23983	23983	12535	12535
Buildings, fences, etc.	9161	9039	5737	5954
Total farm capital	52711	55456	35410	34161

* 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), 1955

Items	Your farm	Average of 38 farms	10 most profitable farms	10 least profitable farms
FARM RECEIPTS				
Dairy and dual-purpose cattle	_____	\$ 626	\$ 254	\$ 714
Dairy products	_____	2118	1436	2449
Beef cattle (including feeders)	_____	1291	2424	1043
Hogs	_____	2312	2402	2783
Sheep and wool (including feeders)	_____	251	689	266
Horses	_____	--	--	--
Poultry	_____	74	48	121
Eggs	_____	680	564	934
Corn	_____	1488	3609	606
Small grain	_____	1650	3199	473
Other crops	_____	488	881	113
Mach. & equip. sold & gas tax refund	_____	104	163	74
Income from work off the farm	_____	408	745	233
Miscellaneous	_____	161	289	182
(1) Total farm sales	_____	11651	16703	9991
(2) Increase in farm capital	_____	496	2745	--
(3) Family living from the farm	_____	238	191	336
(4) Total farm receipts (1)+(2)+(3)	_____	12385	19639	10327
FARM EXPENSES				
Dairy and dual-purpose cattle bought	_____	158	32	291
Beef cattle bought (incl. feeders)	_____	419	773	27
Hogs bought	_____	260	306	245
Sheep bought (incl. feeders)	_____	2	--	6
Horses bought	_____	--	--	--
Poultry bought	_____	79	39	123
Misc. livestock expense	_____	254	255	296
Feed bought	_____	1214	1867	1167
Fertilizers	_____	331	461	357
Other crop expenses	_____	445	688	309
Custom work hired	_____	406	472	389
Gas, oil & grease bought (farm share)	_____	759	1027	727
Rep. of mechanical power (farm share)	_____	332	382	319
Repair and upkeep of real estate	_____	112	190	82
Rep. & upkeep of crop & gen. mach.	_____	228	305	229
Rep. & upkeep of livestock equip.	_____	86	110	91
Wages of hired labor	_____	390	812	182
Electricity expense (farm share)	_____	148	174	162
Real estate & pers. prop. taxes	_____	546	746	468
General farm expense	_____	145	159	171
(5) Total cash operating expense	_____	6314	8798	5641
(6) Cap. purchases-mech. pow. (f. share)	_____	719	1478	523
(7) " " -crop & gen. mach.	_____	765	1308	476
(8) " " -livestock equip.	_____	197	66	368
(9) " " -bldgs. & fencing	_____	388	489	553
(10) Total farm purchases (5) to (9)	_____	8383	12139	7561
(11) Decrease in farm capital	_____	--	--	1249
(12) Interest on farm capital	_____	1982	2704	1739
(13) Unpaid family labor	_____	260	237	497
(14) Board furnished hired labor	_____	84	153	56
(15) Total farm expenses (10) to (14)	_____	10709	15233	11102
(16) Labor earnings (4) - (15)	_____	1676	4406	-775

Table 3. Summary of Farm Earnings (Enterprise Statement) 1955*

Items	Your farm	Average of 38 farms	10 most profitable farms	10 least profitable farms
RETURNS AND NET INCREASES				
Dairy and dual-purpose cows	_____	\$ 2173	\$ 1439	\$ 2479
Other dairy & dual-purpose cattle	_____	819	509	859
Beef breeding herd	_____	406	1106	265
Feeder cattle	_____	631	1365	351
Hogs	_____	1914	2309	2101
Sheep-farm flock	_____	232	644	238
Chickens	_____	786	619	1160
All productive livestock	_____	6961	8021	7453
Value of feed fed to livestock	_____	5322	5674	6287
Return over feed from livestock	_____	1639	2347	1166
Crops, seed, and feed	_____	6782	10827	4545
Income from labor off the farm	_____	197	409	67
Agricultural conservation payments	_____	46	66	70
Miscellaneous	_____	115	223	112
(1) Total returns & net increases	_____	8779	13872	5960
EXPENSES AND NET DECREASES				
Horses	_____	\$ 1	\$ --	\$ --
Truck	_____	247	330	191
Auto (farm share)	_____	415	653	404
Tractor	_____	822	1008	811
Elec. & gas engine exp. (f. share)	_____	151	168	167
Hired power	_____	170	169	189
Total power	_____	1806	2328	1752
Crop and general machinery	_____	797	936	788
Livestock equipment	_____	183	203	221
Buildings, fencing, and tiling	_____	525	795	418
Misc. productive livestock expense	_____	254	255	296
Labor	_____	865	1340	872
Real estate taxes	_____	438	614	358
Personal property tax	_____	108	132	110
Insurance	_____	65	74	67
General farm	_____	80	85	104
Interest on farm capital	_____	1982	2704	1739
(2) Total expenses & net decreases	_____	7103	9466	6735
(3) Operator's earnings (1)-(2)	_____	1676	4406	-775

* 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 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 expense.

