Compare Your

DAIRY BUSINESS

With an Analysis of 56 Central Missouri Farms 1952

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Compare Your Dairy Business

With an Analysis of 56 Central Missouri Farms[1] 1952

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Today farming is a business. The successful farmer, like any other successful businessman, must keep good records. The farmer faces a real challenge when he tries to combine the various factors of production—land, labor, capital, and management—to obtain a reasonable financial return. This challenge calls for a thorough knowledge of farm organization and of the farm business itself.

In 1952 some of the good dairy farmers in Central Missouri kept records of their inventories and all cash receipts and expenses. When summarized by the Agricultural Economics Department, the records from these farms showed the following:

TABLE 1--SELECTED ITEMS OF RECEIPTS, EXPENSES, AND INCOME: 56 Central Missouri Dairy Farms, 1952

Item		Average All Farms
1. Total Farm Capital		$ 28,992
2. Cash Receipts		10,488
3. Cash Expenses		7,693
4. Cash Balance (2 minus 3)		2,795
5. Unpaid Family Labor		526
6. Inventory Change	(plus)	1,947
7. Farm Income (4 minus 5 plus 6)		4,216
8. Interest on Average Capital		1,449
9. Value of Operator's Time*		1,788
10. Labor Income (7 minus 8)		2,767
11. Return to Capital (7 minus 9)		$ 2,428
12. Percent Return to Capital		7.1 %

*This figure was obtained by taking the average farm wage rate paid to hired men in this area, when furnished with house and adding 20 percent to it as a wage for management.

Cash Balance is the amount of money available for family living, savings, income tax payments, and debt and interest payments.

Farm Income is what is left to pay for the farmer's labor and management, and for the use of all capital invested. Unpaid family labor and inventory adjustments are included in the calculation of this figure.

Labor Income is what the farmer receives for his year's work after paying all farm expenses and interest on all capital invested. In addition, he has the farm products used in the household.

Percent Return to Capital is the farm income minus a wage allowance for the farmer's time, divided by the total capital investment (times 100).

The major factors affecting these income measures are:

1. PRICES
2. SIZE OF BUSINESS
3. CROP YIELDS
4. RATES OF LIVESTOCK PRODUCTION
5. LABOR EFFICIENCY
6. SELECTION AND COMBINATION OF ENTERPRISES
7. MARKETS AND MARKETING PRACTICES

The quality of the four factors of production—land, labor, capital, and managerial ability—also is extremely important from the standpoint of obtaining a satisfactory cash balance, a high income, and better family living.

DESCRIPTION OF THE AREA

Location, Soil Type, and Climate: Most of the farms studied are located in west central Missouri, about 65 miles south of Kansas City. In this area the soils are mostly Summit and Oswego silt loam. The remaining farms are mostly Putnam and Lindley soils. Topography in the western area is gently rolling while the remaining farms could be classed as rolling.

The average growing season in this area is 181

[1]Of the farms included in this analysis 52 are located in Bates County, Mo. The remaining 4 are in the area in the vicinity of Boone County, Mo.

[2]R. C. Suter, assistant professor, Agricultural Economics. Acknowledgements are due J. E. Dillion, instructor, Agricultural Economics; D. Adams and J. Brotemarkle, fieldmen for the project; G. Eaton who supervised analysis of the data; W. R. Heidlage and J. L. Treat, county agricultural agents in Bates County.

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days.[1] Average annual rainfall is 38.9 inches with an average of 26 inches falling during the growing season. In 1952 the growing season was 174 days. The total rainfall was 28.9 inches with 18.6 inches falling during the months of April through September.

Type of Farming: Dairying, along with some

TABLE 2--SOURCE OF FARM RECEIPTS
56 Central Missouri Dairy Farms, 1952

Source	Amount	Percent
Milk	$ 5,641	53.8
Dairy cattle	987	9.4
Other livestock and livestock products	1,589	15.2
Crops	1,969	18.7
Miscellaneous	302	2.9
Total Cash Receipts	10,488	100.0

TABLE 3--LAND USE
56 Central Missouri Dairy Farms, 1952

Item	Acres	Percent
Corn for grain	36.2	26.6
for silage	5.0	3.7
Sorgo silage	2.4	1.8
Oats	20.1	14.7
Wheat	13.2	9.7
Soybeans	18.6	13.7
Alfalfa	4.1	3.0
Red clover	6.0	4.4
Lespedeza	6.5	4.7
Small grain cut for hay	2.9	2.1
Other	21.3	15.6
Total acres cropland	(136.3)	(100.0)
Woods	3.2	
Pasture	107.9	
Farmstead, waste, etc.	17.8	
Total farm acres	265.2	

