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UNIVERSITY OF MINNESOTA
Department of Agriculture
and the
Farm Bureaus
of
Beltrami, Carlton, Clearwater, Hubbard,
Itasca, Polk, St. Louis, and Wadena Counties
Cooperating

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Annual Report
of the
Farm Management Service
for
Farmers of Northern Minnesota
for the year
1931
(April 1, 1931 to April 1, 1932)

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Name: _____

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May 1932

First Annual Report of the Farm Management Service
of Beltrami, Carlton, Clearwater, Hubbard, Itasca, Polk, St. Louis and Wadena
Counties for the Year April 1, 1931 to April 1, 1932

Prepared by W. P. Ranney, G. A. Pond, S. B. Cleland, and W. L. Cavert

INDEX

	Page
Introduction.....	1
Summary of Farm Inventories.....	5
Summary of Farm Earnings (Cash Statement).....	6
Summary of Farm Earnings (Enterprise Statement).....	7
Analysis of the Reasons for Differences in Operator's Earnings	8
Effect of Well Balanced Efficiency on Operator's Earnings....	11
Measures of Farm Organization and Management Efficiency.....	12
Find Your Weak Links.....	13
Distribution of Acres in Farm.....	14
Crop Yields.....	15
Livestock Summary.....	16
Distribution of Farm Produce Used in House.....	17
Distribution of Household and Personal Expenses.....	17

INTRODUCTION

The Division of Agricultural Extension and the Division of Agricultural Economics of the University of Minnesota and the farm bureaus of Beltrami, Carlton, Clearwater, Hubbard, Itasca, Polk, St. Louis, and Wadena Counties organized early in 1931 the Farm Management Service Project, to operate in the above named counties, beginning April 1, 1931. This service is offered to men who desire to keep farm records, and to have these records summarized and analyzed in connection with those of other farmers. An annual fee of four dollars per record is charged to cover a part of the cost of the service.

The project is under the direction of S. B. Cleland and W. L. Cavert of the Division of Agricultural Extension, and G. A. Pond and W. P. Ranney of the Division of Agricultural Economics, University of Minnesota. Hearty support and assistance have been rendered by the county agricultural agents of the above named counties, respectively: M. B. Taylor, Geo. Chambers, Clement Chase, William Olson, A. H. Frick, Ronald McCamus, S. H. Rutford, August Neubauer, and C. L. Blakeslee.

RECORDS KEPT

The records kept by the cooperators included inventories at the beginning and end of the year, cash receipts and expenses, crop production, and a record of farm produce used by the farm family. Once or twice during the year and again at the end of the year, each farmer was visited by a representative of the University who checked the records for completeness and accuracy. The books were then taken to the central office at University Farm, where every entry was again checked and omissions were noted. Any discrepancies found were referred back to the farmers for correction. This double checking insured a high degree of accuracy and completeness in each individual record.

CLIMATE, SOIL AND TOPOGRAPHY

The growing season is a little shorter in the eastern part of the area included in this report, including the three counties Carlton, St. Louis, and Itasca, due to their nearness to Lake Superior. Otherwise the weather conditions normally are fairly uniform in the eight counties.

There is a wide variation in soil type on the farms included in this report, from the heavy red clay of some of the farms in Carlton and St. Louis counties to the Jack Pine sand of some of the farms of Hubbard, Wadena and Beltrami counties. Certain of the farms of these latter counties and Itasca county have clay subsoil. The East Polk and Clearwater farms have a black loam soil with a clay subsoil. The land is mostly level, or slightly rolling. Most of these farms were originally covered with timber. There is considerable land remaining to be cleared on some of them.

TYPE OF FARMING

There is a considerable variation in type of farming in these counties, altho in general, dairying is the most important enterprise. These farms, therefore, conform to the center type in this area, but are considerably above the average farm in size and quality of business. Altho some milk and cream is sold in Duluth and smaller cities, cream for manufacture into butter is the principal dairy product sold. This is marketed mostly through farmer owned co-operative creameries specializing in the manufacture of high quality butter. The skimmilk is retained on the farm and fed to calves, hogs and poultry.

The principal crops grown are oats, barley, hay, and potatoes. Some truck crops are grown, especially in the area near the Duluth market. Sunflower silage in the eastern part of the area and corn silage and fodder in the western part are grown for additional roughage feed for cattle. Other crops include wheat, rye, flax, and in the western part of the area, some corn for grain and clover for seed.

This report shows that receipts from the sale of dairy products and dairy cattle, constituted approximately one-half of the average cash income of the 55 cooperators included in this report. The receipts from the sale of crops constituted over one-fourth of the total cash income, and three-fifths of these crop receipts were from sales of root crops.

