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1954 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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1954 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 S. B. Cleland and E. Hartmans. The State Department of Education was represented by G. R. Cochran, State Supervisor of Agricultural Education. At the end of the year, Kermit Kleene of the Department of Agricultural Economics aided in closing the records.

Each farmer pays an annual fee which covers a portion of the cost. The Farmers Union Grain Terminal Association contributed \$5.00 per record analyzed. 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 8 schools in West Central Minnesota. The following tabulation shows by schools the number of 1954 farm records submitted:

Alexandria	15	Madison	3
Herman	6	Morris	7
Iyanhoe	4	Redwood Falls	3
Lake Benton	2	Tyler	6
		Total	<u>46</u>

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 \$11,235 to \$84,828. 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 27 out of the 46 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, 1954\*

Items	Your farm		Average of 46 farms	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Size of farm (acres)			275	
Size of business (work units)**			359	
Dairy and dual purpose cows			\$ 2076	\$ 1986
Other dairy & dual purpose cattle			905	844
Beef cattle (incl. feeders)			1542	1460
Hogs			1172	1078
Sheep (including feeders)			177	168
Poultry (including turkeys)			205	166
Productive livestock (total)			6077	5702
Horses			12	6
Crop, seed and feed			4324	4915
Power mach. (farm share)			2918	3080
Crop and general machinery			3618	3972
Livestock equipment			542	587
Machinery & equipment (total)			7078	7639
Miscellaneous			-	-
Land			15284	15284
Buildings, fences, etc.			6278	6282
Total farm capital			39053	39828

Items	15 most profitable farms		15 least profitable	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Size of farm (acres)	389		219	
Size of business (work units)**	413		306	
Dairy and dual purpose cows	\$ 1720	\$ 1812	\$ 1620	\$ 1353
Other dairy & dual purpose cattle	1007	926	576	663
Beef cattle (incl. feeders)	2219	2552	1824	1596
Hogs	1466	1297	1063	1091
Sheep (including feeders)	309	324	97	31
Poultry (including turkeys)	205	182	190	148
Productive livestock (total)	6926	7093	5370	4882
Horses	-	-	26	18
Crop, seed, and feed	6706	8372	3537	3263
Power Mach. (farm share)	3814	3999	2683	2604
Crop & general machinery	4732	5355	3069	3362
Livestock equipment	572	697	605	617
Machinery & equipment (total)	9118	10051	6357	6583
Miscellaneous	-	-	-	-
Land	19595	19595	13020	13020
Buildings, fences, etc.	8010	8510	4956	4708
Total farm capital	50355	53621	33266	32474

\* 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), 1954

Items	Your farm	Average of 46 farms	15 most profitable farms	15 least profitable farms
<b>FARM RECEIPTS</b>				
Dairy and dual-purpose cattle		\$ 811	\$ 810	\$ 568
Dairy products		2081	1710	1344
Beef cattle (including feeders)		2145	3658	2043
Hogs		3390	4670	2792
Sheep and wool (including feeders)		187	396	75
Horses		12	-	19
Poultry		149	277	68
Eggs		776	923	691
Corn		610	870	632
Small grain		1597	2782	1237
Other crops		597	906	452
Mach. & equip. sold & gas tax refund		234	393	133
Income from work off the farm		485	538	489
Miscellaneous		204	297	185
(1) Total farm sales		13278	18230	10728
(2) Increase in farm capital		775	3266	-
(3) Family living from the farm		294	292	278
(4) Total farm receipts (1)+(2)+(3)		14347	21788	11006
<b>FARM EXPENSES</b>				
Dairy and dual-purpose cattle bought		\$ 118	\$ 120	\$ 81
Beef cattle bought (incl. feeders)		781	1694	630
Hogs bought		233	174	287
Sheep bought (incl. feeders)		66	183	16
Horses bought		4	-	13
Poultry bought		118	147	79
Misc. Livestock expense		219	239	206
Feed bought		1790	2802	1487
Fertilizers		361	536	430
Other crop expenses		438	501	498
Custom work hired		428	465	395
Gas, oil & grease bought (farm share)		801	992	726
Rep. of mechanical power (farm share)		301	340	302
Repair and upkeep of real estate		175	173	192
Rep. & upkeep of crop & gen. mach.		268	372	218
Rep. & upkeep of livestock equip.		98	171	59
Wages of hired labor		542	814	322
Electricity expense (farm share)		142	157	119
Real estate & pers. prop. taxes		502	632	422
General farm expense		182	212	152
(5) Total cash operating expense		7567	10724	6634
(6) Cap. purchases-mech. pow. (f. share)		697	776	452
(7) " " -crop & gen. mach.		1069	1556	854
(8) " " -livestock equip.		136	218	98
(9) " " -bldgs. & fencing		465	1114	84
(10) Total farm purchases (5) to (9)		9934	14388	8122
(11) Decrease in farm capital		-	-	792
(12) Interest on farm capital		1972	2599	1644
(13) Unpaid family labor		225	314	203
(14) Board furnished hired labor		88	87	90
(15) Total farm expenses (10) to (14)		12219	17388	10851
(16) Labor earnings (4) - (15)		2128	4400	155