TABLE 4.--FINANCIAL SUMMARY
56 Central Missouri Dairy Farms, 1952

Item	Average All Farms	Your Farm	19 Most Profitable*	19 Least Profitable*
FARM RECEIPTS				
Dairy cattle	$ 987	____	$ 1,230	$ 925
Milk	5,641	____	6,797	4,613
Beef cattle	129	____	55	220
Sheep	51	____	114	36
Wool	13	____	26	10
Hogs	800	____	1,518	540
Poultry	86	____	60	115
Eggs	510	____	350	693
Soybeans	831	____	1,797	296
Wheat	530	____	959	440
Other crop sales	608	____	1,150	290
Government payments	65	____	88	54
Other receipts	237	____	220	359
TOTAL CASH RECEIPTS	(10,488)	____	(14,364)	(8,591)
FARM EXPENSES				
Labor	357	____	618	266
Feed purchased	2,129	____	2,442	2,056
Auto expense	125	____	133	129
Truck expense	78	____	98	61
Gasoline, oil, grease	422	____	519	405
Equipment repair	275	____	334	273
New machinery	1,175	____	1,278	1,227
Machine hire	367	____	512	295
Fertilizer, lime, rock phosphate	798	____	1,129	693
Crop expense	356	____	473	290
Livestock expense	242	____	360	188
Livestock purchased	614	____	429	983
Building and fence upkeep	160	____	243	143
New buildings and improvements	59	____	64	77
Taxes	245	____	314	221
Insurance	99	____	93	102
Miscellaneous	192	____	239	150
TOTAL CASH EXPENSES	(7,693)	____	(9,278)	(7,559)
CASH BALANCE	2,795	____	5,086	1,032
Unpaid family labor	526	____	412	800
Change in inventory	(1,947)	____	(2,966)	(1,283)
Buildings and improvements	43	____	52	53
Machinery and equipment	435	____	374	516
Livestock	610	____	898	394
Feed and supplies	859	____	1,642	320
OPERATOR'S FARM INCOME	$ 4,216	____	$ 7,640	$ 1,515
Interest on average investment	-1,449	____	1,912	1,290
Value of operator's time	1,788	____	1,788	1,788
***RETURN TO OPERATOR'S LABOR AND MANAGEMENT**	$ 2,767	____	$ 5,728	$ 225
RETURN TO CAPITAL	$ 2,428	____	5,852	-273
Percent return	7.1	____	16.0	-2.6

[1] *1941 Yearbook of Agriculture:* Climate and Man. U. S. D. A.

cash grain, is the predominant type of farming in this area. In this particular project an attempt was made to study only those farms on which the major source of income was dairying. Specifically, 53.8 percent of the cash farm receipts was from milk sold while another 9.4 percent was from the sale of dairy cattle (Table 2). With the exception of three farms, all milk was sold on the Grade A market.

The farms studied averaged 265 total acres, with 136 acres of cropland and 108 acres of permanent pasture. Thirty-six acres, which amounted to 27 percent of all cropland, were planted to corn for grain, 7 acres were in silage crops, 20 acres in oats, 19 acres in soybeans, and 13 in wheat (Table 3).

The 56 farms had an average of 19 dairy cows per farm. Five farms kept an average of 10 beef cows, 12 farms raised an average of 11 litters of pigs, and 6 kept an average of 32 ewes (Table 5).