PURPOSE OF PROJECT

The Farm Management Service renders assistance to the cooperators in keeping such records as will enable each operator to know the returns for his labor and management, the returns to capital and family labor, and the actual earnings from the farm that the family had to spend for living and personal use. The main purpose of the service is to secure such data and information, which when compared with that secured on other farms, will enable the cooperator to increase his efficiency in various enterprises and to organize his farm on a more profitable basis. For the latter purpose, it was necessary for all the cooperators, tenants, as well as owner operators to include the whole farm business in order that the results would be on a comparative basis. For the purpose of comparison, the earnings as shown in this report are computed as if each farm was owned by its operator; however, each tenant is supplied a statement of his earnings on the basis of the rental system under which he was operating.

ANALYSIS OF THE FARM BUSINESS

On pages six and seven are presented financial summaries of the year's business, showing the average results for the 55 farms on which the work was completed for the twelve months' period, April 1, 1931 to March 31, 1932, the average results for the highest one-fifth of the farms in respect to Operator's Labor Earnings, and the average for the lowest one-fifth. In the "your farm" column, in the copy sent to the farmer, the results of his individual farm business are inserted in order that he may compare his figures with the averages of the various groups.

The data on pages 8 to 17 should suggest to each cooperator some possibilities for improvement in his production, control of expenses, and in his organization of the various enterprises and of the business as a whole. There are some variations in soil and climatic conditions and available markets in this area, which, of course, affect the choice of crops and classes of livestock. Each farm is an individual problem and has its particular advantages and limitations in respect to natural resources and markets. However, it is significant that the same general factors account for financial success in all of the eight counties.

CAPITAL INVESTMENT IN FARM BUSINESS

The data on page 5 shows that the average size of the farms in this report was 199 acres. The average farm inventory was \$10,664. This does not include the value of the house in which the operator lived. In 1931, 46 per cent of the average farm inventory consisted of land; 23 per cent of permanent improvements; 4 per cent of feeds and supplies; 12 per cent of machinery and equipment; and 15 per cent of livestock, of which over one-half or an average of \$788 was the average cow inventory.

RETURNS TO OPERATORS FOR THEIR LABOR AND MANAGEMENT

(See page 6)

The average cash receipts per farm were \$1822. In addition, farm produce to the value of \$253 was consumed by the farm family. The total average receipts per farm are the sum of those two items, \$2075. The average total expense per farm, \$1226, includes \$1071 cash expense, an estimated allowance of \$62 for the board of hired labor, and an average inventory decrease of \$93 per farm. The difference between the total income and total expense figure is \$849. This is the return which the farmer received for his own labor and management, the services of members of his family, and the use of his capital. After deducting a charge of five per cent on the average inventory valuation, \$533, for the use of capital, there remains \$316 for the services of the farmer and his family. The average value of family labor used, if computed at hired man's wages, was \$260. The average operator's labor earning is the family earnings less their allowance of \$260, or \$56. This is the return to the farmer for his labor and management over and above a five per cent return for his capital and going wages for other members of the family.

This average return is undoubtedly considerably above the average for all farmers in these counties, for, as stated previously, these 55 farms represent, on the average, a higher type of organization and management than the average of all farms.

The average total value of farm produce used in the house, \$253, represents an important item in the farmer's income. This produce is figured at farm prices; if it was purchased at retail prices, the total value would be approximately double this figure. On many farms a saving could be made if more produce were raised on the farm rather than purchased. The table on page 17 shows the average amounts and values for each item included in the total of farm produce used in the house.

HOUSEHOLD AND PERSONAL EXPENSES

In the case of a farm with no debt, the family has, besides the operator's labor earnings, two other sources of income to expend for living and personal expense. One is the amount charged as interest on investment, and the other is the amount allowed for family labor. On the other hand, a farm with a heavy debt (some of these farmers had mortgages covering the full value of their farms and other debts in addition) must pay interest and in most cases at a higher rate than the 5 per cent charged. In these cases, the Operator's Labor Earnings and the allowance for family labor constitute practically the only sources of funds for family living; and if in these cases the farm shows a minus Operator's Labor Earnings more than enough to offset the allowance for family labor, it means that there is no income for family living expenses outside of the farm produce furnished by the farm for the household. These farmers and others, whose family incomes are not sufficient to cover household and personal cash expenses, must go deeper and deeper in debt, in order to meet these expenses.