The value of the family living as shown in Table 4 amounts to 2.0 percent of the total farm receipts on these 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, 1955

Items	Your farm	Average of 38 farms	Your farm	Average of 38 farms
Adult equiv. - family	_____	2.7		
- others	_____	.3		
Whole milk	_____	854 qts.		\$ 55
Skim milk	_____	61 qts.	_____	1
Cream	_____	50 pts.	_____	10
Beef	_____	312 lbs.	_____	52
Hogs	_____	431 lbs.	_____	55
Lamb and mutton	_____	5 lbs.	_____	3
Poultry	_____	53 lbs.	_____	12
Eggs	_____	87 doz.	_____	28
Potatoes	_____	2 bu.	_____	2
Vegetables & fruit	_____		_____	18
Farm fuel	_____		_____	2
Total	_____		_____	238

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 \$180 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, 1955.

Items	Your farm	Average of 23 farms	7 most profitable farms	7 least profitable farms
Number of persons - family	_____	4.	4	5.3
Number of adult equiv. - family other*	_____	2.7 .3	2.7 .2	3.3 .2
Food and meals bought	_____	\$638	\$724	\$710
Operating and supplies	_____	212	235	191
Furnishings and equipment	_____	153	205	172
Clothing and clothing materials	_____	229	212	292
Personal care, personal spending	_____	74	104	72
Education, recreation and development	_____	142	214	107
Gifts and special events	_____	107	172	73
Medical care and health insurance	_____	223	281	186
Church, welfare	_____	80	107	51
Personal share of auto expense	_____	141	121	123
Operator's share of upkeep on dwelling	_____	93	69	166
Household share of electric expense	_____	68	68	72
Total cash living expense	_____	2160	2512	2215
H.H. & pers. share of new auto	_____	75	79	111
New dwelling	_____	125	--	73
Taxes and other deductions	_____	83	107	12
Life insurance	_____	96	133	105
Other savings and investments	_____	205	84	503
Total household and personal cash expense	_____	2744	2915	3019
Total family living from the farm	_____	214	182	351
Total cash expenses and perquisites	_____	2958	3097	3370
Receipts:				
Return to capital and family labor	_____	2289	3599	478
Miscellaneous income	_____	153	227	184
Income from investments	_____	122	207	107

* 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, 1955 (Operator's Share)

Items	Your farm		12 owners	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Total acres in farm			251	
Owned			251	
Rented			--	
Total farm capital			\$32886	\$32359
Stocks and bonds			547	562
Life insurance			786	612
Accounts receivable			24	8
Outside real estate			--	--
Other outside investments			385	462
Total outside investments			1742	1644
Dwelling			2963	2875
Cash on hand and in bank			571	1520
Other household & personal assets			1803	1778
Total cash, household & personal assets			7079	7817
TOTAL ASSETS			39965	40176
Federal Land Bank Mortgage			1933	2130
Other mortgage on land operated			5732	5705
Mortgages on other real estate			--	--
FHL chattel mortgages			--	63
Production Credit Association			267	261
Crop loans			54	591
Other chattel mortgages			870	687
Notes payable			1933	1750
Accounts payable			526	422
TOTAL LIABILITIES			11315	11609
Farmer's net worth			28650	28567
Gain in net worth				-83

Items	10 part owners*		9 renters**	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Total acres in farm	250		256	
Owned	114		--	
Rented	136		256	
Total farm capital	\$25953	\$26689	\$10043	\$10175
Stocks and bonds	1050	823	90	112
Life insurance	509	700	372	422
Accounts receivable	157	218	--	--
Other outside investments	526	454	90	117
Total outside investments	2242	2195	552	651
Dwelling	2492	2618	--	--
Cash on hand and in bank	1251	788	461	395
Other household and personal assets	1963	2051	2025	2328
Total cash, household and pers. assets	7948	7652	3038	3374
TOTAL ASSETS	33901	34341	13081	13549
Federal Land Bank Mortgage	773	747	--	--
Other mortgages on land operated	1530	1450	--	--
Mortgages on other real estate	3070	3070	--	--
FHL chattel mortgage	--	--	417	337
Production Credit Association	334	388	--	--
Crop loans	167	239	352	218
Other chattel mortgages	212	--	937	1025
Notes payable	1250	1239	1680	1355
Accounts payable	537	531	442	388
TOTAL LIABILITIES	7873	7664	3828	3303
Farmer's net worth	26028	26677	9253	10246
Gain in net worth		+649		+993

* 4 rented for cash and crop share and 6 crop share.

