

**1956 Annual Report
VOCATIONAL AGRICULTURE
FARM MANAGEMENT SERVICE
FOR
NORTHEASTERN MINNESOTA**

**DULUTH AREA VOCATIONAL
SCHOOL
IN COOPERATION WITH
IRON RANGE RESOURCES AND REHABILITATION COMMISSION
VOCATIONAL DIVISION MINN. DEPT OF EDUCATION
DEPTS. OF AGRICULTURE EDUCATION AND ECONOMICS
INSTITUTE OF AGRICULTURE
UNIVERSITY OF MINNESOTA**

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1956 REPORT OF THE VOCATIONAL AGRICULTURE FARM MANAGEMENT PROGRAM IN NORTHEASTERN MINNESOTA

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INTRODUCTION

The analysis included in this report represents the first attempt of the Duluth Area Vocational School to make a study of the farm accounts submitted by vocational agriculture instructors and others in Northeastern Minnesota.

The analysis follows the pattern established at other Area Vocational School Analysis Centers as originally developed by Truman Wodland and his associates in the Farm Management Division of the University of Minnesota.

The main purposes of the program of farm analysis are: (1) to give assistance to instructors in the mechanics of farm record supervision, (2) to assist instructors and cooperating farmers in farm accounting techniques, (3) to aid individual farmers in the study of their farm business through analysis reports, and (4) to provide case study material that can be used by farmers and farm groups to study management problems.

The report and analysis of records were completed under the direction of Leo Keskinen, Vocational Agriculture Instructor of the Duluth Area Vocational School. Clerical assistants were Mrs. Nellie Hopper and Mrs. Florence Fray.

Directing in a supervisory capacity were: George Campaigne, Director of the Duluth Area Vocational School, G.R. Cochran, State Supervisor of Agricultural Education, and S.K. Wick, Assistant State Director of Vocational Education. Promotional and other assistance was rendered by Milo Peterson, Professor of Agricultural Education, and Lauren Granger, State Coordinator for the Vo-Ag Farm Management Service. Acknowledgement is made of the past professional assistance rendered by G.A. Pond and the staff of the University Division of Agricultural Economics, and E.H. Hartmanns and Harland Route of the Agricultural Extension Service.

Special acknowledgement is made for the interest and financial assistance rendered by the Iron Range Resources and Rehabilitation Commission, with Kiarlo Otava, Commissioner, and Myron Sorenson, Deputy Commissioner. Field work and contacts with Vo-Ag Instructors, County Agents, and cooperating farmers were made by August Neubauer, Field Man for the IRRRC. Without their help, this report would not be possible.

A set fee is ordinarily paid by cooperating farmers to cover the costs of analysis. However, costs for all farmers except for several from an area not under their jurisdiction were taken care of by a grant by the IRRRC.

Schools submitting 1956 records for analysis were:

Bagley (Co. Agent)	2	Embarrass	2
Bemidji	4	Littlefork	1
Blackduck	1	Meadowlands	1
Cook	1	Park Rapids	1
Cotton	1	Pine River	5
Cronwell	1	Staples	8
TOTAL			28

Reports of beef and sheep enterprises are not included as a part of this report. Only several farmers showed returns from these enterprises and records were too incomplete to justify publishing the averages. The inventories, returns, and expenses are, however, included in the appropriate tables.

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

FARM INVENTORIES

The capital investment per farm varied from \$510.00 to \$34, 452. The average investment for all farms included in this report and for the one-third high and the one-third low in operators' labor earnings is shown in Table I.

FARM EARNINGS

Operators' earnings are a measure of 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 all represented 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 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, 1956*

Items	Your Farm		Average of 26 Farms	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Size of farm (acres)			296	
Size of business (work units) **			267	
Dairy and dual purpose cows			\$ 1920	\$ 2081
Other dairy & dual purpose cattle			962	1198
Beef cattle (incl. feeders)			--	9
Hogs			266	307
Sheep (including feeders)			5	3
Poultry			28	41
Productive livestock (total)			3181	3639
Horses			13	15
Crop, seed and feed			1387	1822
Power Mach. (farm share)			1626	1780
Crop and general machinery			1849	1919
Livestock equipment			272	536
Machinery and equipment			3747	4235
Miscellaneous			--	--
Land			1068	3183
Buildings, fences, etc.			3426	3620
Total farm capital			14822	16514

Items	9 most profitable farms		9 least profitable	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Size of farm (acres)	283		219	
Size of business (work units) **	321		216	
Dairy and dual purpose cows	\$ 2488	\$ 2781	\$ 1277	\$ 1438
Other dairy & dual purpose cattle	984	1419	728	781
Beef cattle (incl. feeders)	--	17	3	3
Hogs	518	658	192	162
Sheep (including feeders)	--	--	--	--
Poultry	51	82	11	13
Productive livestock (total)	4041	4957	2211	2397
Horses	--	--	--	--
Crop, seed, and feed	1338	1896	1735	1830
Power Mach. (farm share)	1747	2046	1343	1227
Crop and general machinery	2016	2357	1699	1559
Livestock equipment	395	941	147	317
Machinery & equipment (total)	4158	5354	3189	3103
Miscellaneous	--	--	--	--
Land	3087	3331	2933	3036
Buildings, fences,	3713	3957	2671	2750
Total farm capital	16337	19485	12739	13166