It is important to know the family income and the reasons why it is not higher. It is also worth while to know the household and personal expenses and whether they are within the family income. Forty-four farmers included in this report kept a detailed record of personal and household expenses. The distribution of these expenses is shown on page 17, with averages for the 44 farms, and for the 11 most profitable and 11 least profitable in this group. Taking into consideration the number of members (adult equivalents)* in his family and the number in the average family, each farmer can compare his item of expense with those of the average.

* All members of the family including women and children are reduced to a full man equivalent on the basis of relative food consumption.

Summary of Farm Inventories

Items	Your farm	Average of 55 farms	11 most profitable farms	11 least profitable farms
Size of farm (acres)		199	134	288
Size of business(days of prod.work)(1)		518	485	630
Average farm inventory (without house)		\$10664	\$7484	\$16389
Land		4934	3232	7445
Farm improvements		2491	1765	3984
Machinery & equipment (total)		1223	960	2287
Gen. machinery & equipment		770	624	1333
Tractor		188	73	574
Truck		49	49	121
Auto (farm share)		174	182	198
Gas engine (farm share)		28	27	33
Electrical equipment (farm share)		14	5	28
Feeds and seed		\$422	\$381	\$613
Miscellaneous supplies		44	24	53
Horses (total)		254	173	328
Horses		241	166	317
Colts		13	7	11
Productive livestock (total)		\$1296	\$949	\$1679
Cows		788	670	984
Other cattle		323	226	474
Hogs		53	19	75
Sheep		75	2	104
Poultry		57	32	42

(1) Explanation of term, "Days of Productive Work."

The total "Days of Productive Work" for any one farm are a measure of size of that farm business. The average number of "ten-hour days" of man labor required per head of productive livestock and per acre of crops is used in combining the crops and the livestock in one single measure of size of business.

The number of days of productive work for each animal and each acre of crops, computed from labor data secured on detailed accounting routes conducted in Polk and Pine counties, are listed as follows:

Item	Per	No. of days of prod. work	:	Item	Per	No. of days of prod. work
Cows	Cow	18.5	:	Small grain	Acre	1.3
Other cattle	Animal unit*	7.2	:	Corn (husked)	"	2.6
Sheep	Animal unit*	3.0	:	Corn (fodder)	"	2.3
Poultry	100 hens	30.0	:	Corn (silage)	"	3.1
Hogs	100 lbs. pork produced	.9	:	Sunflower silage	"	3.6
Alfalfa	Acre	1.75	:	Summer fallow	"	1.6
Tame hay	"	.8	:	Potatoes	"	6.0
Wild hay	"	.6	:	Rutabagas	"	9.0
Small grain hay	"	1.3	:	Cabbage	"	10.0
Hay (seed crops)	"	1.0	:	Beans	"	3.0

*Animal unit represents one cow, one bull, two head of young cattle, seven head of sheep, fourteen lambs, 2100 lbs. of pork produced, or 100 hens.

Summary of Farm Earnings

	Your farm	Average of 55 farms	11 most profitable farms	11 least profitable farms
Cash Expenses:				
Tractor (new and exp.)	\$	\$77	\$101	\$210
Truck (new and exp.)		36	49	22
Auto (new and exp.) (farm share)		94	64	137
Gas engine (new and exp.) (Farm share)		11	9	10
Electricity (new and exp.) (farm share)		8	6	19
Machinery and equipment (new)		52	55	91
Machinery and equipment (exp.)		36	36	55
Bldgs., fences, tiling (new)		22	48	12
Bldgs., fences, tiling (exp.)		12	6	21
Hired labor		144	64	266
Feed for livestock		155	134	178
Other expenses for livestock		24	20	22
Horses bought		27	29	45
Cows bought		10	19	0
Other cattle bought		10	13	12
Hogs bought		9	3	13
Sheep bought		16	0	15
Poultry bought		11	8	12
Crop (seed, twine, spray)		122	104	216
Taxes and insurance		173	91	294
General farm		22	10	34
(1) Total cash expense		1071	869	1684
(2) Decrease in farm inventory		93	-	331
(3) Board for hired labor		62	7	116
(4) Total expense (sum of (1)(2)&(3))		1226	876	2131
Cash Receipts:				
Horses	\$	\$17	\$12	\$26
Cows		57	54	88
Dairy products		745	1056	599
Other cattle		84	45	92
Hogs		112	40	149
Sheep		37	1	60
Poultry		56	40	35
Eggs		76	70	63
Small grain		62	16	126
Corn		1	1	1
Hay		24	15	44
Root crops		307	422	536
Other crops		104	23	87
Miscellaneous		58	37	157
Income from work off the farm		82	202	90
(5) Total cash receipts	\$	\$1822	\$2034	\$2153
(6) Increase in farm inventory		-	111	-
(7) Farm produce used in house		253	246	258
(8) Total receipts (sum of (5) & (7))		2075	2391	2411
Total expenses (4)		1226	876	2131
(9) Ret. to cap. & fam. labor (8) minus (4)		849	1515	280
(10) Interest on farm inventory		533	374	819
(11) Family labor earnings (9) minus (10)		316	1141	-539
(12) Unpaid family labor		260	347	296
(13) Operator's labor earnings (11) minus (12)		56	794	-835