Table 3. Summary of Farm Earnings (Enterprise Statement) 1954\*

Items	Your farm	Average of 46 farms	15 most profitable farms	15 least profitable farms
<b>RETURNS AND NET INCREASES</b>				
Dairy and dual-purpose cows	_____	\$ 2095	\$ 1739	\$ 1348
Other dairy & dual-purpose cattle	_____	816	977	626
Beef breeding herd	_____	180	111	390
Feeder cattle	_____	1110	2156	850
Hogs	_____	3126	4400	2592
Sheep-farm flock	_____	111	228	- 8
Capons	_____	59	177	-
Chickens	_____	756	902	674
All productive livestock	_____	<u>8253</u>	<u>10690</u>	<u>6472</u>
Value of feed fed to livestock	_____	5664	6990	4936
Return over feed from livestock	_____	2589	3700	1536
Crops, seed, and feed	_____	6360	9271	4381
Income from labor off the farm	_____	218	223	218
Agricultural conservation payments	_____	94	117	113
Miscellaneous	_____	110	180	72
(1) Total returns & net increases	_____	<u>9371</u>	<u>13491</u>	<u>6320</u>
<b>EXPENSES AND NET DECREASES</b>				
Horses	_____	\$ 1	\$ -	\$ 10
Truck	_____	234	324	233
Auto (farm share)	_____	384	405	369
Tractor	_____	796	899	746
Elec. & gas engine exp. (f. share)	_____	148	162	127
Hired power	_____	178	187	161
Total power	_____	<u>1741</u>	<u>1977</u>	<u>1646</u>
Crop and general machinery	_____	862	1110	680
Livestock equipment	_____	183	239	149
Buildings, fencing, and tiling	_____	592	720	524
Misc. productive livestock exp.	_____	219	239	206
Labor	_____	990	1363	742
Real estate taxes	_____	396	504	332
Personal property tax	_____	106	128	90
Insurance	_____	98	109	87
General farm	_____	84	103	65
Interest on farm capital	_____	1972	2599	1644
(2) Total expenses & net decreases	_____	<u>7243</u>	<u>9091</u>	<u>6165</u>
(3) Operator's earnings (1)-(2)	_____	<u>2128</u>	<u>4400</u>	<u>155</u>

\* 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 and shelter furnished the farmer and his family by the farm. It is a part of the income of the farm and a part of the expenses of operating the household even though cash transactions are not involved. The omission of the farm produce used in the home results in an incomplete record of both farm income and personal expense.

The value of the family living as shown in Table 4 amounts to 2.3 per cent 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, 1954

Items	Average		Your farm	Average 40* farms
	Your farm	40* farms		
Adult equiv. - family	_____	3.2		
- others	_____	.3		
Whole milk	_____	857 qts.		67
Skim milk	_____	86 qts.		2
Cream	_____	68 pts.		14
Beef	_____	504 lbs.		96
Hogs	_____	363 lbs.		72
Lamb and mutton	_____	-		-
Poultry	_____	67 lbs.		17
Eggs	_____	111 doz.		35
Potatoes	_____	2 bu.		2
Vegetables & fruit	_____			20
Farm fuel	_____			10
Total	_____			<u>335</u>

\* 40 farmers reported complete records on family living from the farm.

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 \$188 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, 1954

Items	Your farm	Average of 20 farms	6 most profitable farms	6 least profitable farms
Number of persons - family	_____	4.3	3.7	4.8
Number of adult equiv. - family	_____	3.0	2.8	3.2
other*	_____	.3	.4	.3
Food and meals bought	_____	\$ 683	\$ 706	\$ 695
Operating and supplies	_____	205	278	122
Furnishings and equipment	_____	169	250	173
Clothing and clothing materials	_____	281	317	261
Personal care, personal spending	_____	90	55	95
Education, recreation and development	_____	152	351	31
Gifts and special events	_____	112	185	71
Medical care and health insurance	_____	258	258	363
Church, welfare	_____	110	75	77
Personal share of auto expense	_____	89	103	70
Operator's share of upkeep on dwelling	_____	36	106	7
Household share of electric expense	_____	69	75	66
Total cash living expense	_____	2254	2759	2031
H.H. & pers. share of new auto	_____	83	-	164
New dwelling	_____	82	270	-
Taxes and other deductions	_____	46	62	39
Life insurance	_____	168	210	57
Other savings and investments	_____	296	58	8
Total household and personal cash expense	_____	2929	3359	2299
Total family living from the farm	_____	\$ 312	\$ 278	\$ 324
Total cash expenses and perquisites	_____	3241	3637	2623
Receipts:				
Return to capital and family labor	_____	\$2769	\$5034	\$1017
Miscellaneous income	_____	264	209	243
Income from investments	_____	182	267	92