TABLE 2. SUMMARY OF FARM EARNINGS (CASH STATEMENT), 1956

Items	Your farm	Average of 28 farms	9 Most profitable farms	9 least profitable farms
<u>FARM RECEIPTS</u>				
Dairy and dual-purpose cattle	_____	\$ 698	\$ 743	\$ 482
Dairy products	_____	3250	5266	1804
Hogs	_____	581	1075	496
Sheep and wool	_____	39	-	-
Horses	_____	-	-	-
Poultry	_____	18	38	3
Eggs	_____	92	157	13
Corn	_____	171	205	265
Small grain	_____	11	-	11
Other crops	_____	109	9	271
Mach. & equip sold & gas tax refund	_____	88	157	53
Income from work off the farm	_____	206	94	237
Miscellaneous	_____	106	100	132
(1) Total farm sales	_____	5369	7844	3767
(2) Increase in farm capital	_____	1692	3157	427
(3) Family living from the farm	_____	341	397	345
(4) Total farm receipts (1)+(2)+(3)	_____	7402	11398	4539
<u>FARM EXPENSES</u>				
Dairy and dual-purpose cattle bought	_____	236	429	219
Beef cattle bought (incl. feeders)	_____	6	17	-
Hogs bought	_____	48	65	53
Horses bought	_____	-	-	-
Poultry bought	_____	12	20	3
Misc. livestock expense	_____	111	208	44
Feed bought	_____	846	1496	357
Fertilizers	_____	174	216	101
Other crop expenses	_____	183	215	146
Custom work hired	_____	273	421	232
Gas, oil & grease bought (f. share)	_____	404	482	364
Repair mechanical power (f. share)	_____	222	208	232
Repair & upkeep of real estate	_____	87	81	85
Repair & upkeep crop & gen. mach.	_____	131	160	76
Repair & upkeep livestock equip.	_____	37	55	16
Wages of hired labor	_____	66	42	78
Electricity expense (farm share)	_____	113	150	105
Real estate & pers. property taxes	_____	179	202	152
General farm expense	_____	90	90	79
(5) Total cash operating expense	_____	3218	4557	2342
(6) Cap. purch. mech. pow. (f. share)	_____	398	590	106
(7) " " crop & gen. mach.	_____	413	797	197
(8) " " livestock equip.	_____	320	617	217
(9) " " bldgs. & fencing	_____	429	652	408
(10) Total farm purch. (5) to (9)	_____	4778	7213	3270
(11) Decrease in farm capital	_____	-	-	-
(12) Interest on farm capital	_____	741	830	648
(13) Unpaid family labor	_____	145	165	152
(14) Board furnished hired labor	_____	5	-	12
(15) Total farm exp. (10) to (14)	_____	5669	8208	4082
(16) Labor earnings (4) - (15)	_____	1733	3190	457

TABLE 3. SUMMARY OF FARM EARNINGS (ENTERPRISE STATEMENT) 1956 *

Items	Your farm	Average of 28 Farms	9 Most profitable farms	9 least profitable farms
<u>RETURNS AND NET INCREASES</u>				
Dairy and dual-purpose cows	_____	\$ 3574	\$ 5726	\$ 2024
Other dairy & dual purpose cattle	_____	961	1075	646
Feeder cattle	_____	-	-	-
Hogs	_____	592	1160	447
Sheep-farm flock	_____	37	-	-
Chickens	_____	153	280	41
All productive livestock	_____	5316	8241	3158
Value of feed fed to livestock	_____	2709	3846	1937
Return over feed from livestock	_____	2607	4395	1221
Crops, seed and feed	_____	2113	2510	1923
Income from labor off the farm	_____	198	94	231
Agricultural conservation payment	_____	24	-	38
Miscellaneous	_____	82	100	94
(1) Total returns & net increases	_____	5024	7099	3507
<u>EXPENSES AND NET DECREASES</u>				
Horses	_____	6	-	-
Truck	_____	145	117	142
Auto (farm share)	_____	241	246	278
Tractor	_____	431	530	355
Elec. & gas engine exp. (f. share)	_____	84	95	100
Hired power	_____	263	421	232
Total power	_____	1170	1409	1107
Crop and general machinery	_____	459	545	408
Livestock equipment	_____	111	176	64
Buildings, fencing & tiling	_____	238	243	311
Misc. productive livestock exp.	_____	111	208	44
Labor	_____	203	206	237
Real estate taxes	_____	123	140	107
Personal property tax	_____	56	62	45
Insurance	_____	46	43	46
General farm	_____	44	47	33
Interest on farm capital	_____	741	830	648
(2) Total exp. & net decreases	_____	3291	3909	3050
(3) Operator's earnings (1)-(2)	_____	1733	3190	457

* 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 expense 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 4.9 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, 1956

Items	Average		Average	
	Your Farm	25 Farms	Your Farm	25 Farms
Adult equiv. - family	-----	3.3		
- others	-----	.1		
Whole milk	-----	1414 qts.	-----	\$ 135
Skin milk	-----	14 qts.	-----	
Cream	-----	123 pts.	-----	25
Beef	-----	452 lbs.	-----	53
Hogs	-----	161 lbs.	-----	24
Lamb and Mutton	-----	-	-----	-
Poultry	-----	25 hens	-----	19
Eggs	-----	76 doz.	-----	24
Potatoes	-----	7 bus.	-----	8
Vegetables & Fruit			-----	34
Farm Fuel			-----	48
Total			-----	370