Summary of Farm Earnings

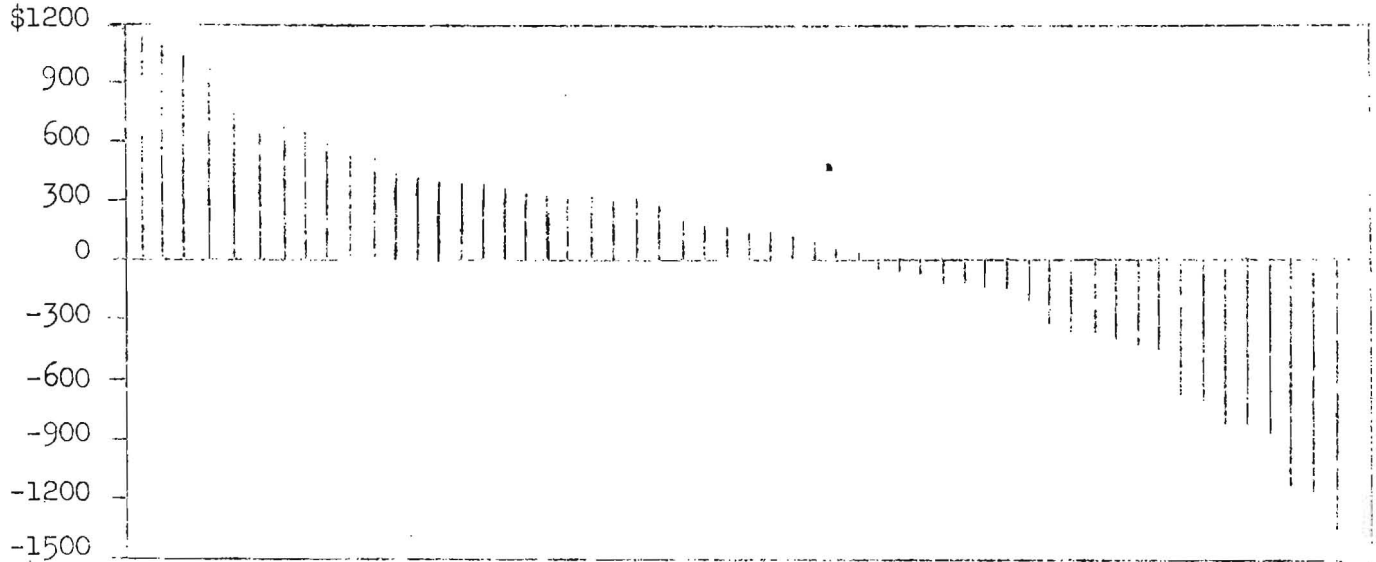
Items	Your farm	Average of 55 farms	11 most profitable farms	11 least profitable farms
<u>EXPENSES AND NET DECREASES</u>				
Total power machinery & Equipment	\$	\$268	\$243	\$402
Hired		48	38	48
Tractor		56	22	157
Truck		29	56	39
Auto		115	110	125
Gas engine		12	11	12
Elec. plant or current (farm share)		8	6	21
Gen. machinery and equipment		89	70	120
Bldgs., fencing, tiling		45	19	93
Hired labor		144	64	266
Prod. livestock misc. expense		17	12	15
Misc. horse expense		1	1	--
Crop		85	75	176
Personal property taxes		15	9	22
Real estate taxes		142	74	251
Insurance		16	8	21
General farm		22	10	34
Crops and feeds		--	--	--
Horses		10	--	34
Board for hired labor		62	7	116
Interest on farm inventory		533	374	819
Unpaid family labor		260	347	296
(1) Total expenses and net decreases		1709	1313	2665
<u>RETURNS AND NET INCREASES</u>				
Increase in crops and feeds		463	480	723
All productive livestock		1246	1441	1060
Cows (including milk to other livestock)		808	1122	667
Other cattle		159	129	111
Hogs		105	55	133
Sheep		23	-2	29
Poultry		151	137	120
Increase in horses		--	6	--
Miscellaneous		12	9	11
Income from work off the farm		82	202	90
(2) Total receipts and net increases		1803	2138	1884
(3) Milk produced and fed on farm		38	31	54
(4) Tot. ret. & net incr., (2) minus (3)		1765	2107	1830
Total expenses (1)		1709	1313	2665
(5) Operator's labor earn., (4) minus (1)		56	794	-835

(A) Cash receipts and expenses are adjusted for changes in inventory for each enterprise and for each item of expense in order to show gross returns and net increases, and total expense and net decreases. The operator's labor earnings are the same as those on page 6.