TABLE 5.--FARM BUSINESS ANALYSIS
56 Central Missouri Dairy Farms, 1952

Item	Average All Farms	Your Farm	High Third	Low Third
SIZE OF FARM BUSINESS				
Total farm acres	265	____	409	158
Acres of cropland	136	____	221	71
Animal units	36	____	54	22
Capital invested				
Real estate*	$ 16,565	____	$ 27,620	$ 7,566
Livestock	5,942	____	9,616	3,084
Machinery and equipment	4,527	____	7,412	2,038
Feed and supplies	1,958	____	3,471	805
Total farm capital	$ 28,992	____	$ 48,119	$ 13,493
Man equivalent	1.5	____	2.1	1.1
Productive man work units	442	____	615	290
SIZE OF LIVESTOCK ENTERPRISES				
Number of dairy cows (all farms)	19	____	26	12
Number of beef cows (5 farms)	10	____	14	5
Number of litters of pigs (12 farms)	11	____	16	7
Number of ewes (6 farms)	32	____	55	17
Number of laying hens (30 farms)	204	____	312	128
RATES OF LIVESTOCK PRODUCTION				
Pounds of milk sold per cow	6,070	____	7,998	4,438
Pounds of butterfat sold per cow	252	____	320	193
Pigs weaned per litter	5.8	____	7.6	4.1
Eggs produced per hen	145	____	200	92
CROP YIELDS				
Corn, bushels per acre	39.7	____	55.0	26.6
Soybeans, bushels per acre	18.5	____	26.3	11.0
Wheat, bushels per acre	22.5	____	30.1	15.3
Oats, bushels per acre	22.5	____	36.4	11.1
Corn silage, tons per acre	8.4	____	12.6	4.6
Hay, tons per acre				
Alfalfa	1.8	____	2.6	1.1
Red clover	1.4	____	2.2	0.8
Lespedeza	1.1	____	1.4	0.8
Small grain cut for hay	0.7	____	1.2	0.3
MEASURES OF EFFICIENCY				
Returns per $100 feed fed				
Dairy cattle	$ 181	____	$ 252	$ 120
All productive livestock	166	____	228	115
Cows per man	12.8	____	16.9	9.0
Animals units per man	24.0	____	32.6	17.0
Pounds of milk sold per man	74,946	____	114,580	42,396
Work units per man	298	____	379	225
Capital invested per man	19,166	____	27,747	11,934
Crop acres per tractor	121	____	185	65
Investment in mach. and equip.				
per crop acre	$ 37	____	$ 57	$ 19
per man	2,951	____	4,304	1,515
per 100 work units	1,004	____	1,435	552

*For all farms, the average value of land was $63.25 per acre. The value per acre for the high third was $88.37; the low third, $41.00. These are normal market values as estimated by the farm operators.

FINANCIAL SUMMARY AND BUSINESS ANALYSIS

The accompanying financial summary shows where the money came from, and where the money went in 1952. Milk sold ($5,641) was the major source of farm receipts. Feed purchased ($2,129); new machinery ($1,175); and fertilizer, lime, and rock phosphate ($798) were the major cash outlays. The average return to the farm operator for his labor and management was $2,767.

Return to the operator (Labor Income) was used as the basis for sorting all farms into three groups—one with high incomes, one with medium incomes, and one with low incomes. While the average return to all operators was $2,767, the average return to operators of the 19 most profitable farms was $5,728. Average return to operators of the 19 least profitable farms was $225. This shows a wide variation in profits in farming, even among farmers who keep good records.

There are many reasons for this wide variation in income. These are referred to as Farm Business Factors. A number of these factors are listed in Table 5. The average for each factor was obtained for all farms. Then, after sorting the farms (on the basis of each factor separately), the averages for the high one-third and the low one-third groups were obtained for each factor.

RELATIONSHIPS BETWEEN BUSINESS FACTORS AND PROFITS

A wide variation usually exists among farms in volume of business, crop yields, rates of livestock production, selection and combination of enterprises, labor efficiency, and marketing practices. Variations in these major factors account for most of the variation in return to farm operators for labor and management (Labor Income).

Size of Business: The size of the farm or volume of its business is closely related to Operator's Labor Income. As volume of business increases, the labor income usually increases, particularly if prices are favorable. This is true for either method of increasing size of business—whether more acres are added or more intensive enterprises are used on a given acreage. It also is true no mater how the size of the farm or the volume of its business is measured.

In this study, total farm acres, total farm capital, number of dairy cows, man equivalent, and total productive man work units were used as measures of size. Total farm acres is the most common measure of farm size; however, the amount of productive work accomplished is a much better measure of the volume of its business. A strong relationship usually exists between either of these and the return to the farm operator.

In 1952, as the total farm acres increased from 158 to 409, the Operator's Labor Income increased from $1,437 to $4,304 (Table 6). When the total farm capital, (both the landlord's and the operator's) increased from $14,703 to $46,517, the Operator's Labor Income increased from $1,112 to $3,972 (Table 7). A fairly sizeable increase in total farm acres and in the number of cows was associated with the larger amounts of capital (total acres increased from 170 to 389, and number of cows increased from 15 to 24).