* 25 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 \$142 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, 1956

Items	Your Farm	Average of 17 Farms	6 most Profit. Farms	6 least Profit. Farms
Number of persons - family	_____	4.7	5.6	4.3
Number of Adult equiv. - family	_____	3.2	4.0	2.9
other *	_____	1.3	-	-
Food and meals bought	_____	\$ 612	\$ 782	\$ 535
Operating and supplies	_____	86	100	83
Furnishings and equipment	_____	74	61	76
Clothing and clothing materials	_____	192	297	182
Personal care, personal spending	_____	43	60	35
Education, recreation and development	_____	189	134	259
Gifts and special events	_____	56	77	32
Medical care and health insurance	_____	200	209	277
Church, welfare	_____	66	116	43
Personal share of auto expense	_____	104	174	98
Operator's share of upkeep on dwelling	_____	10	10	14
Household share of electric expense	_____	67	91	50
Total cash living expense	_____	1699	2111	1684
H.H. & pers. share of new auto	_____	52	8	91
New dwelling	_____	138	360	92
Taxes and other deductions	_____	63	141	29
Life insurance	_____	25	57	9
Other savings and investments	_____	44	-	125
Total household & personal cash exp.	_____	2021	2677	2030
Total family living from the farm	_____	405	510	401
Total cash expenses & perquisites	_____	2426	3187	2431
Receipts:				
Return to capital and family labor	_____	2141	4274	850
Miscellaneous income	_____	402	--	828
Income from investments	_____	261	791	15

* 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 owners renting additional land 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 C. NET WORTH STATEMENT FOR THOSE FARMERS WHO KEPT A COMPLETE RECORD OF ALL ASSETS AND LIABILITIES, 1956 (Operator's Share)

Items	Four Farm		12 Owners	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Total acres in farm			305	
Owned			305	
Rented			-	
Total Farm Capital			\$13656	\$14745
Stocks and bonds			1178	826
Life insurance			560	603
Accounts receivable			-	-
Outside real estate			-	-
Other outside investments			45	47
Total Outside Investments			1783	1476
Dwelling			2030	2390
Cash on hand and in bank			458	425
Other household and personal assets			1581	1551
Total cash, H. H. & personal assets			5852	5842
TOTAL ASSETS			19508	20587
Federal Land Bank Mortgage			-	-
Other mortgage on land operated			2283	2195
Mortgages on other real estate			-	-
Production Credit Association			-	-
Crop loans			-	-
Other chattel mortgages			446	271
Notes payable			531	884
Accounts payable			625	795
TOTAL LIABILITIES			3885	4162
Farmer's net worth			15623	16425
Gain in net worth				+ 802

Items	2 Part Owners*		11 Renters**	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Total acres in farm	350		299	
Owned	320		197	
Rented	30		102	
Total farm capital	\$ 4869	5187	\$14179	\$16647
Stocks and bonds	-	-	46	50
Life insurance	-	97	113	120
Accounts receivable	-	-	-	-
Outside real estate	-	-	73	-
Other outside investments	150	150	30	31
Total outside investments	150	247	262	201
Dwelling	420	405	1492	1445
Cash on hand and in bank	726	460	259	310
Other H. H. and personal assets	425	544	800	771
Total cash, H. H. and personal assets	1721	1656	2813	2728
TOTAL ASSETS	6590	6843	16992	19375
Federal Land Bank Mortgage	-	-	-	-
Other mortgages on land operated	-	-	963	1542
Mortgages on other real estate	-	-	-	251
Crop loans	-	-	-	23
Other chattel mortgages	286	100	909	734
Notes payable	-	-	305	422
Accounts payable	-	-	328	1508
TOTAL LIABILITIES	286	100	2505	2480
Farmer's net worth	6304	6743	14487	14895
Gain in net worth		+ 439		+ 408

* Rented on shares

** Owners renting additional land
There were no outright renters.

TABLE 7. SUMMARY OF FARM EARNINGS BY TENURE, 1956 (Operator's Share)