ANALYZING THE REASONS FOR DIFFERENCES IN OPERATOR'S EARNINGS

The financial statements on the preceding pages point out two important facts. One is that the average return to the farmer for his labor and management is very low. The other is that there is a wide variation in earnings, - from \$1173 to a loss of \$1477, or a range of \$2650. The following diagram illustrates this fact:

Table 1. Range of Earnings



Some of the causes for these differences in earnings may be beyond the control of the farmer. It is significant, however, that the data secured from the records on these 55 farms indicate that there are several very definite factors that enable some farmersto make a fair living even in a severe/ depression, while others fail to meet expenses. These factors and their relationship with earnings are the following:

Table 1. Relation of Dairy Production to Farm Earnings.

<u>Lbs. Butterfat Per Cow</u> Group	<u>Average</u>	<u>No. of</u> <u>Farms</u>	<u>Average</u> <u>Earnings</u>
270 and above	297	16	\$370
210 to 270	238	24	55
Below 210	174	15	-278

High production per cow lowers the cost of producing a pound of butterfat. This is very important on these farms since butterfat sales are the major source of income.

Table 2. Relation of Feeding Efficiency to Farm Earnings

<u>Returns Above Feed Cost per Animal</u> <u>Unit of Productive Livestock</u> Group	<u>Average</u>	<u>No. of</u> <u>Farms</u>	<u>Average</u> <u>Earnings</u>
\$35 and above	\$54	14	\$493
5 to 34	18	24	52
Below 5	-8	17	-300

These farms have, in addition to the dairy herd, quite an investment in other classes of productive livestock, as young cattle, hogs, sheep or poultry. Most or all of the feed raised is fed, and considerable additional feed is purchased. If the livestock itself or the methods of feeding and management are not efficient, the livestock returns may be too low even to cover the value of the feed. On the other hand, if the livestock returns a substantial margin above the value of feed without an increase in other costs such as labor, shelter, veterinary expense, etc., there will be an addition to the farm earnings.

Table 3. Relation of Amount of Productive Livestock to Farm Earnings

<u>Animal Units of Productive Livestock per 100 acres</u>		<u>No. of Farms</u>	<u>Average Earnings</u>
<u>Group</u>	<u>Average</u>		
17 and above	20.5	9	\$571
11 to 16.9	13.5	23	42
Below 11	8.0	23	-132

If the livestock is yielding a net return, an increased amount of livestock adds to size of business and the opportunity to increase the farm earnings. Livestock produces manure and aids in keeping up the fertility of the land, and utilizes waste products on the farm. Livestock also helps to provide productive employment throughout the year. Any method that aids in utilizing the available resources to full and efficient capacity should add to the farm income.

Table 4. Relation of Crop Yields to Farm Earnings

<u>Per cent Crop Yields are of the Average for all the 55 farms</u>		<u>No. of Farms</u>	<u>Average Earnings</u>
<u>Group</u>	<u>Average</u>		
120 and above	136	11	\$406
80 to 119	99	32	36
Below 80	67	12	-213

High production per acre, up to certain limits, tends to lower the cost per bushel of grain or potatoes or per ton of hay. The prices of these products are very low. Any possible method of management that will increase crop yields and therefore lower cost of production more than the extra expense incurred in securing the higher yields should be given consideration.

Table 5. Relation of Crop Selection to Farm Earnings

<u>Per cent of Tillable Land in High Return Crops*</u>		<u>No. of Farms</u>	<u>Average Earnings</u>
<u>Group</u>	<u>Average</u>		
70 and above	79.0	14	\$188
30 to 69.9	46.1	29	79
Below 30	24.2	12	-155

*Hay, sweet clover pasture, potatoes and truck crops.

On most of these northern Minnesota farms it is a problem to find a sufficient amount of productive work, in order to profitably utilize available labor. The more intensive crops such as potatoes and truck crops utilize a greater amount of labor and in most cases give higher returns for that labor than would less intensive crops.

The choice of cash crops depends on a number of factors, such as access to good markets, ability to produce special quality products, such as certified seed that command special prices, soil, climate, transportation facilities, available labor, and a general balance with the livestock program and cropping system.