TABLE 6--RELATIONSHIP BETWEEN SIZE OF BUSINESS (MEASURED IN TERMS OF TOTAL FARM ACRES) AND LABOR INCOME: 56 Central Missouri Dairy Farms, 1952

Total Farm Acres		Number of Farms	Acres of Cropland	Operator's Labor Income
Range	Average			
120-194	158	19	82	$ 1,437
195-269	227	18	110	2,548
270-985	409	19	215	4,304
All farms	265	56	136	$ 2,767

TABLE 7--RELATIONSHIP BETWEEN SIZE OF BUSINESS (MEASURED IN TERMS OF TOTAL FARM CAPITAL) AND LABOR INCOME: 56 Central Missouri Dairy Farms, 1952

Total Farm Capital		Number of Farms	Total Farm Acres	Number of Dairy Cows	Labor Income
Range	Average				
$ 9,389-19,499	$14,703	19	170	15	$ 1,112
19,500-29,999	25,574	18	236	18	3,241
30,000-89,619	46,517	19	389	24	3,972
All farms	$28,992	56	265	19	$ 2,767

Number of dairy cows usually is a good measure of size of business on farms where dairying is the predominant enterprise. In this study, as the average number of cows increased from 12.3 to 26.5 the return to the operator increased from $2,241 to $3,565 (Table 8).

Man Equivalent also was used as a measure of size, and again a fairly strong relationship between size and income was seen.[1] As the man equivalent in-

[1]Man equivalent represents the number of full-time men employed throughout the year, including the farm operator, the hired man, all part-time help, and family labor.

TABLE 8--RELATIONSHIP BETWEEN SIZE OF BUSINESS (MEASURED IN TERMS OF NUMBER OF DAIRY COWS) AND LABOR INCOME: 56 Central Missouri Dairy Farms, 1952

Number of Dairy Cows Range	Average	Number of Farms	Total Man Work Units	Operator's Labor Income
7 - 15	12.3	19	315	$ 2,241
16 - 19	17.7	18	437	2,479
20 - 44	26.5	19	573	3,565
All farms	18.8	56	442	$ 2,767

TABLE 9.--RELATIONSHIP BETWEEN SIZE OF BUSINESS (MEASURED IN TERMS OF MAN EQUIVALENT) AND LABOR INCOME: 56 Central Missouri Dairy Farms, 1952

Man Equivalent Range	Average	Number of Farms	Number of Dairy Cows	Total Man Work Units	Operator's Labor Income
1.00 - 1.23	1.1	19	15.8	362	$ 2,429
1.24 - 1.49	1.3	18	15.7	380	2,743
1.50 - 4.48	2.1	19	24.8	579	3,127
All farms	1.5	56	18.8	442	$ 2,767

creased from 1.1 to 2.1 the Labor Income increased from $2,429 to $3,127 (Table 9).

Total productive man work units probably is the best single measure of volume of business. [1]It represents the actual amount of productive work accomplished. In this study, as the volume of business increased from 290 to 615 work units, the Operator's Labor Income increased from $1,679 to $4,005 (Table 10).

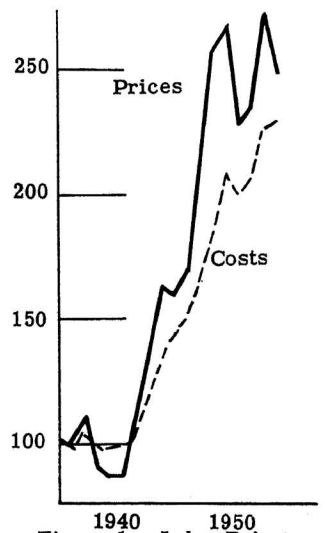

Figure 1.--Index Prices Received by Missouri Farmers, and Index U. S. Farm Costs.