\* 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, 1954 (Operator's Share)

Items	Your farm		12 owners	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Total acres in farm			265	
Owned			265	
Rented			-	
Total farm capital			\$39470	\$39970
Stocks and bonds			453	481
Life insurance			441	363
Accounts receivable			19	14
Outside real estate			41	-
Other outside investments			260	283
Total outside investments			1214	1141
Dwelling			3285	3144
Cash on hand and in bank			451	337
Other household & personal assets			2090	2068
Total cash, household & personal assets			7040	6690
TOTAL ASSETS			46510	46660
Federal Land Bank Mortgage			2795	2752
Other mortgage on land operated			6000	5541
Mortgages on other real estate			-	208
Production Credit Association			305	-
Crop loans			333	158
Other chattel mortgages			775	1337
Notes payable			1265	483
Accounts payable			255	594
TOTAL LIABILITIES			11728	11073
Farmer's net worth			34782	35587
Gain in net worth				+ 805

Items	8 part owners*		7 renters**	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Total acres in farm	216		246	
Owned	121		-	
Rented	95		246	
Total farm capital	\$24417	\$25877	\$14253	\$14347
Stocks and bonds	478	459	789	1084
Life insurance	1469	1599	298	351
Accounts receivable	87	100	-	11
Other outside investments	112	149	156	498
Total outside investments	2116	2307	1243	1944
Dwelling	3102	3149	-	-
Cash on hand and in bank	1019	262	1538	1702
Other household and personal assets	1644	1632	1833	2237
Total cash, household and pers. assets	7911	7350	4614	5883
TOTAL ASSETS	32328	33227	18867	20230
Federal Land Bank Mortgage	998	966	-	-
Other mortgages on land operated	4908	4641	-	-
Mortgages on other real estate	-	-	-	-
Production Credit Association	-	-	-	-
Crop loans	407	429	136	-
Other chattel mortgages	820	600	1740	2041
Notes payable	2141	2179	1293	1365
Accounts payable	63	441	475	429
TOTAL LIABILITIES	9337	9256	3644	3835
Farmer's net worth	22991	23971	15223	16395
Gain in net worth		+ 980		+ 1172

\* 3 rented for cash and crop share and 5 crop share.

\*\* 1 rented for cash, 4 cash and crop share and 2 crop share.

Table 7. Summary of Farm Earnings by Tenure, 1954 (Operator's Share)

Items	Your farm	12 owners	8 part owners	7 renters
<b>FARM RECEIPTS</b>				
Dairy and dual-purpose cows		\$ 1117	\$ 539	\$ 732
Dairy products		3384	1493	1403
Beef cattle (including feeders)		1562	2338	683
Hogs		2507	3503	3924
Sheep and wool (including feeders)		174	336	24
Poultry (including turkeys)		204	144	104
Eggs		933	717	1144
Horses		17	-	3
Corn		485	359	480
Small grain		1784	1020	960
Other crops		438	372	390
Mach. and equip. sold & gas tax refund		151	122	359
Income from work off the farm		261	593	398
Miscellaneous		205	154	123
(1) Total farm sales		13222	11690	10727
(2) Increase in farm capital		500	1460	94
(3) Family living from the farm		229	407	315
(4) Total farm receipts (1)+(2)+(3)		13951	13557	11136
<b>FARM EXPENSES</b>				
Dairy and dual purpose cows bought		\$ 162	\$ 92	\$ 136
Beef cattle bought (incl. feeders)		534	1288	163
Hogs bought		114	171	364
Sheep bought (including feeders)		-	373	1
Horses bought		16	-	-
Poultry bought (including turkeys)		142	107	185
Miscellaneous livestock expenses		236	228	259
Feed bought		1356	2009	1631
Fertilizers bought		261	197	240
Other crop expense		362	334	255
Custom work hired		310	486	560
Gas, oil & grease bought (farm share)		795	667	708
Rep. of mech. power (farm share)		298	243	301
Repair & upkeep of real estate		203	83	143
Rep. & upkeep of crop & gen. mach.		299	209	204
Rep. & upkeep of livestock equip.		111	70	97
Wages of hired labor		754	387	374
Electricity expense (farm share)		154	126	118
Real estate & pers. prop. tax		536	251	94
Cash rent		-	328	356
General farm expense		244	149	119
Interest paid		299	318	140
(5) Total cash operating expense		7186	8116	6448
(6) Capital purchases-mech. pow.(f.share)		928	327	580
(7) Capital purchases-crop & gen. mach.		848	752	1010
(8) Capital purchases-livestock equip.		133	149	171
(9) Capital purchases-bldg. & fencing		818	328	25
(10) Total farm purchases (5) to (9)		9913	9672	8234
(11) Decrease in farm capital		-	-	-
(12) Interest on farm capital		1687	939	575
(13) Unpaid family labor		255	285	112
(14) Board furnished hired labor		74	62	112
(15) Total farm expenses (10) to (14)		11929	10958	9033
(16) Labor earnings (4) - (15)		2022	2599	2103
(17) Return to capital & family labor		3964	3823	2790
(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, 8 part owners, and 7 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 per cent of the range according to earnings was \$4400 and of those in the lower 33 per cent was \$155. This is a range of \$4245 between the average earnings of these two groups. Some of the causes for these differences in earnings, such as weather, may be beyond the control of the individual farmer. Other factors are within his control. The more important management factors affecting earnings are as follows: These factors vary from year to year in their relative influence on earnings. 1/