**1 rented for cash, 5 cash and crop share and 3 crop share.

Table 7. Summary of Farm Earnings by Tenure, 1955 (Operator's Share)

Items	Your farm	12 owners	10 part owners	9 renters
FARM RECEIPTS				
Dairy and dual-purpose cows		\$ 683	\$ 597	\$ 441
Dairy products		2767	1615	1651
Beef cattle (including feeders)		1222	1926	138
Hogs		2164	2096	2108
Sheep and wool (including feeders)		--	587	5
Poultry (including turkeys)		98	40	51
Eggs		670	316	584
Horses		--	--	--
Corn		448	493	1000
Small grain		1282	1898	636
Other crops		144	443	556
Mach. and equip. sold & gas tax refund		56	123	92
Income from work off the farm		579	564	182
Miscellaneous		141	259	46
(1) Total farm sales		<u>10254</u>	<u>10957</u>	<u>7490</u>
(2) Increase in farm capital		--	736	132
(3) Family living from the farm		242	236	177
(4) Total farm receipts (1)+(2)+(3)		<u>10496</u>	<u>11929</u>	<u>7799</u>
FARM EXPENSES				
Dairy and dual-purpose cows bought		\$ 214	\$ 47	\$ 234
Beef cattle bought (incl. feeders)		149	1231	29
Hogs bought		167	214	248
Sheep bought (including feeders)		--	--	--
Horses bought		--	--	--
Poultry bought (including turkeys)		82	60	78
Miscellaneous livestock expense		248	257	228
Feed bought		951	1271	971
Fertilizers bought		167	458	79
Other crop expense		341	479	274
Custom work hired		404	375	363
Gas, oil & grease bought (farm share)		753	749	511
Rep. of mech. power (farm share)		401	318	243
Repair & upkeep of real estate		86	206	46
Rep. & upkeep of crop & gen. mach.		247	171	125
Rep. & upkeep of livestock equip.		64	84	107
Wages of hired labor		338	490	139
Electricity expense (farm share)		152	136	111
Real estate & pers. prop. tax		480	265	97
Cash rent		--	321	444
General farm expense		201	156	77
Interest paid		394	187	121
(5) Total cash operating expense		<u>5839</u>	<u>7475</u>	<u>4525</u>
(6) Capital purchases-mech. pow. (f. share)		461	513	581
(7) Capital purchases-crop & gen. mach.		759	505	267
(8) Capital purchases-livestock equip.		348	215	154
(9) Capital purchases-bldg. & fencing		35	200	74
(10) Total farm purchases (5) to (9)		<u>7442</u>	<u>8908</u>	<u>5601</u>
(11) Decrease in farm capital		527	--	--
(12) Interest on farm capital		1237	1129	384
(13) Unpaid family labor		345	172	82
(14) Board furnished hired labor		43	142	35
(15) Total farm expenses (10) to (14)		<u>9594</u>	<u>10351</u>	<u>6102</u>
(16) Labor earnings (4) - (15)		902	1578	1697
(17) Return to capital & family labor		2484	2879	2163
		(16)+(12)+(13)		

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 12 owners, 10 part owners, and 9 renters is shown in Table 7. The statement includes only the operator's share of the earnings of the partnership. The earnings as shown in Table 7 are on an actual basis as compared to the full-owner basis in Tables 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 operator's earnings of those farmers ranking in the upper 33 percent of the range according to earnings was \$4406 and of those in the lower 33 percent was a - \$775. This is a range of \$5181 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 | 5. Size of Business |
| 2. Choice of Crops | 6. Work Units per Worker |
| 3. Return from Livestock | 7. Control over Expenses |
| 4. Amount of Livestock | |

Operator's
Earnings

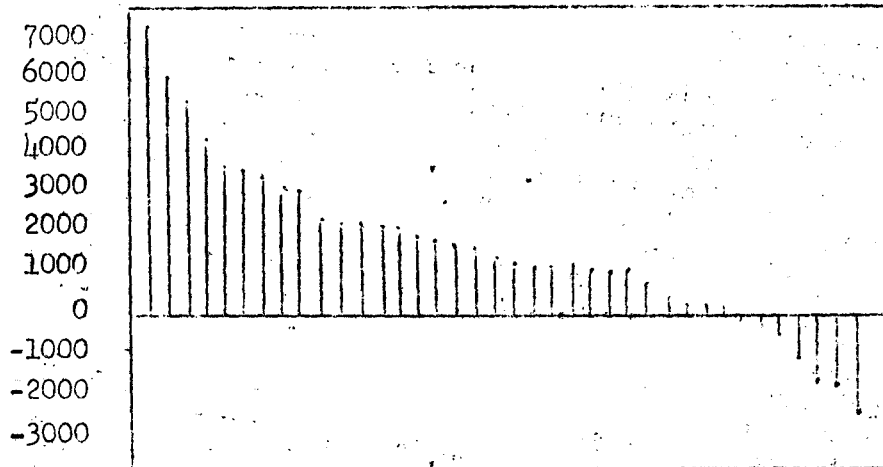


Fig. 1. Range in operator's earnings.
Each line represents the earning of one farmer.

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.