As stated before, efficient productive livestock is another means for employing labor profitably. It is quite important to have the very best pasture crop so as to reduce grain and roughage feeding as much as possible. Also, as hay is bulky, necessitating high freight charges, if shipped in, it is important to raise all the hay needed and purchase concentrates, if necessary to supplement it.

There are also differences in the amount of feed produced per acre, in the value of that feed, and in the effect on soil fertility, among different hay crops. Legumes furnish more protein, which is an expensive feed to buy, and also add nitrogen to the soil. Among the legumes, alfalfa, where it can be grown successfully, yields more nutrients per acre than other legumes. There is considerable variation in the adaptability of these crops, and it is important for each farmer to determine the kind of crops best adapted to his farm, those that will give the highest net returns, taking into consideration livestock feed requirements, the value of crop as a feed, yields per acre, the development of a good crop rotation, and expenses of production.

Table 6. Relation of Power and Equipment Expenses to Farm Earnings

<u>Power and Equipment Expense*</u>		<u>No. of Farms</u>	<u>Average Earnings</u>
<u>Per Day of Productive Work</u>	<u>Average</u>		
<u>Group</u>	<u>Average</u>		
Below \$1.00	\$.88	10	\$301
\$1.00 to \$1.59	1.29	26	173
1.60 and above	2.00	19	-233

*Includes building, fencing, general machinery and equipment, and power machinery expense, depreciation and interest on the investment in these items, and horse expense, such as interest on investment, feed cost, depreciation and miscellaneous cash costs.

The expense factor shows a higher relation with earnings when prices are very low than when they are high. Some of the cash expenses can be kept down by careful management, by making repairs and overhauling before spring work begins and on rainy days or other spare moments. The depreciation and interest charges per day of productive work can be kept down by utilizing the equipment as nearly to capacity as possible. Reducing the number of horses to the minimum required for efficient operation of the farm helps reduce the horse expense.

Table 7. Relation of Miscellaneous Expense to Farm Earnings

Miscellaneous Expense per* Day of Production Work Group	Average	No. of Farms	Average Earnings
Below \$1.00	\$.76	10	\$407
\$1.00 to 1.59	1.31	31	87
\$1.60 and above	2.09	14	-266

*Consists of hired labor and its board, family labor other than the operator, taxes, insurance, general farm expense, and miscellaneous crop and livestock expense.

More days of productive work accomplished per worker reduces the labor expense per day of work. More days of productive work per acre of land reduces the real estate tax per day of work. Hence, if expensive equipment is not made necessary, an increase in the amount of productive livestock and of intensive crops tends to lower these miscellaneous expenses per day of work and to increase earnings.

EFFECT OF WELL BALANCED EFFICIENCY ON FARM PROFITS

The seven factors mentioned in Tables 1 to 7 stand out as the most important reasons for the differences in farm earnings of these farmers. There are other factors of course, which do not show quite so definite a relationship, but, should not be overlooked in individual cases. For example, a farmer who is making a profit, could make a larger profit if he increased his size of business without at the same time, lowering the efficiency in some branch of the business materially. This fact leads to another factor that is very important, - well balanced efficiency.

It is quite evident from this report that few farmers have a monopoly on efficiency. Quite often farm operators show efficient management in one part of the farm business, which is offset by poor results in other phases. These farmers get medium returns while those who fall down all along the line get the lowest returns and those few who can manage to get high all around efficiency receive returns well above the average. This is well illustrated in Table 8.

Table 8. Relation of Operator's Labor Earnings to the Number of Factors in Which the Farmer is Above the Average

No. of Factors in Which Farm Excels	No. of Farms	Your Farm	The length of the shaded lines are in proportion to the average Operator's labor earnings	Average Operator's Earnings
Six or seven	6		xxxxxxxxxxxxxxxxxxx	\$730
Four or five	17		xxxxxxx	385
Two or three	25		xx	-106
One or none	7		xxxxxxxxxxxxx	-587

The array in Table 8 suggests that it will be worth while for each co-operator to study carefully his ranking on pages 12 and 13, and learn through his standing in respect to each of the above factors the elements of strength and weakness in his farm business.

Measures of Farm Organization and Management Efficiency

	Your farm	Average of 55 farms	11 most profitable farms	11 least profitable farms
Operator's labor earnings		\$56	\$794	\$-835
Lbs. of butterfat per cow		238	246	188
Returns over feed (productive livestock)		19	40	-3
Productive livestock units per 100 acres		12.3	15.7	10.2
Crop yields		100	110	86
Per cent high return crops		49.7	63.5	49.3
Power & equip.exp.per day of prod.work		\$1.46	\$1.28	\$1.81
Miscellaneous exp. per day of productive work		1.41	1.12	1.79

The above seven factors are those that show a high relation with earnings, and are used on the opposite page, in finding the weak links in the farm business. Below are additional factors that help to explain some of the seven factors shown above.