1. Crop Yields
2. Choice of Crops
3. Return from Livestock
4. Amount of Livestock
5. Size of Business
6. Work Units per Worker
7. Control over Expenses

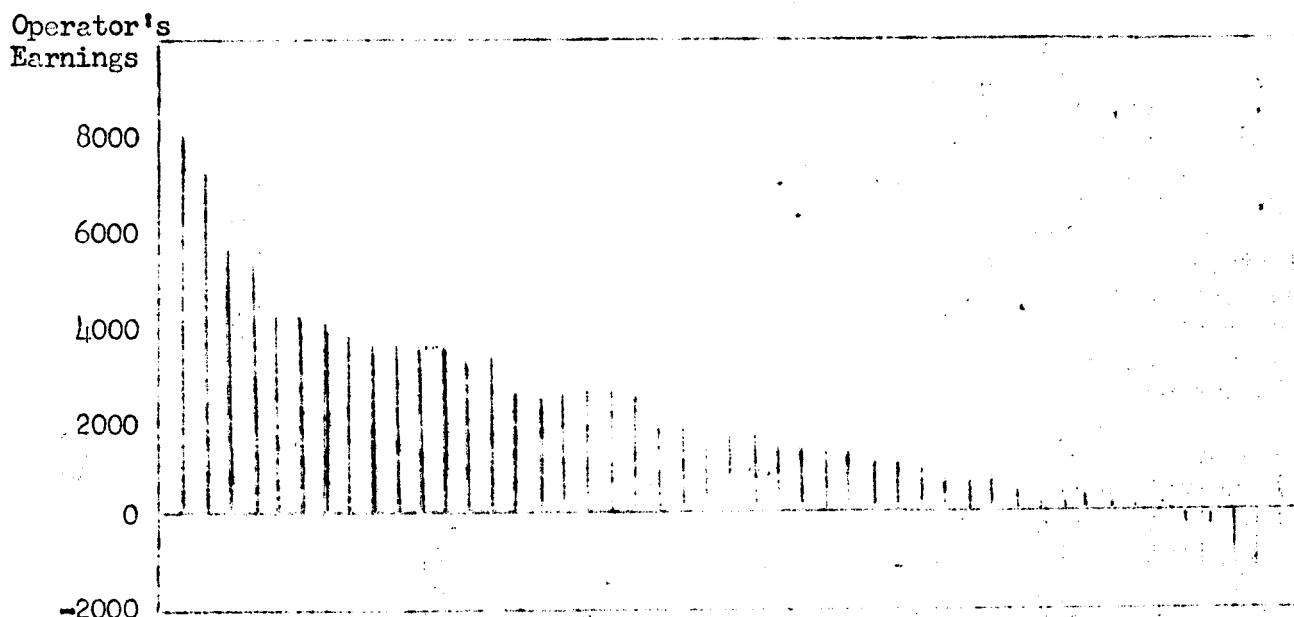


Fig 1. Range in operator's earnings.  
Each line represents the earning of one farmer.