Items	Your Farm	13 Owners	2 Part Owners	12 Owners Renting Add. Land
<u>FARM RECEIPTS</u>				
Dairy and Dual-purpose Cows		\$ 719	\$ 287	\$ 664
Dairy Products		2529	2174	3630
Beef cattle		-	-	-
Hogs		456	-	776
Sheep and wool		76	-	4
Poultry		7	33	21
Eggs		57	62	119
Horses		-	-	-
Corn		184	-	172
Small grain		11	-	29
Other crops		181	21	13
Mach. & equip. sold & gas tax refund		60	35	109
Income from work off the farm		210	25	238
Miscellaneous		130	50	92
(1) Total farm sales		4620	2687	5967
(2) Increase in Farm capital		1186	256	2621
(3) Family living from the farm		256	238	412
(4) Total farm receipts (1)+(2)+(3)		6062	3181	9000
<u>FARM EXPENSES</u>				
Dairy and dual-purpose cows bought		130	19	503
Beef cattle bought		3	-	15
Hogs bought		42	-	58
Sheep bought		-	-	-
Horses bought		-	-	8
Poultry bought		9	12	12
Miscellaneous livestock expenses		107	80	104
Feed bought		451	316	1212
Fertilizers bought		148	86	157
Other crop expenses		152	100	187
Custom work hired		209	59	356
Gas, oil & grease bought (farm share)		351	205	439
Repair of mech. power (farm share)		209	167	202
Repair & upkeep of real estate		52	68	78
Rep. & upkeep of crop & gen. mach.		108	54	139
Rep. & upkeep of livestock equip.		23	33	46
Wages of hired labor		65	-	61
Electricity expense (farm share)		108	32	121
Real estate & pers. prop. tax		192	96	134
Cash rent		-	-	182
General farm expense		94	55	69
Interest paid		162	13	124
(5) Total cash operating expense		2615	1395	4207
(6) Capital purchase-mech. pow. (f. share)		373	400	424
(7) Capital purchases-crop & gen. mach.		215	160	677
(8) Capital purchases-livestock equip.		181	22	488
(9) Capital purchases-bldg. & fencing		364	80	487
(10) Total farm purchases (5) to (9)		3748	2057	6283
(11) Decrease in farm capital		241	40	111
(12) Interest on farm capital		675	388	850
(13) Unpaid family labor		46	-	290
(14) Board furnished hired labor		5	-	16
(15) Total farm expenses (10) to (14)		4715	2485	7550
(16) Labor earnings (4) - (15)		1347	696	1450
(17) Return to capital & family labor		2068	1084	2590
(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 13 owners, 2 part owners, and 12 owners renting additional land 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. The average operator's earnings of farmers ranking in the upper third of the range according to earnings was \$3190 and of those in the lower third was \$457. This is a range of \$2733 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

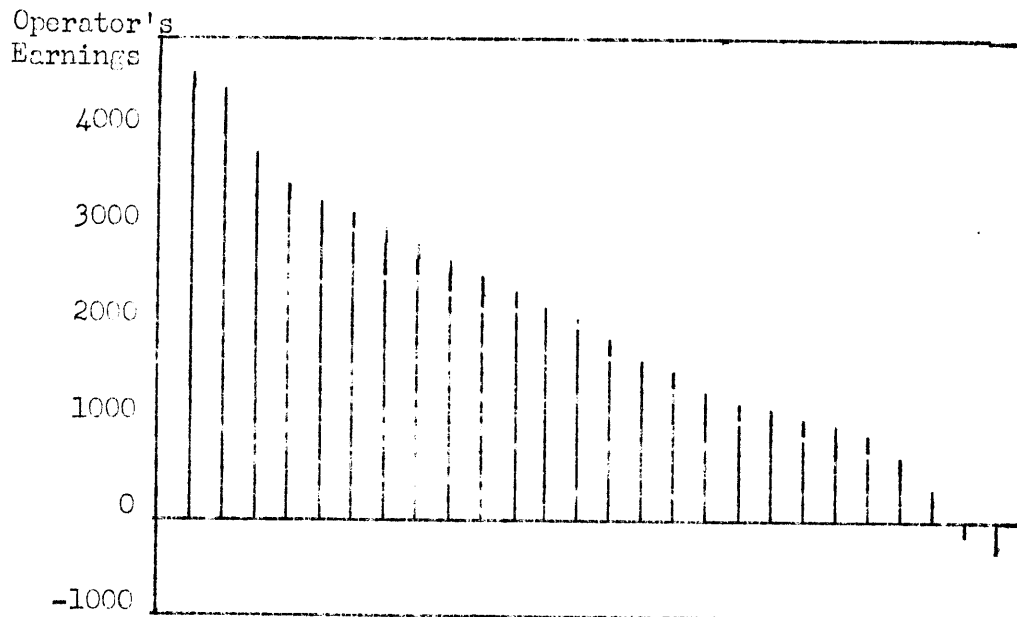


Fig 1. Range in operator's earnings.
Each line represents the earnings of one farmer.

1/ SeePond, G. A. "Why Farm Earnings Vary". Minn. Agri. Expt. Sta. Bul. 386, June, 1945.

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 below.

TABLE 8: NUMBER OF WORK UNITS FOR EACH CLASS OF LIVESTOCK AND CROP ACRE

Item	No. of Work Units
Dairy and dual purpose cows	10.0 per cow
Other dairy and du. pur. cattle	3.5 per animal unit*
Beef Breeding herd	3.5 per animal unit*
Feeder cattle	.25 per cwt.
Sheep- farm flock	1.5 per animal unit*
Sheep- feeders	.3 per cwt.
Hogs	.2 per cwt
Turkeys	.5 per cwt.
Hens	20 .0 per 100 hens
Canning peas	.5 per acre
Soybeans for grain	.5 per acre
Potatoes	4.0 per acre
Small grain	.5 per acre
Sugar beets	1.5 per acre
Sweet corn	.7 per acre
Corn, husked	.7 per acre
Corn, hogged	.4 per acre
Corn, shredded	1.5 per acre
Corn, silage	1.0 per acre
Corn, fodder	1.0 per acre
Silage, other than corn	1.0 per acre
Alfalfa hay	.6 per acre
Soybean hay	.8 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 lbs of turkeys produced.