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 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 and dual-purpose cows	10.0 per cow	Small grain	.5 per acre
Other dairy & du. pur. 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 lbs.	Corn husked	.7 per acre
Sheep - farm flock	1.5 per an. unit*	Corn, hogged	.4 per acre
Sheep - feeders	.3 per 100 lbs.	Corn, shredded	1.5 per acre
Hogs	.2 per 100 lbs.	Corn, silage	1.0 per acre
Turkeys	.5 per 100 lbs.	Corn, fodder	1.0 per acre
Hens	20.0 per 100 hens	Alfalfa hay	.6 per acre
Canning peas	.5 per acre	Soybean hay	.8 per acre
Soybeans for grain	.5 per acre	Other hay crops	.4 per acre

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

Table 9. Measures of Farm Organization and Management Efficiency, 1955

Measures used in chart on page 13	Your farm	Average of 38 farms	10 most profitable farms	10 least profitable farms
Operator's earnings	\$ _____	\$1676	\$4406	\$ -755
(1) Crop yields*	_____	100	106	90
(2) Per cent tillable land in high ret. crops**	_____	52.4	56.6	54.8
(3) Ret. for \$100 feed to prod. livestock***	_____	100	124	91
(4) Prod. livestock units per 100 acres****	_____	14.4	16.4	25.2
(5) Size of business - work units	_____	356	423	349
(6) Work units per worker	_____	254	264	233
(7) Pow., mach., equip., & bldg. exp. per work unit	_____	9.40	9.72	9.19
Items related to some of the above measures:				
(3) Index of return for \$100 feed from:				
Dairy cattle (see pages 18 & 19)	_____	100	108	92
Beef cattle-breeding herd (see p.20)	_____	100	149	73
Beef cattle-feeders (see page 20)	_____	100	141	79
Hogs (see page 17)	_____	100	110	90
Sheep - farm flock (see page 21)	_____	100	121	78
Capons	_____	100	--	--
Chickens (see page 22)	_____	100	100	100
(4) Number of animal units	_____	43.5	50.0	48.6
(5) Work units on crops	_____	109	148	92
Work units on productive livestock	_____	227	234	251
Other work units	_____	20	41	66
(6) Number of family workers	_____	1.2	1.1	1.4
Number of hired workers	_____	.2	.5	.1
Total number of workers	_____	1.4	1.6	1.5
(7) Power expense per work unit	_____	5.16	5.53	5.02
Crop machinery expense per work unit	_____	2.27	1.92	2.32
Livestock equip. expense per work unit	_____	.56	.62	.63
Bldgs. & fencing exp. per work unit	_____	1.41	1.65	1.22

* Given as a percentage of the average.

** Crops are marked in table 10 as (A), (B), (C), and (D). All of acres in (A) crops, one-half of acres in (B) crops, and one-fourth of acres in (C) crops are used in calculating per cent of tillable land in high return crops.

*** In 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 averages for the 38 farms included in this summary are located between the dotted lines across the center of this page.