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, 1954

Measures used in chart on page 13	Your farm	Average of 46 farms	15 most profitable farms	15 least profitable farms
Operator's earnings	_____	\$2128	\$4400	\$ 155
(1) Crop yields*	_____	100	100	98
(2) Per cent tillable land in high ret. crops**	_____	47.5	50	47
(3) Ret. for 100 feed to prod. livestock***	_____	100	110	97
(4) Prod. livestock units per 100 acres****	_____	19.7	17.0	21.7
(5) Size of business - work units	_____	359	413	306
(6) Work units per worker	_____	239	229	235
(7) Pow., mach., equip., & bldg. exp. per work unit	_____	\$ 9.69	\$10.19	\$ 9.91

Items related to some of the above measures:

(3) Index of return for 100 feed from:				
Dairy cattle (see pages 18 & 19)	_____	100	97	94
Beef cattle-breeding herd (see p.20)	_____	100	-	-
Beef cattle-feeders (see page 20)	_____	100	111	80
Hogs (see page 17)	_____	100	117	89
Sheep - farm flock (see page 21)	_____	100	-	-
Capons	_____	100	-	-
Chickens (see page 22)	_____	100	106	98
(4) Number of animal units	_____	43.6	54.0	39.2
(5) Work units on crops	_____	116	159	92
Work units on productive livestock	_____	223	237	192
Other work units	_____	20	17	22
(6) Number of family workers	_____	1.2	1.3	1.1
Number of hired workers	_____	.3	.5	.2
Total number of workers	_____	1.5	1.8	1.3
(7) Power expense per work unit	_____	5.09	5.17	5.40
Crop machinery expense per work unit	_____	2.41	2.69	2.25
Livestock equip. expense per work unit	_____	.49	.55	.48
Blgs. & fencing exp. per work unit	_____	1.70	1.78	1.78

\* 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.

\*\*\* 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 averages for the 46 farms included in this summary are located between the dotted lines across the center of this page.