TABLE 9. MEASURES OF FARM ORGANIZATION AND MANAGEMENT EFFICIENCY, 1956

Measures Used In Chart On Page 13	Your farm	Average of 28 farms	9 Most profit. farms	9 least profit. farms
Operator's Labor Earnings	_____	\$1733	\$3190	\$457
(1) Crop Yields*	_____	100	112	87
(2) Per cent Till. land in high ret. crops**	_____	23.9	22.0	28.0
(3) Ret. per \$100 feed to prod. livestock***	_____	100	114	90
(4) Prod. Livestock units per 100 acres****	_____	14.2	20.5	6.5
(5) Size of business - work units	_____	271	321	216
(6) Work units per worker	_____	203	212	165
(7) Power, mach., equip., & bldg. exp. per work unit	_____	\$7.86	\$7.71	\$10.08
Items related to some of the above measures:				
(3) Index of return for \$100 feed from:				
Dairy cattle (see pp 18-19)	_____	100	108	100
Hogs (see p. 17)	_____	100	116	97
Chickens	_____	100	112	98
(4) Number of Animal Units	_____	29.6	41.5	22.0
(5) Work units on crops	_____	52.5	67.2	45.5
Work units on productive livestock	_____	198.1	245.7	165.2
Other work units	_____	21.2	9.3	24.1
(6) Number of family workers	_____	1.3	1.4	1.3
Number of hired workers	_____	.03	.05	.02
Total number of workers	_____	1.3	1.4	1.3
(7) Power expense per work unit	_____	\$4.77	\$4.50	\$6.34
Crop mach. expense per work unit	_____	1.65	1.84	1.58
Livestock equip. expense per work unit	_____	.36	.54	.26
Bldgs & fencing exp. per work unit	_____	1.08	.83	1.90

* Given as a percentage of the average

** Crops are marked in Table 10 as (A), (B), (C), and (D). All of the 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 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 20 farms included in this summary are located between the dotted lines across the center of the page.