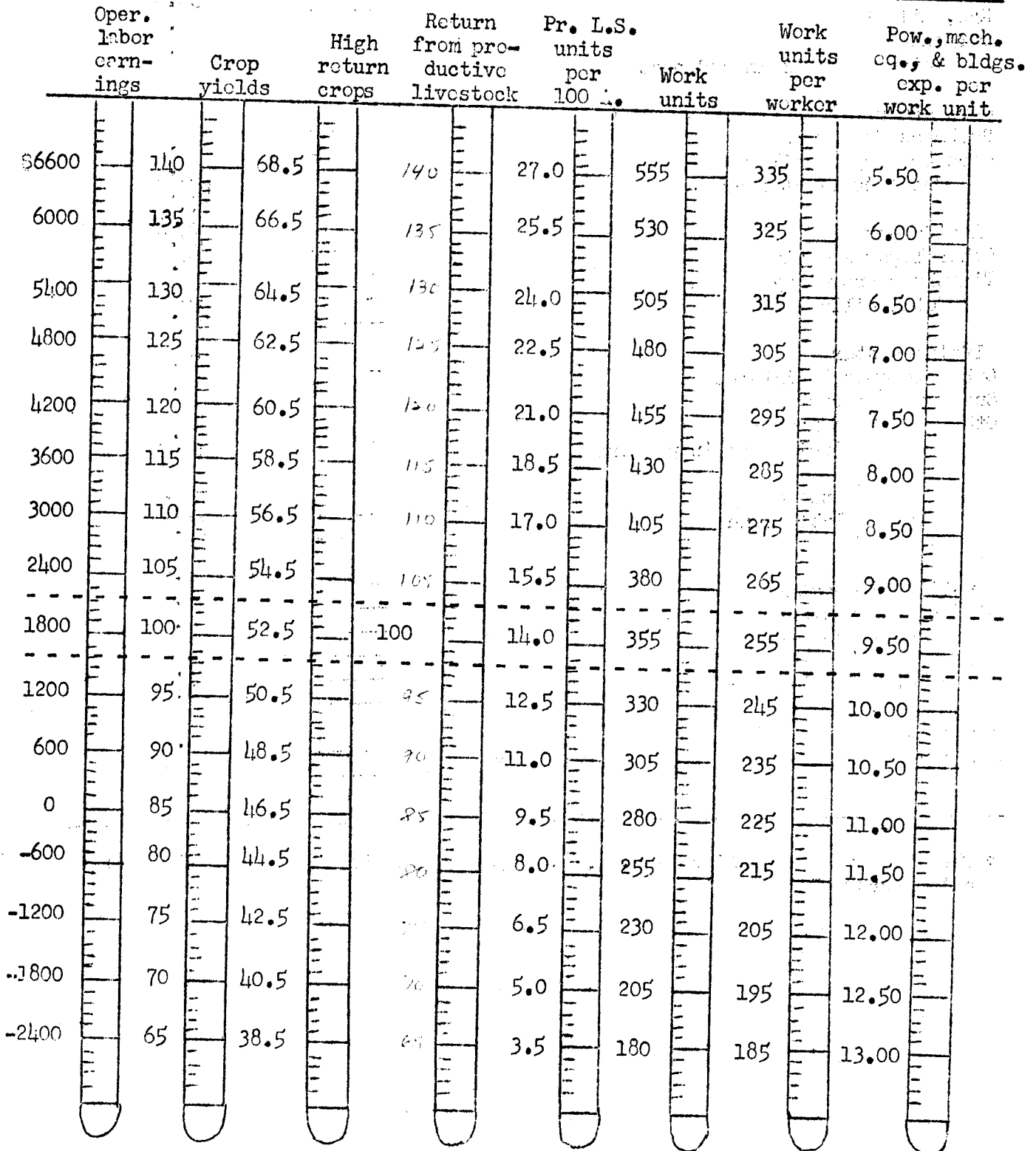


Table 10. Distribution of Acres in Farm, 1955

	Crop ratings*	Your farm	Average of 38 farms
Flax	B	_____	19.3
Barley	C	_____	9.8
Wheat	C	_____	1.3
Oats & oat mixtures	D	_____	36.6
Rye, millet	D	_____	.5
Oat silage	D	_____	.5
Total small grain and peas			<u>68.0</u>
Corn grain	A	_____	54
Soybeans for grain	B	_____	17.8
Corn or sorghum silage	B	_____	9.2
Total cultivated crops			<u>149.0</u>
Alfalfa hay	B	_____	29.7
Other legumes & mixtures	C	_____	2.4
Timothy & bromo hay & seed	D	_____	.4
Total tillable land in hay			<u>32.5</u>
Alfalfa pasture	A	_____	10.0
Other legumes & mixtures	C	_____	2.8
Sudan and/or rape	C	_____	.3
Other tillable pasture	D	_____	1.5
Total tillable land in pasture			<u>14.6</u>
Tillable land not cropped	D	_____	.2
Total tillable land			<u>196.3</u>
Wild hay		_____	3.9
Non-tillable pasture		_____	30.6
Timber (not pastured)		_____	8.2
Roads and waste		_____	17.8
Farmstead		_____	7.9
Total acres in farm			<u>264.7</u>
Per cent land tillable			73.7
Per cent tillable land in high return crops			52.4

* 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, 1955

Crop	Your farm	Average of farms growing each crop
Flax, bu.	_____	12.0
Barley, bu.	_____	31.5
Wheat, bu.	_____	24.8
Oats, bu.	_____	40.9
Rye, bu.	_____	17.2
Oat silage, tons	_____	5.5
Corn grain, bu.	_____	45.1
Soybeans, bu.	_____	19.8
Corn silage, tons	_____	8.4
Alfalfa hay, tons	_____	2.4
Other legumes & mixtures, tons	_____	2.1
Legumes for seed, lbs.	_____	36.9
Timothy or bromo hay, tons	_____	2.2
Wild hay, tons	_____	.9

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 40.5 to 493 with an average of 181 (Table 12). 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 12. Power and Machinery Expenses Per Crop Acre, 1955

Items	Your farm	Average of 38 farms	10 most profitable farms	10 least profitable farms
Crop acres per farm	_____	181	248	152
Tractor and horse exp. per crop acre	_____	4.74	3.97	5.34
Crop & gen. mach. exp. per crop acre	_____	4.41	3.26	5.11

AMOUNT OF LIVESTOCK

A large proportion of the farmers maintained some dairy cattle and hogs (Table 13). Seventy-six per cent of the farmers kept poultry.

Table 13. Amount of Livestock, 1955

	Your farm	Average of 38 farms	10 most profitable farms	10 least profitable farms
Number of milk cows	_____	11	7.4	12.9
Number of other dairy cattle	_____	12.9	7.3	15.2
Number of beef cattle (incl. feeders)	_____	13.9	28.8	12.2
Number of sheep*	_____	13.4	33	17.8
Number of hens	_____	128	73	176
Litters of pigs raised	_____	9.7	12.4	10.6
Pounds of hogs produced	_____	16968	19425	18759
Pounds of feeder cattle produced	_____	3036	6099	2182

* Two lambs under six months of age considered as one head.

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 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 14. Total Feed Costs and Returns From Your Livestock Enterprises, 1955

	Dairy or dual purpose 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 per cent of the total costs 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.