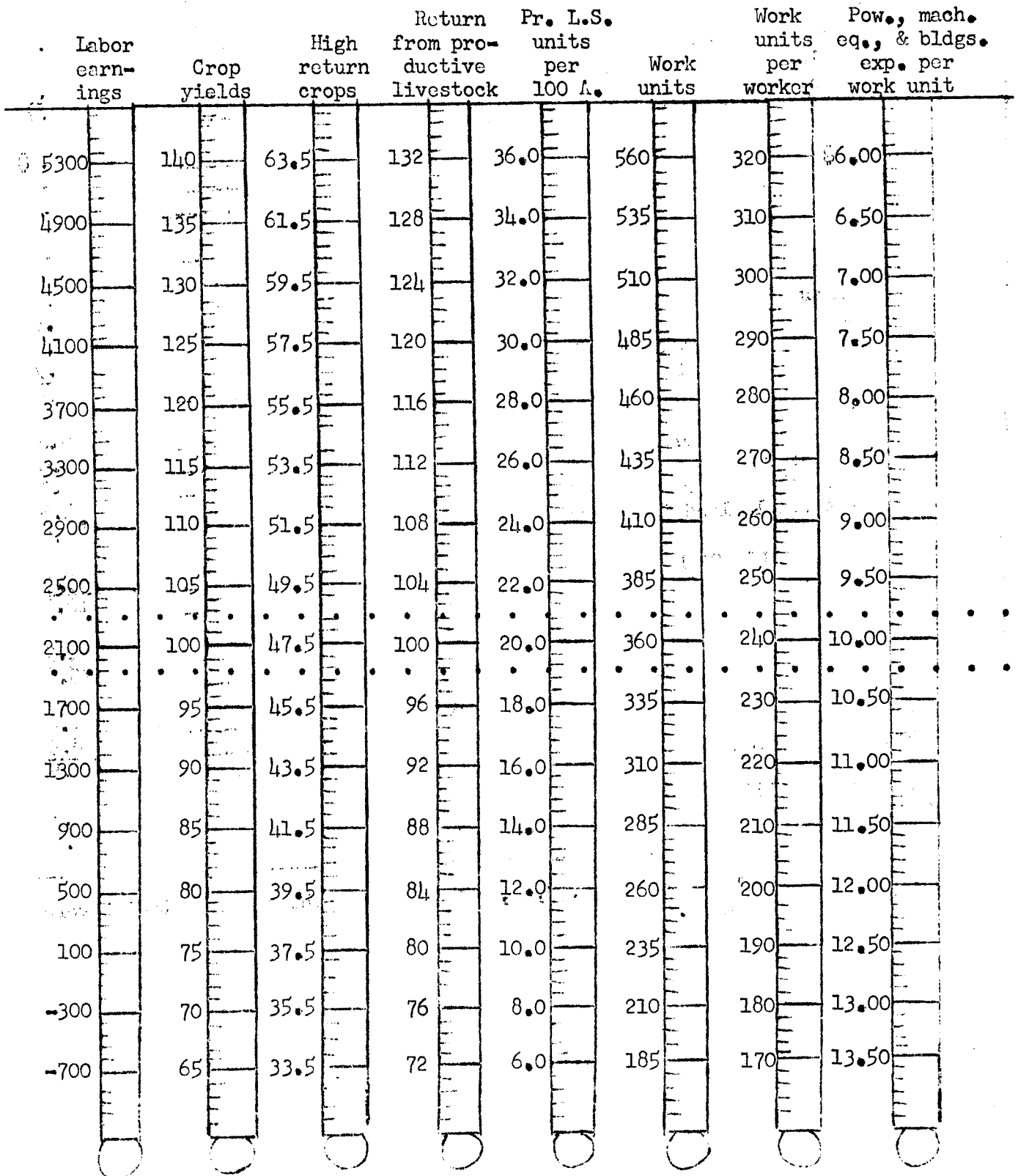




Table 10. Distribution of Acres in Farm, 1954

	Crop ratings*	Your farm	Average of 46 farms
Flax	B	_____	25.1
Barley	C	_____	20.4
Wheat	C	_____	4.1
Oats & oat mixtures	D	_____	40.9
Rye, millet	D	_____	1.2
Total small grain and peas		_____	91.7
Seed corn, potatoes, truck crops	A	_____	.4
Corn grain	A	_____	47.6
Soybeans for grain	B	_____	11.9
Corn or sorghum silage	B	_____	8.0
Total cultivated crops		_____	67.9
Alfalfa hay	B	_____	30.7
Other legumes & mixtures	C	_____	2.5
Legumes for seed	D	_____	.7
Timothy & brome hay & seed	D	_____	.9
Total tillable land in hay		_____	34.8
Alfalfa pasture	A	_____	6.4
Other legumes & mixtures	C	_____	3.0
Sudan and/or rape	C	_____	.1
Other tillable pasture	D	_____	1.5
Total tillable land in pasture		_____	11.0
Tillable land not cropped	D	_____	5.3
Total tillable land		_____	210.7
Wild hay		_____	4.9
Non-tillable pasture		_____	25.6
Timber (not pastured)		_____	7.6
Roads and waste		_____	17.2
Farmstead		_____	8.5
Total acres in farm		_____	274.5
Per cent land tillable		_____	76.7
Per cent tillable land in high return crops		_____	47.6

\* 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, 1954

Crop	Your farm	Average of farms growing each crop
Flax, bu.	_____	9.6
Barley, bu.	_____	29.5
Wheat, bu.	_____	17.6
Oats, bu.	_____	34.1
Corn grain, bu.	_____	47.0
Soybeans, bu.	_____	19.8
Corn silage, tons	_____	8.2
Alfalfa hay, tons	_____	2.4
Other legumes & mixtures, tons	_____	1.6
Legumes for seed, lbs.	_____	70.0
Timothy or brome hay, tons	_____	1.4
Wild hay, tons	_____	1.3

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 53.5 to 499 with an average of 199 (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, 1954

Items	Your farm	Average of 46 farms	15 most profitable farms	15 least profitable farms
Crop acres per farm	_____	199	278	158
Tractor and horse exp. per crop acre	_____	34.46	33.44	34.99
Crop & gen. mach. exp. per crop acre	_____	4.56	3.97	4.62

AMOUNT OF LIVESTOCK

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

Table 13. Amount of Livestock, 1954

	Your farm	Average of 46 farms	15 most profitable farms	15 least profitable farms
Number of milk cows	_____	10.9	9.1	8.9
Number of other dairy cattle	_____	12.2	10.2	11.7
Number of beef cattle (incl. feeders)	_____	10.7	17.9	11.5
Number of sheep*	_____	9.4	18.3	2.7
Number of hens	_____	191	222	175
Litters of pigs raised	_____	9	11.2	9
Pounds of hogs produced	_____	16255	22822	14162

\* 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, 1954

	Dairy or dual purpose cattle			Beef
	Cows	Other	All	breeding herd
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 \$9.50 for those farmers ranking in the upper one-third in feeding efficiency to a return of \$2.62 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, 1954