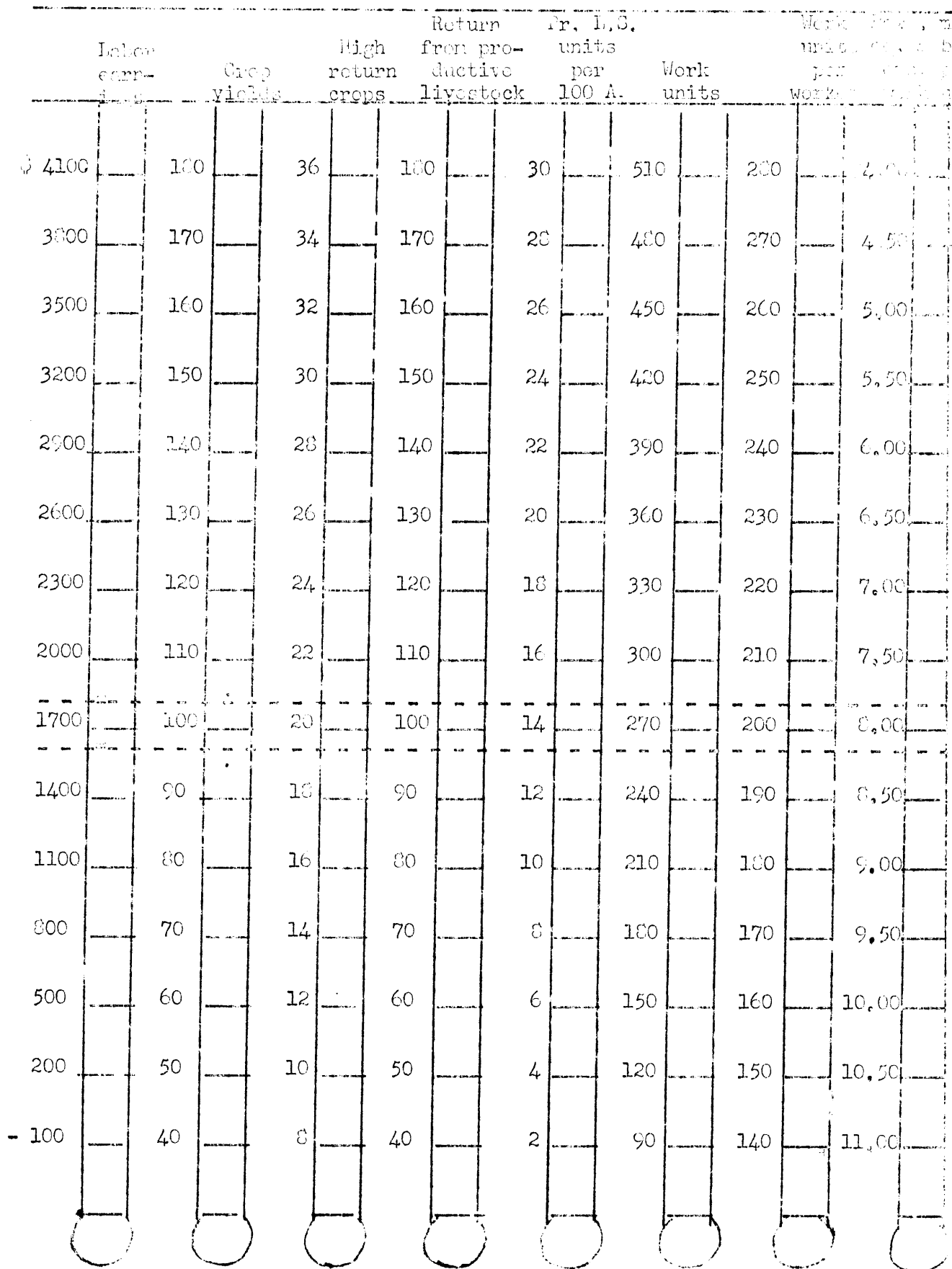


TABLE 10. DISTRIBUTION OF ACRES IN FARM, 1956

	Crop Ratings*	Your Farm	Average of 26 Farms
Barley	C	_____	.4
Wheat	C	_____	.2
Oats and oat mixtures	C	_____	17.8
Total small grain		_____	18.4
Scybeans	C	_____	1.5
Garden - Seed Potatoes	A	_____	-
Potatoes	B	_____	.6
Corn Silage	C	_____	6.7
Corn Fodder	D	_____	.1
Corn Grain	D	_____	12.2
Oat and pea silage	C	_____	3.0
Total cultivated crops		_____	24.1
Alfalfa and mixtures	B	_____	14.4
Other legumes and mixtures	B	_____	21.2
Legumes for seed	B	_____	.8
Timothy and/or Brome	D	_____	4.5
Other annual hay	D	_____	11.5
Wild hay on tillable land	D	_____	1.0
Total tillable land in hay		_____	53.4
Alfalfa & alfalfa mixture pasture	A	_____	1.5
Other legume & mixture pasture	C	_____	1.1
Other tillable pasture	D	_____	17.3
Total tillable pasture		_____	19.9
Tillable land not cropped	D	_____	8.7
Total tillable land		_____	124.5
Wild hay - non-tillable		_____	7.8
Non-tillable pasture		_____	36.7
Timber (not pastured)		_____	39.8
Roads and waste		_____	28.2
Farmstead		_____	2.7
Total acres in farm		_____	239.7
Per cent land tillable		_____	49.0
Per cent tillable land in high return crops		_____	26.3

* 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, 1956

Crop	Your farm	Average of farms growing each crop
Oats, bu.	_____	33
Wheat, bu.	_____	25
Barley, bu.	_____	29
Potatoes, bu.	_____	182
Grass silage, ton	_____	3.7
Corn silage, ton	_____	6.0
Corn, grain, bu.	_____	50
Soybeans, bu.	_____	10
Legumes for seed, lbs.	_____	75
Alfalfa hay, ton	_____	1.2
Other legumes and mixtures, ton	_____	1.8
Timothy or brome, ton	_____	2.0
Other annual hay, ton	_____	1.1
Wild hay	_____	1.4

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. Expenses are high on the farms with a small acreage. In some cases, low expense for labor might be offset by higher 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, 1956

	Your farm	Avg. of 28 farms	9 most prof. farms	9 least prof. farms
Crop acres per farm	_____	124	152	90
Tractor and horse exp. per crop acre	_____	\$4.27	\$3.78	\$4.22
Crop & gen. mach. exp. per crop acre	_____	4.69	4.13	3.62

AMOUNT OF LIVESTOCK

A large proportion of the farmers maintained some dairy cattle with smaller numbers maintaining hogs and poultry. Sheep and beef were not raised in enough cases to include in averages.

TABLE 13. AMOUNT OF LIVESTOCK, 1956

	Your farm	Avg. of 28 farms	9 most prof. farms	9 least prof. farms
Number of milk cows	_____	15.5	22.0	10.9
Number of other dairy cattle	_____	17.6	19.1	14.8
Number of hens	_____	29.7	73.0	7.2
Litters of pigs raised	_____	2.2	4.4	2.0
Pounds of hogs produced	_____	2672	4665	2855

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 lbs." These data indicate the relative importance of different classes of livestock as a source of income and as a market for feed. The total return is the same as the returns and net increases shown on p. 5. 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

	<u>Dairy or dual purpose cattle</u>		
	Cows	Other	All
Total returns	_____	_____	_____
Total feed cost	_____	_____	_____
Total return over feed	_____	_____	_____
	<u>Hogs</u>		
	Hogs	Sheep	Chickens
Total returns	_____	_____	_____
Total feed cost	_____	_____	_____
Total return over feed	_____	_____	_____

Feed is the largest single item of cost for all classes of livestock. However, the proportion of the total cost represented by feed varies between classes of livestock. Feed makes up approximately 45 per cent of the total costs of maintaining dairy cattle and poultry, 50 per cent for 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 cwt. of hogs produced varied from breaking even for those farmers in the lower one-third in feeding efficiency to a return of \$7.85 for those in the highest one-third. Responsible factors affecting return over feed were:

- 1, Quantity of feed required to produce 100 pounds of pork,
- 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, 1956