HOGS

The return over feed cost per 100 pounds of hogs produced varied from \$2.66 for those farmers ranking in the upper one-third in feeding efficiency to a return of -\$2.57 for those in the lowest one-third. 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, 1955

Items	Your farm	Average of 33 farms	10 farms highest in returns above feed	10 farms lowest in returns above feed
Feed per cwt. hogs produced, lbs.:				
Corn	_____	317	264	381
Small grain	_____	120	91	163
Commercial feeds	_____	28	30	21
60% alfalfa	_____	4	4	1
Total concentrates	_____	469	389	566
Skim milk and buttermilk	_____	111	13	117
Feed cost per cwt. hogs produced:				
Concentrates	\$ _____	\$10.93	\$ 9.21	\$12.79
Skim milk and buttermilk	_____	.39	.05	.40
Pasture	_____	.12	.13	.13
TOTAL FEED COSTS	\$ _____	\$11.44	\$ 9.39	\$13.32
Net increase in val. per cwt. hogs prod.	_____	\$11.66	\$12.05	\$10.75
RETURNS ABOVE FEED COST PER CWT. HOGS PRODUCED	\$ _____	.22	2.66	-2.57
RETURNS FOR \$100 OF FEED	\$ _____	\$105	\$129	\$81
Price received per cwt. hogs sold	\$ _____	14.57	14.77	14.09
No. of spring litters raised	_____	7.7	11.1	6.9
No. of fall litters raised	_____	3.5	2.6	3.2
Total no. of litters raised	_____	11.2	13.7	10.1
No. of pigs born per litter	_____	7.8	8.4	8.6
No. of pigs weaned per litter	_____	6.2	6.6	6.7
Pounds of hogs produced	_____	18764	23503	15986

DAIRY AND DUAL PURPOSE CATTLE

The quantity of feed consumed, value of feeds and returns from dairy cattle are presented in Tables 16, 17, and 18. The statements include one herd which was classified as dual purpose cattle.

The return over feed cost per cow varied from -\$44.66 to \$151.49 among the 33 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, 1955

Items	Your farm	Average of 30 farms	10 farms highest in butterfat per cow	10 farms lowest in butterfat per cow
Pounds of butterfat per cow		270	330	206
Price rec. per lb. B.F. sold (cents)		70.7	77.6	65.9
Price rec. per lb. B.F.-whole milk		82.4	82.2	80.6
Price rec. per lb. B.F.-cream		61.5	66.2	59.5
Feeds per cow, lbs.:				
Corn		1136	1173	937
Small grain		1008	1151	743
Commercial feeds		162	203	145
Legume hay		4954	5551	4204
Other hay		457	241	862
Fodder and stover		--	--	--
Total concentrates		2306	2527	1825
Total dry roughage		5411	5792	5066
Silage		7438	7790	8059
Feed cost per cow:				
Concentrates		\$51.19	\$56.31	\$41.49
Roughages		69.93	74.46	68.68
Pasture		12.49	11.84	13.41
TOTAL FEED COSTS		133.61	142.61	123.58
Value of produce per cow:				
B.F. sales		\$181.98	\$239.41	\$130.48
Dairy produce used in house		7.02	6.70	5.28
Milk to livestock		14.33	12.48	13.86
Net increases in value of cows		-13.67	-8.77	-7.61
TOTAL VALUE PRODUCED		189.66	249.82	142.01
RETURNS ABOVE FEED COST PER COW		56.05	107.21	18.43
RETURNS FOR \$100 OF FEED		144	178	118
Feed cost per lb. B.F. (cents)		51.7	43.5	61.9
Number of cows*		13.8	14.6	13.3

* 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 and Dual Purpose Cattle, 1955

Items	Your Farm	Average of 30 farms	10 farms highest in butterfat per cow	10 farms lowest in butterfat per cow
Feeds per head, lbs.:				
Concentrates	_____	428	654	263
Hay and fodder	_____	197	2546	1499
Silage	_____	2284	2488	2897
Skim milk	_____	564	282	527
Whole milk	_____	285	381	278
Feed cost per head:				
Concentrates	\$ _____	\$ 9.79	\$ 14.88	\$ 5.92
Roughages	_____	23.34	28.21	21.95
Milk	_____	8.38	10.77	7.26
Pasture	_____	5.02	5.09	4.43
TOTAL FEED COSTS PER HEAD	_____	46.53	58.95	39.56
Net inc. in value of other cattle	_____	63.16	80.94	54.80
RETURNS ABOVE FEED COST PER HEAD	_____	16.63	21.99	15.24
RETURNS FOR \$100 OF FEED	\$ _____	\$ 149	\$ 145	\$ 167
Number of head of other cattle	_____	16.2	15.8	19.3

Table 18. Feed Costs and Returns from All Dairy and Dual Purpose Cattle, 1955

Items	Your farm	Average of 30 farms	10 farms highest in butterfat per cow	10 farms lowest in butterfat per cow
Feeds per animal unit, lbs.:				
Concentrates	_____	1781	2135	1316
Hay and fodder	_____	4937	5598	4431
Silage	_____	6422	6867	7144
TOTAL FEED COSTS PER ANIMAL UNIT	\$ _____	\$ 113.40	\$ 128.15	\$ 101.34
Value of produce per animal unit:				
Dairy products	_____	123.82	162.50	83.44
Net increase in val. of dairy cattle	_____	37.14	51.36	37.59
TOTAL VALUE PRODUCED	_____	160.96	213.86	121.03
RETURNS ABOVE FEED PER ANIMAL UNIT	\$ _____	\$ 47.56	\$ 85.71	\$ 19.69
RETURNS PER \$100 OF FEED	\$ _____	\$ 142	\$ 171	\$ 123
Animal units of cattle	_____	22.2	22.5	22.9