Items	Your farm	Average of 39 farms	12 farms	12 farms
			highest in returns above feed	lowest in returns above feed
Feed per cwt. hogs produced, lbs.:				
Corn		343	260	428
Small grain		122	75	148
Commercial feeds		46	38	42
Total concentrates		511	373	618
Skim milk and buttermilk		110	51	188
Feed cost per cwt. hogs produced:				
Concentrates	\$	\$12.90	\$ 9.98	\$16.06
Skim milk and buttermilk		.54	.24	.89
Pasture		.10	.05	.17
TOTAL FEED COSTS	\$	\$13.54	\$10.27	\$17.12
Net increase in val. per cwt. hogs prod.		\$19.72	\$19.77	\$19.74
RETURNS ABOVE FEED COST PER CWT. HOGS PRODUCED	\$	\$ 6.18	\$ 9.50	\$ 2.62
RETURNS FOR \$100 OF FEED	\$	\$153	\$196	\$113
Price received per cwt. hogs sold	\$	\$21.44	\$21.66	\$21.23
No. of spring litters raised		8.8	10.6	7.7
No. of fall litters raised		5.6	6.8	4.8
Total no. of litters raised		14.4	17.4	12.5
No. of pigs born per litter		8.6	9.6	7.7
No. of pigs weaned per litter		7.0	8.1	6.0
Pounds of hogs produced		19135	27078	14733

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 \$-78.21 to \$145.32 among the 39 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, 1954

Items	Your farm	Average of 37 farms	12 farms highest in butterfat per cow	12 farms lowest in butterfat per cow
Pounds of butterfat per cow		256	306	196
Price rec. per lb. B.F. sold (cents)		74.0	76.7	70.2
Feeds per cow, lbs:				
Corn		933	1184	567
Small grain		707	915	535
Commercial feeds		126	134	117
Legume hay		5261	4858	4735
Other hay		288	153	454
Fodder and stover		12	37	-
Total concentrates		1766	2233	1219
Total dry roughage		5561	5048	5189
Silage		6221	5956	5842
Feed cost per cow:				
Concentrates		\$46.94	\$64.91	\$29.99
Roughages		68.12	67.00	65.18
Pasture		12.55	12.49	12.65
TOTAL FEED COSTS		<u>127.61</u>	<u>144.40</u>	<u>107.82</u>
Value of produce per cow:				
B. F. sales		\$176.97	\$221.44	\$125.92
Dairy produce used in house		9.07	10.74	8.46
Milk to livestock		16.08	16.16	12.62
Net increases in value of cows		-21.34	-13.38	-22.86
TOTAL VALUE PRODUCED		<u>180.78</u>	<u>234.96</u>	<u>124.14</u>
RETURNS ABOVE FEED COST PER COW		53.17	90.56	16.32
RETURNS FOR 100 OF FEED		414	168	120
Feed cost per lb. B.F. (cents)		49.8	47.1	55.0
Number of cows*		13.3	12.5	12.3

\* 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, 1954

Items	Your farm	Average of 37 farms	12 farms highest in butterfat per cow	12 farms lowest in butterfat per cow
<b>Feeds per head, lbs.:</b>				
Concentrates	_____	534	738	350
Hay and fodder	_____	2488	1858	2815
Silage	_____	2057	2142	2060
Skim milk	_____	602	719	549
Whole milk	_____	116	136	43
<b>Feed cost per head:</b>				
Concentrates	\$ _____	\$11.65	\$15.18	\$ 8.76
Roughages	_____	25.94	22.62	28.04
Milk	_____	7.14	8.13	3.81
Pasture	_____	5.00	5.44	5.03
<b>TOTAL FEED COSTS PER HEAD</b>	_____	<b>49.73</b>	<b>51.37</b>	<b>45.64</b>
Net inc. in value of other cattle	_____	61.78	63.72	56.88
<b>RETURNS ABOVE FEED COST PER HEAD</b>	_____	<b>12.05</b>	<b>12.35</b>	<b>11.24</b>
<b>RETURNS FOR \$100 OF FEED</b>	\$ _____	<b>\$120</b>	<b>\$117</b>	<b>\$127</b>
Number of head of other cattle	_____	15.5	14.2	15.7

Table 18. Feed Costs and Returns from All Dairy and Dual Purpose Cattle, 1954

Items	Your farm	Average of 37 farms	12 farms highest in butterfat per cow	12 farms lowest in butterfat per cow
<b>Feeds per animal unit, lbs.:</b>				
Concentrates	_____	1612	2196	987
Hay and fodder	_____	5465	5008	5277
Silage	_____	5499	5654	5036
<b>TOTAL FEED COSTS PER ANIMAL UNIT</b>	\$ _____	<b>\$112.84</b>	<b>\$122.75</b>	<b>\$96.76</b>
<b>Value of produce per animal unit:</b>				
Dairy products	_____	\$122.70	\$156.07	\$85.96
Net increase in val. of dairy cattle	_____	33.62	35.24	29.79
<b>TOTAL VALUE PRODUCED</b>	_____	<b>156.32</b>	<b>191.31</b>	<b>115.75</b>
<b>RETURNS ABOVE FEED PER ANIMAL UNIT</b>	\$ _____	<b>43.48</b>	<b>68.56</b>	<b>18.99</b>
<b>RETURNS PER \$100 OF FEED</b>	\$ _____	<b>\$141</b>	<b>\$157</b>	<b>\$126</b>
Animal units of cattle	_____	21.0	19.7	20.1