Items	Your farm	Avg of 10 farms	3 farms highest in returns above feed	3 farms lowest in returns above feed
Feed per cwt. hogs produced, lbs.				
Corn	_____	178	182	190
Small grains	_____	171	124	252
Commercial feeds	_____	57	5	113
Total concentrates	_____	406	311	515
Skin milk and buttermilk	_____	77	19	125
Feed cost per cwt. hogs produced				
Concentrates	\$ _____	\$9.15	\$5.70	\$12.79
Skim milk and buttermilk	\$ _____	4.41	1.06	7.43
Pasture	\$ _____	.22	.19	_____
TOTAL FEED COSTS	\$ _____	13.78	6.95	20.22
Net increase in val. per cwt. hogs prod.	_____	17.24	15.01	19.18
RETURNS ABOVE FEED COST PER CWT. HOGS PRODUCED	\$ _____	3.71	7.85	1.04
RETURNS FOR \$100 OF FEED	\$ _____	\$156.	\$241.	\$102.
Price received per cwt. hogs sold	\$ _____	15.51	14.82	16.01
No. of spring litters raised	_____	1.5	4.3	1.0
No. of fall litters raised	_____	3.3	2.0	4
Total no. of litters raised	_____	2.8	6.3	1.4
No. of pigs born per litter	_____	9.0	11.8	7.0
No. of pigs weaned per litter	_____	7.3	8.5	6.8
Pounds of hogs produced	_____	5718	5886	4705

DAIRY AND DUAL PURPOSE CATTLE

The quantity of feed consumed, value in feeds and returns from dairy cattle are presented in Tables 16, 17, and 18. The statements include several herds which were classified as dual purpose cattle. The return over feed cost per cow varied from \$2.05 to \$293.00 among the 22 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. Economy of ration (Feed cost per pound butterfat)

TABLE 16: FACTORS OF COSTS AND RETURNS FROM DAIRY COWS, 1956.

Items	Your farm	Average of 22 farms	7 farms highest in butterfat per cow	7 farms lowest in butterfat per cow
Pounds of butterfat per cow	_____	251	316	194
Price rec. per lb. B.F. sold (cents)	_____	83	93	70
Feed per cow, lbs:				
Corn	_____	426	347	385
Small grain	_____	571	790	370
Commercial feeds	_____	469	775	147
Legume hay	_____	3992	4637	4957
Other hay	_____	2549	1994	2321
Total concentrates, lbs.	_____	1466	1912	902
Total dry roughage, lbs.	_____	6541	6631	7278
Silage	_____	5210	4577	6014
Feed cost per cow:				
Concentrates	_____	\$34.78	\$48.98	\$19.69
Roughages	_____	54.87	51.46	63.95
Pasture	_____	7.98	7.09	7.54
TOTAL FEED COST	_____	97.63	107.53	91.18
Value of produce per cow:				
Butterfat sales	_____	\$191.97	\$270.83	\$121.96
Dairy produce used in house	_____	9.43	8.95	7.39
Milk to livestock	_____	18.96	18.88	18.17
Net increases in value of cows	_____	- 6.39	- 3.58	- 5.46
TOTAL VALUE PRODUCED	_____	\$213.97	\$295.08	\$142.06
RETURNS ABOVE FEED COST PER COW	_____	\$116.34	\$187.45	\$ 50.88
RETURNS PER \$100 SPENT FOR FEED	_____	\$235	\$284	\$189
Feed cost per lb. B.F. (cents)	_____	41	33	47
Number of cows*	_____	17.5	18.2	18.1

* 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, 1956

Items	Your farm	Average of 22 farms	7 farms highest in butterfat per cow	7 farms lowest in butterfat per cow
Feeds per head, lbs.:				
Concentrates	_____	228	441	217
Hay and fodder	_____	2656	2810	2583
Silage	_____	902	955	1248
Milk	_____	760	460	656
Feed cost per head:				
Concentrates	_____	\$7.21	\$12.09	\$5.04
Roughages	_____	19.03	17.63	18.47
Milk	_____	13.34	12.23	12.07
Pasture	_____	4.21	3.75	3.81
TOTAL FEED COST PER HEAD	_____	\$43.79	\$45.75	\$39.39
Net increase in value of other cattle	_____	\$48.09	\$48.22	\$54.74
RETURNS ABOVE FEED COST PER HEAD	_____	4.30	2.47	15.35
RETURNS FOR \$100 OF FEED	_____	120	111	146
Number of head of other cattle	_____	19.9	18.8	25.4

TABLE 18: FEED COSTS AND RETURNS FROM ALL DAIRY AND DUAL PURPOSE CATTLE, 1956

Feeds per animal unit, lbs.				
Concentrates	_____	1137	1453	662
Hay and fodder	_____	5394	4764	6155
Silage	_____	4620	3771	4479
TOTAL FEED COSTS PER ANIMAL UNIT	_____	\$ 82.17	\$ 94.00	\$ 72.93
Value of produce per animal unit:				
Dairy products	_____	\$131.61	\$187.13	\$ 77.71
Net increase in value	_____	29.96	35.70	38.34
TOTAL VALUE PRODUCED	_____	\$161.57	\$222.82	\$116.20
RETURNS ABOVE FEED PER ANIMAL UNIT	_____	\$ 79.40	\$128.82	\$ 43.27
RETURNS PER \$100 OF FEED	_____	207	251	181
Animal units of cattle	_____	27.6	27.8	31.2

CHICKENS

Nine farmers raising chickens submitted reports with enough detail for analysis. Information on chicks raised, death loss, and pounds produced was too incomplete to be included in the averages. Table 19 shows the averages for the nine farmers.