Table 19, Feed Costs and Returns from Beef Cattle, 1955

Items	Your farm	Average of all farms
Beef breeding herd: No. of farms:		10
Feeds per animal unit, lbs.:		
Concentrates		261
Legume		3864
Other hay		1241
Fodder and stover		--
Silage		4938
Feed cost per animal unit:		
Concentrates	\$	5.72
Roughages		54.57
Pasture		12.36
TOTAL FEED COSTS		72.65
Value of produce per animal unit:		
Dairy products	\$.09
Net increase in value of animals		70.31
TOTAL VALUE PRODUCED		70.40
RETURNS ABOVE FEED COST PER ANIMAL UNITS	\$	-2.25
RETURNS FOR \$100 OF FEED	\$	98
Number of cows and herd Bulls		14.2
Number of animal units in the herd		20.6
Lbs. beef produced		9992
Feeding Cattle: No. of farms		10
Feeds per cwt. beef produced, lbs.:		
Corn		572
Small grain		70
Commercial feeds		30
Legume hay		556
Other hay		66
Total concentrates		572
Total hay and fodder		622
Silage		966
Feed cost per cwt. beef produced:		
Concentrates	\$	15.77
Roughages		8.28
Pasture		.83
TOTAL FEED COSTS		24.88
Net increase in value of feeders		20.20
RETURNS ABOVE FEED COST PER CWT. BEEF PROD.		-4.68
RETURNS FOR \$100 OF FEED	\$	82
Price paid per cwt. beef bot	\$	17.93
Price recd. for feeder cattle sold		18.79
Number of animal units		18.1
Pounds of beef produced		11447

Table 20. Feed Costs and Returns from a Farm Flock of Sheep, 1955

Items	Your farm	Average of 4 farms
Feeds per head,* lbs.:		
Concentrates	_____	103
Legume hay	_____	611
Other hay	_____	—
Silage	_____	284
Feed cost per head:		
Concentrates	\$ _____	\$ 2.18
Roughages	_____	6.21
Pasture	_____	1.84
TOTAL FEED COSTS	\$ _____	10.23
Value of produce per head:		
Wool	\$ _____	\$ 3.66
Net increase in value of sheep	_____	13.00
TOTAL VALUE PRODUCED	\$ _____	16.66
RETURNS ABOVE FEED COST PER HEAD	\$ _____	6.43
RETURNS FOR \$100 OF FEED	\$ _____	\$169.00
Price per cwt. of lambs sold	\$ _____	\$19.34
Price per lb. wool sold (cts.)	_____	32.1
Pounds of wool per sheep sheared	_____	9.5
Number of ewes kept for lambing	_____	90
Per cent lamb crop**	_____	116
Per cent death loss**	_____	10
Pounds of sheep produced	_____	8638
No. of head of sheep*	_____	126.9

* Two lambs under six months of age considered as one head.

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

CHICKENS

Four out of the 22 farmers raising chickens failed to receive a return large enough to cover the cost of feed. The average return over feed from the 22 flocks included in this report was 1.96 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 21. Feed Costs and Returns from Chickens, 1955*

Items	Your farm	Average of 22 farms	Highest 50%	Lowest 50%
Feed per hen, lbs.:				
Grain	_____	90	71	110
Commercial feeds	_____	45	40	49
Total concentrates	_____	135	111	159
Skim milk and buttermilk	_____	10	10	9
TOTAL FEED COST PER HEN	\$ _____	\$3.83	\$3.22	\$4.44
Value of produce per hen:				
Eggs sold and used in house	\$ _____	\$5.14	\$5.54	\$4.75
Net increase in value of chickens	_____	.65	.86	.45
TOTAL VALUE PRODUCED	\$ _____	\$5.79	\$6.40	\$5.20
RETURNS ABOVE FEED COST PER HEN	\$ _____	\$1.96	\$3.18	\$.76
RETURNS FOR \$100 OF FEED				
Price rec'd. per doz. eggs sold (cts.)	_____	.33	33.3	32.7
Eggs laid per hen	_____	187	199	174
Ave. no. hens on farm during year	_____	220	216	224
Per cent of hens that are pullets	_____	79	79	80
Per cent death loss of hens	_____	14	12	16
Number of chicks started:	_____	272	330	213
Lbs. chickens produced	_____	781	821	740