Table 19. Feed Costs and Returns from Beef Cattle, 1954

Items	Your farm	Average of all farms
Beef breeding herd: No. of farms:		6
Feeds per animal unit, lbs.:		
Concentrates	_____	206
Legume	_____	481
Other hay	_____	-
Fodder and stover	_____	-
Silage	_____	5559
Feed cost per animal unit:		
Concentrates	\$ _____	\$ 4.90
Roughages	_____	57.73
Pasture	_____	10.51
TOTAL FEED COSTS	_____	73.14
Value of produce per animal unit:		
Dairy products	\$ _____	\$ -
Net increase in value of animals	_____	77.12
TOTAL VALUE PRODUCED	_____	77.12
RETURNS ABOVE FEED COST PER ANIMAL UNITS	\$ _____	3.98
RETURNS FOR \$100 OF FEED	\$ _____	\$101
Number of cows and herd bulls	_____	12.3
Number of animal-units in the herd	_____	12.0
Lbs. beef produced	_____	6484
Feeding Cattle: No. of farms		15
Feeds per cwt. beef produced, lbs.:		
Corn	_____	509
Small grain	_____	48
Commercial feeds	_____	39
Legume hay	_____	223
Other hay	_____	77
Total concentrates	_____	596
Total hay and fodder	_____	300
Silage	_____	510
Feed cost per cwt. beef produced:		
Concentrates	\$ _____	\$14.07
Roughages	_____	3.92
Pasture	_____	1.00
TOTAL FEED COSTS	_____	18.99
Net increase in value of feeders	_____	27.90
RETURNS ABOVE FEED COST PER CWT. BEEF PROD.	_____	8.91
RETURNS FOR \$100 OF FEED	\$ _____	\$156
Price paid per cwt. beef bot	\$ _____	\$16.63
Price recd. for feeder cattle sold	_____	19.62
Number of animal units	_____	18.3
Pounds of beef produced	_____	11759

Table 20. Feed Costs and Returns from a Farm Flock of Sheep, 1954

Items	Your farm	Average of 5 farms
Feeds per head,* lbs.		
Concentrates	_____	103
Legume hay	_____	477
Other hay	_____	32
Silage	_____	93
Feed cost per head:		
Concentrates	\$ _____	\$2.38
Roughages	_____	4.47
Pasture	_____	2.01
TOTAL FEED COSTS	\$ _____	8.86
Value of produce per head:		
Wool	\$ _____	\$ 3.47
Net increase in value of sheep	_____	8.09
TOTAL VALUE PRODUCED	\$ _____	11.56
RETURNS ABOVE FEED COST PER HEAD	\$ _____	\$2.70
RETURNS FOR \$100 OF FEED	\$ _____	\$138
Price per cwt. of lambs sold	\$ _____	\$18.99
Price per lb. wool sold (cts.)	_____	46.3
Pounds of wool per sheep sheared	_____	9.6
Number of ewes kept for lambing	_____	50
Per cent lamb crop**	_____	97
Per cent death loss**	_____	9.2
Pounds of sheep produced	_____	3892
No. of head of sheep*	_____	78.2

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

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



CHICKENS

Nineteen out of the 32 farmers raising chickens failed to receive a return large enough to cover the cost of feed. The average return over feed from the 32 flocks included in this report was -26 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, 1954\*

Items	Your farm	Average of 32 farms	10 farms highest in return above feed	10 farms lowest in return above feed
Feed per hen, lbs.:				
Grain		92	75	89
Commercial feeds		46	33	56
Total concentrates		138	108	145
Skim milk and buttermilk		5	6	8
TOTAL FEED COST PER HEN		\$4.20	\$3.23	\$4.50
Value of produce per hen:				
Eggs sold and used in house		\$4.26	\$4.26	\$3.78
Net increase in value of chickens		-.32	-.23	-.57
TOTAL VALUE PRODUCED		\$3.94	\$4.03	\$3.21
RETURNS ABOVE FEED COST PER HEN		-\$0.26	\$0.80	-\$1.29
RETURNS FOR \$100 OF FEED		97	126	70
Price rec'd per doz. eggs sold (cts.)		29.8	29.4	29.3
Eggs laid per hen		174	176	156
Ave. no. hens on farm during year		267	226	242
Per cent of hens that are pullets		85	72	93
Per cent death loss of hens		13	11	13
Number of chicks started:				
Pullets		309	224	296
Straight run		-	-	-
Cockerels		28	-	-
Lbs. chickens produced		1001	719	822

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