PRICE CHANGES IN 1951 AND 1952

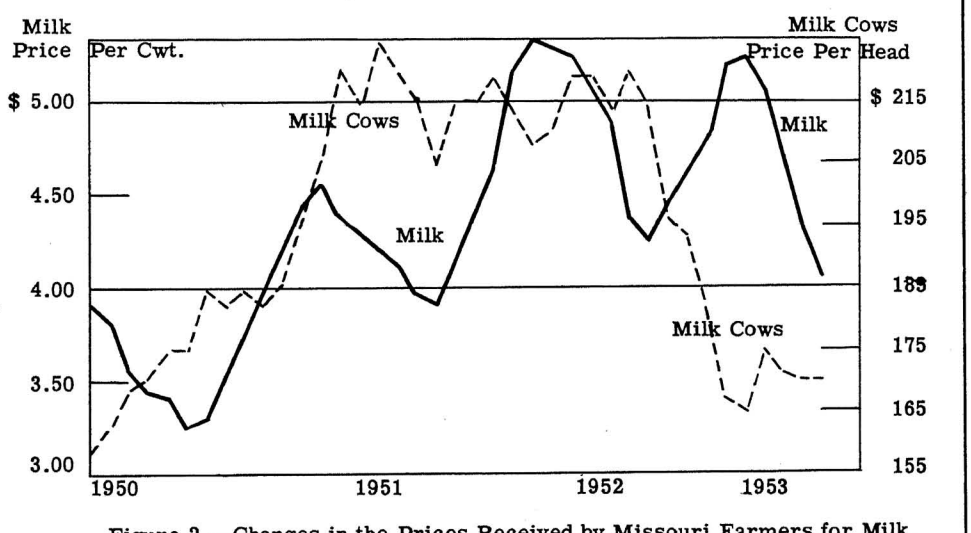

Figure 2.--Changes in the Prices Received by Missouri Farmers for Milk, and Milk cows. From January 1950 to date. (May 1953) Source: Agricultural Prices, B.A.E., U.S.D.A.

Prices in 1952 were less favorable to farmers than they were in 1951. The general price level dropped from 223 in 1951 to 214 in 1952 (1935-39 = 100). When the general price level declines, prices received for farm products react more quickly than do farm costs. Hence, the Index of Prices Received by Missouri Farmers declined from 273 in 1951 to 247 in 1952 (figure 1). The Index of Farm Costs, however, continued to rise—from 225 in 1951 to 228 in 1952. Hence, 1952 was the beginning of a cost-price squeeze in agriculture.

Milk and milk cows are the most important products to farmers in this area. In 1952, the price of milk showed its usual seasonal decline during the first part of the year (from $5.30 in Jan. to $4.25 in June), which was followed by its usual rise during the last part of the year (from $4.25 in June to $5.25 in Nov.). The seasonal pattern in 1952 was very similar to the patterns of 1950 and 1951. The average price was slightly higher. During 1952 the price of milk cows experienced a fairly rapid decline (from $219 per head in Mar. to $165 in Dec.) In general, this drop was due to the drought in the south and southwestern part of the state which caused temporary shortages of hay and pasture.

[1]A productive man work unit is the amount of work done by one man in a 10-hour day under average conditions. Hence, total work units represent the number of days which are required under average conditions to care for the average of crops grown and the number of livestock kept.

One reason for this is that the larger farm businesses usually make more efficient use of the land, labor, and capital inputs than do the smaller businesses. In other words, an increase in labor efficiency, measured in terms of work units per man, is usually associated with increases in size. As the size of farm increased from 290 total work units to 615, the labor efficiency jumped from 248 to 337 work units per man. Increasing size by increasing the amount of work accomplished per man leads to increases in income.

TABLE 10.--RELATIONSHIP BETWEEN SIZE OF BUSINESS (MEASURED IN TERMS OF TOTAL PRODUCTIVE MAN WORK UNITS) AND LABOR INCOME: 56 Central Missouri Dairy Farms, 1952

Total Man Work Units		Number of Farms	Work Units Per Man	Operator's Labor Income
Range	Average			
221 - 344	290	19	248	$ 1,679
345 - 460	419	18	310	2,608
461 - 997	615	19	337	4,005
All Farms	442	56	298	2,767

Crop Yields and Rates of Livestock Production: Increases in crop yields and in the rates of livestock production have considerable influence on the return to the operator, similar to the increases in a farm's volume of business. This is particularly true with the more important crop and livestock enterprises.

For example, when the soybean yield increased from 11 to 26.3 bushels per acre, the Operator's Labor Income increased from $2,650 to $4,957 (Table 11).