Per cent of fall freshening	45	40	31
Eggs per hen	121	141	104
Pigs per litter	7.0	6.8	7.4
Per cent lamb crop	114	150	108
Price rec. per lb. of butterfat sold as mfg. cream	\$.26	\$.26	\$.26
Price rec.per lb.of B.F.sold as milk or retail cream	.64	.83	.51
Price rec. per cwt. of hogs sold (1)	5.17	5.57	5.58
Price rec. per doz. eggs sold	.16	.17	.16
Price rec. per lb. of wool sold	.12	.13	.12
Power exp. per day of productive work	.90	.89	1.02
Machinery exp. per day of productive work	.25	.23	.30
Bldg. exp. per day of productive work	.31	.16	.49
No. of tractors	22	3	10 (2)

- (1) Part of the variation in hog prices is due to variations in the age and weight of hogs sold. Some sold only market hogs whereas others sold weanling pigs.
- (2) Two of these farms had two tractors each, and one of these two farms had no horses.

Find Your Weak Links

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 55 farms included in the summary are located between the two lines across the center of the page.

	Oper. labor earn.	Lbs. B.F. per cow	Red. over feed;prod. livestock	Prod. livestock units per 100 acres	Crop yields	Percent high return crops	Pow.& equip. exp. per day of prod. work	Misc.exp. per day of prod. work
High	\$1173	322	\$100	29.4	171	92.4	\$.66	\$.37
	956	308	64	19.8	140	84.7	.81	.66
	776	294	55	18.3	132	77.7	.94	.81
	596	280	46	16.8	124	70.7	1.07	.96
	416	266	37	15.3	116	63.7	1.20	1.11
	236	252	28	13.8	108	56.7	1.33	1.26
Aver.	56	238	19	12.3	100	49.7	1.46	1.41
	-124	224	10	10.8	92	44.7	1.66	1.61
	-304	210	1	9.3	84	39.7	1.86	1.81
	-484	196	-8	7.8	76	34.7	2.06	2.01
	-664	182	-17	6.3	68	29.7	2.26	2.21
	-844	166	-26	4.8	60	24.7	2.46	2.41
Low	-1477	111	-38	3.2	49	17.2	3.00	3.01

Distribution of Acres in Farm

Crop	No. of farms growing this crop	Your farm	Average of 55 farms	11 most profitable farms	11 least profitable farms
Wheat	14		2.1	.7	.2
Oats	49		17.4	8.7	30.3
Barley	33		7.4	3.1	9.6
Rye	4		1.9	-	5.8
Flax	7		.9	-	2.4
Oats and wheat	6		2.1	.6	2.0
Oats and barley	10		2.9	3.1	7.7
Miscellaneous	6		1.3	-	.1
Total grain			36.0	16.2	58.1
Corn, grain	11		3.9	2.8	1.3
Corn, fodder	15		2.0	1.6	-
Corn, silage	22		3.4	2.1	4.0
Sunflower silage	4		.5	.7	.4
Potatoes	50		7.1	7.6	10.8
Truck crops	20		1.3	.3	1.4
Miscellaneous	7		1.1	-	-
Total cultivated crops			19.3	15.1	17.9
Alfalfa	37		8.3	6.4	9.5
Sweet clover	6		2.2	-	1.4
Alsike clover	9		1.6	2.4	-
Clover and timothy	29		15.4	15.3	36.6
Other legumes and mixtures	7		1.6	-	-
Timothy	10		2.2	.7	1.5
Miscellaneous hay	10		1.7	1.9	.2
Wild hay (non-tillable land)	21		4.7	1.1	9.4
Alsike clover seed	8		3.4	.4	.5
Other seed crops	4		.8	-	2.0
Total hay and seed			41.9	28.2	61.1
Total crop acreage			97.2	59.5	137.1
Sweet clover pasture	8		2.5	1.2	4.4
Miscellaneous legume pasture	5		.7	.1	-
Other tillable pasture	9		2.5	.4	-
Non-tillable pasture	54		64.5	43.3	108.1
Total pasture			70.2	45.0	112.5
Timber and brush (not pastured)	25		16.7	12.1	27.1
Roads and waste	47		10.4	14.0	5.7
Farmstead			4.3	3.1	5.5
Total acres in farm			198.8	133.7	287.9
Per cent of land tillable			49.0	43.5	49.5