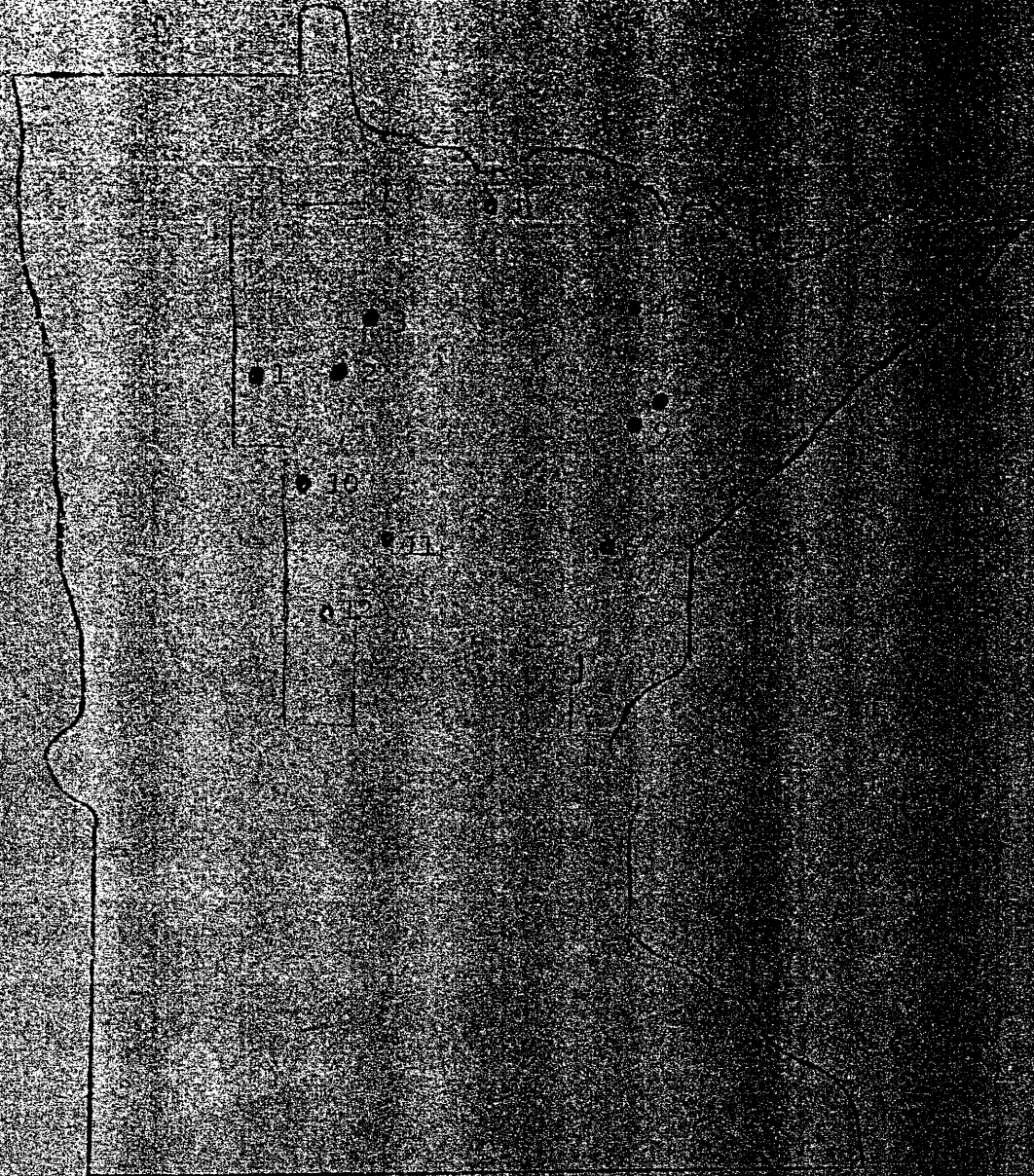
Some of the important factors that affect the return over feed are:

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 19: FEED COSTS AND RETURNS FROM CHICKENS, 1956 *

Item	Your farm	Average of 9 farms	3 farms highest in return over feed	3 farms lowest in return over feed
Feed per hen, lbs.				
Grain	_____	74	110	60
Commercial feeds	_____	76	16	192
Total concentrates	_____	140	126	252
TOTAL FEED COST PER HEN	_____	\$4.28	\$4.12	\$6.21
Value of produce per hen:				
Eggs sold and used in house	_____	\$3.44	\$4.26	\$2.20
Net increase in value of chickens	_____	1.31	2.31	1.86
TOTAL VALUE PRODUCED	_____	\$4.75	\$6.57	\$4.06
RETURNS ABOVE FEED COST PER HEN	_____	\$.57	\$2.45	-\$2.15
RETURNS FOR \$100 OF FEED	_____	\$127	\$159	\$ 66
Price rec'd per doz. eggs sold (cents)	_____	\$.32	\$.30	\$.34
Eggs laid per hen	_____	137	167	91
Average number of hens during year	_____	74	110	36

Include feeds and returns from laying flock and rearing flock.



1. Bailey
2. Beardsley
3. Brinkley
4. Cook
5. Cotton
6. Greenwell