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

Table 22. Summary of Miscellaneous Items by Years

	1953	1954	1955
Acres in farm:			
Small grains	91.4	91.7	68.0
Cultivated crops	63.3	67.9	81.0
Tillable land in hay	28.3	34.8	32.5
Tillable land in pasture	8.5	11.0	14.6
Tillable land not cropped	.2	5.3	.2
Total tillable land	191.7	210.7	196.3
Wild hay & non-tillable pasture	33.0	30.5	34.5
Other non-tillable land	29.6	33.3	33.9
Total acres in farm	254.3	274.5	264.7
Yields per acre:			
Flax, bu.	10.3	9.6	12.0
Barley, bu.	24.6	29.5	31.5
Wheat, bu.	10.1	17.6	24.8
Oats, bu.	35.1	34.1	40.9
Corn grain, bu.	45.1	47.0	45.1
Soybeans, bu.	20.4	19.8	19.8
Corn silage, tons	8.3	8.2	8.4
Alfalfa hay, tons	2.7	2.4	2.4
Meas. of farm org. & Management:			
Per cent of land in high ret. crops	48.2	47.5	52.4
Prod. L. S. units per 100 A.	18.3	19.7	14.4
Size of business, work units	324	359	356
Work units per worker	220	239	255
Exp. per work unit	\$ 10.18	\$ 9.69	\$ 9.40
Return above feed cost per:			
Dairy cow	\$ 67.49	\$53.17	\$56.05
An. unit in beef breeding herd	-25.29	3.98	-2.25
100 lbs. feeder cattle produced	-2.63	8.91	-4.68
100 lbs. hogs produced	10.07	6.18	.22
Head native sheep	4.80	2.70	6.43
Hen	2.27	-.26	1.96
Feed cost per:			
Dairy cow	\$127.24	\$127.61	\$133.61
An. unit in beef breeding herd	80.64	73.14	72.65
100 lbs. feeder cattle produced	20.86	18.99	24.88
100 lbs. hogs produced	13.15	13.54	11.44
Head native sheep	7.63	8.86	10.23
Hen	4.19	4.20	3.83
Misc. livestock information:			
No. dairy & dual-purpose cows	10.6	10.9	11.0
No. beef cows & herd bulls	1.8	?	13.9
Lbs. feeder cattle produced	2499	?	3036
Litter of pigs	8	9	9.7
Lbs. hogs produced	11149	16255	16968
No. of hens	160	191	128
Lbs. butterfat per milk cow	255	256	270
No. pigs weaned per litter	7.1	7.0	6.2
Per cent lamb crop	99	97	116
Eggs per hen	174	174	187

Table 22. Summary of Miscellaneous Items by Years (Continued)

	1953	1954	1955
Price received per:			
Lb. butterfat sold as cream	\$.72	\$.74	61.5
Lb. butterfat sold as milk	.90	:	82.4
100 lbs. fat cattle	18.84	19.62	18.79
100 lbs. hogs	21.15	21.44	14.57
100 lbs. lambs	19.21	18.99	19.34
Lbs. of wool	.50	.46	32.1
Doz. eggs	.41	.30	33
Price of feed:			
Corn, bu.	\$ 1.31	\$ 1.34	\$ 1.23
Oats, bu.	.71	.70	.61
Barley, bu.	1.11	1.02	.93
Alfalfa hay, ton	17.50	17.00	18.00
Timothy hay, ton	10.10	9.80	10.40
Corn silage, ton	5.85	5.75	6.00
Linseed oilmeal, cwt.	4.05	4.20	4.10

Table 23. Summary of Farm Earnings By Years

	1953	1954	1955
No. of farms	52	46	38
Farm receipts:			
Dairy & dual-purpose cattle	\$ 690	\$ 811	\$ 626
Dairy products	2163	2081	2118
Beef cattle	1094	2145	1291
Hogs	2509	3390	2312
Sheep and wool	147	187	251
Horses	2	12	--
Poultry	162	149	74
Eggs	917	776	680
Corn	1023	610	1488
Small grain	1558	1597	1650
Other crops	351	597	488
Mech. & equip. sold	219	234	104
Income from work off the farm	309	485	408
Miscellaneous	139	204	151
Total farm sales	<u>11283</u>	<u>13278</u>	<u>10657</u>
Increase in farm capital	1128	775	496
Family living from the farm	289	294	238
Total farm receipts	<u>12700</u>	<u>14347</u>	<u>12385</u>
Farm expenses:			
Dairy & dual-purpose cattle bot	236	118	158
Beef cattle bot	402	781	419
Hogs bot	130	233	260
Sheep bot	9	66	2
Horses bot	5	4	--
Poultry bot	107	118	79
Misc. livestock expense	159	219	254
Feed bot	1211	1790	1214
Fertilizers :		361	331
Other crop expenses :	620	438	445
Custom work hired	414	428	406
Gas, oil & grease bot	798	801	759
Repairs for mechanical power	304	301	332
Repair & upkeep of real estate	161	175	112
Rep. & upkeep of crop machinery	276	268	228
Rep. & upkeep of livestock equipment	77	98	86
Wages of hired labor	341	542	390
Electricity expense	113	142	148
Real estate & personal property taxes	464	502	546
General farm expense	147	182	145
Total cash operating expense	<u>5974</u>	<u>7567</u>	<u>6314</u>
Capital purchases - mech. power	592	697	719
- crop & gen. mech.	710	1069	765
- livestock equipment	123	136	197
- bldgs. & fencing	520	465	388
Total farm purchases	<u>7919</u>	<u>9934</u>	<u>8383</u>
Decrease in farm capital	--	--	--
Interest on farm capital	1655	1972	1982
Unpaid family labor	365	225	260
Board furnished hired labor	72	88	84
Total farm expenses	<u>10011</u>	<u>12219</u>	<u>10709</u>
Labor earnings	2689	2128	1676
Net cash income	3364	3344	2268