Yield of Crops

	Your farm	Average of 55 farms	11 most profitable farms	11 least profitable farms
Wheat, bu.		19.5	21.1	15.0
Oats, bu.		41.3	47.1	38.4
Barley, bu.		24.7	21.3	21.6
Rye, bu.		16.5	-	14.5
Flax, bu.		10.8	-	6.9
Oats and wheat, bu.		36.2	47.1	40.9
Oats and barley, bu.		37.7	42.4	28.4
Oats, barley and wheat, bu.		30.9	-	-
Corn, grain, bu.		24.4	25.0	19.0
Corn, fodder, tons		2.9	2.3	-
Corn, silage, tons		6.7	8.4	4.1
Sunflower silage, tons		7.9	8.1	6.0
Potatoes, bu.		155.5	189.9	136.5
Cabbage, tons		8.1	10.0	7.9
Rutabagas, bu.		315.0	400.0	333.4
Beans, bu.		11.0	-	2.3
Alfalfa, tons		1.9	2.6	1.5
Sweet clover, tons		1.1	-	2.3
Alsike clover, tons		1.4	.9	-
Clover and timothy, tons		1.6	1.8	1.5
Other legume mixtures, tons		1.9	-	-
Quack grass, wild hay and timothy, tons		1.0	.7	.5
Annual hay, tons		1.2	.7	1.5
Wild hay (non-tillable) tons		1.0	.7	1.5
Alsike clover seed, lbs.		112.8	180.0	99.2
Sweet clover seed, lbs		265.2	-	166.7

Livestock Summary

	Your farm	Average of 55 farms	11 most profitable farms	11 least profitable farms
No. of cows		11.6	11.0	13.5
No. of cows per worker		5.9	5.8	5.6
Head of other cattle		11.2	8.8	15.8
Litters of pigs raised		2.0	.5	3.0
Pounds of pork produced		2961.0	1081.0	3604.0
Head of sheep		12.5	.2	17.7
No. of hens		62.0	42.0	50.0
Total no. of prod. livestock animal units		21.4	16.7	26.8
% of total prod. livestock units that are cows		54.9	63.5	50.3
% of total prod. livestock units that are other cattle		28.9	29.2	32.5
% of total prod. livestock units that are hogs		6.2	3.7	6.4
% of total prod. livestock units that are sheep		6.7	.6	8.8
% of total prod. livestock units that are hens		3.3	3.0	2.1

Farms Without Tractors

	Your farm	Average of 35 farms	11 most profitable farms	11 least profitable farms
No. of horses		3.4	2.3	4.6
No. of colts		.2	.2	.2

Farms With Tractors

	Your farm	Average of 20 farms	7 most profitable farms	7 least profitable farms
No. of horses		3.3	3.3	2.8*
No. of colts		.5	.4	.5

*Two of these farms had two tractors each, and one of these two had no horses.

Distribution of Farm Produce Used in House

	Quantities		Values	
	Your farm	Average 55 farms	Your farm	Average 55 farms
Skimmilk		208 gal.		\$2.58
Whole milk		972 qts.		29.36
Cream		427 pts.		42.32
Farm made butter		70 lbs.		18.52
Eggs		150 doz.		21.22
Poultry		20 head		10.58
Cattle		307 lbs.		12.63
Hogs		408 lbs.		20.91
Sheep		14 lbs.		.68
Potatoes		33 bu.		10.73
Vegetables and fruit		-		44.49
Farm fuel		14 cds.		38.74
Total				252.76
Value of farm dwelling				\$1678.74

Distribution of Household and Personal Expenses for Those Farms which Kept Complete Accounts of These Expenses

	Your farm	Average 44 farms	11 most profitable	11 least profitable
No. of persons (adult equivalent)		4	4	4
Household:				
Food	\$219	\$203	\$227	
Fuel	12	13	16	
Furnishings	7	7	13	
General supplies	16	13	14	
Hired help for the house	11	29	8	
Electric bill or plant expense	6	7	7	
Gas engine	1	-	1	
Repairs and expense on dwelling	5	8	1	
Total household cash expenses	277	280	287	
Personal:				
Clothing and dry goods	73	79	57	
Doctor, dentist and medicine	30	37	21	
Railroad and travel expense	11	9	22	
School expense	6	-	9	
Reading matter, etc.	4	4	4	
Church and benevolence	12	13	6	
Clubs and organizations	2	-	4	
Amusement	7	9	9	
Life insurance, investment	84	116	78	
Auto expense	55	46	80	
Miscellaneous	39	33	40	
Given to members of family	12	5	12	
Musical instruments	13	11	17	
Total personal cash expense	348	362	359	