TABLE 11.--RELATIONSHIP BETWEEN SOYBEAN YIELDS AND LABOR INCOME: 32 Central Missouri Dairy Farms, 1952

Soybean Yield, Bu. Per Acre		Number of Farms	Acres of Soybeans	Operator's Labor Income
Range	Average			
5.0 - 15.0	11.0	11	19.7	$ 2,650
15.1 - 21.0	18.1	10	36.8	3,663
21.1 - 43.2	26.3	11	41.4	4,957
All farms	18.5	32	32.5	3,725

TABLE 12.--RELATIONSHIP BETWEEN POUNDS OF MILK SOLD PER COW AND LABOR INCOME: 48 Central Missouri Dairy Farms, 1952, On Which the Sale of Milk and Dairy Cattle Amounted to 40 percent or More of the Total Cash Receipts

Pounds of Milk Sold Per Cow		Number of Farms	Number of Dairy Cows	Operator's Labor Income
Range	Average			
3,770 - 5,999	4,843	24	19	$ 2,169
6,000 - 11,993	7,556	24	19	3,114
All farms	6,199	48	19	2,642

When the milk sold per cow increased from 4,843 pounds to 7,556, the Operator's Labor Income increased from $2,169 to $3,114 (Table 12).

Labor Efficiency: Wide variations also are found in the amount of productive work accomplished per man. Furthermore, increases in the amount of work accomplished per man usually lead to sizeable increases in returns to the farm operator. This is true regardless of how labor efficiency is measured—whether it is measured in terms of number of cows per man, number of animal units per man, or number of man work units per man.

In this study, as the number of cows per man increased from 9.0 to 16.9 the Operator's Labor Income increased from $1,694 to $3,677 (Table 13). As the

TABLE 13.--RELATIONSHIP BETWEEN DAIRY COWS PER MAN AND LABOR INCOME: 56 Central Missouri Dairy Farms, 1952

Cows Per Man		Number of Farms	Man Equivalent	Number of Dairy Cows	Operator's Labor Income
Range	Average				
5.4 - 10.6	9.0	19	1.74	15.6	$ 1,694
10.7 - 13.6	12.5	18	1.44	17.8	2,938
13.7 - 19.8	16.9	19	1.36	23.0	3,677
All Farms	12.8	56	1.52	18.8	2,767

number of animal units per man increased from 17.0 to 32.6 the Operator's Labor Income increased from $1,700 to $3,617 (Table 14).

TABLE 14.--RELATIONSHIP BETWEEN ANIMAL UNITS PER MAN AND LABOR INCOME: 56 Central Missouri Dairy Farms, 1952

Animal Units Per Man		Number of Farms	Man Equivalent	Animal Units	Operator's Labor Income
Range	Average				
10 - 20	17.0	19	1.54	26.3	$ 1,700
21 - 25	22.5	18	1.58	35.3	2,994
26 - 46	32.6	19	1.43	46.6	3,617
All Farms	24.0	56	1.52	36.1	2,767

Work units per man is probably the best overall measure of labor efficiency. With increases in this measure, increases almost always are seen in returns to the operator. One reason for this is that increases in labor efficiency usually are associated with increases in size of the farm business.

For example, as the labor efficiency increased from 225 to 379 work units per man, the size of business increased from 382 to 494 total man work units, and the Operator's Labor Income increased from $1,510 to $3,777 (Table 15). If a farm operator desires a good income, volume of business must be large enough and the selection and combination of the various enter-

prises must be organized sufficiently to keep the labor force gainfully employed most of the time.

TABLE 15.--RELATIONSHIP BETWEEN WORK UNITS PER MAN AND LABOR INCOME: 56 Central Missouri Dairy Farms, 1952

Work Units Per Man		Number	Total Man	Operator's
Range	Average	of Farms	Work Units	Labor Income
178 - 264	225	19	382	$ 1,510
265 - 330	290	18	449	3,027
331 - 604	379	19	494	3,777
All farms	298	56	442	2,767

Milk sold per worker also is used in a dairy area to measure the amount of productive work accomplished per man. A strong relationship usually exists between milk sold per man and labor income. In this area, as the amount of milk sold per man increased from 44,751 pounds to 108,550 pounds, the return to the operator increased from $1,768 to $4,110 (Table 16).

TABLE 16.--RELATIONSHIP BETWEEN POUNDS OF MILK SOLD PER MAN AND LABOR INCOME: 55 Central Missouri Dairy Farms, 1952

Milk Sold Per Man		Number	Total Pounds	Cows	Operator's
Range	Average	of Farms	of Milk	Per Man	Labor Income
10,524 - 58,954	44,751	18	84,005	10.3	$ 1,768
58,955 - 83,499	69,670	18	108,166	11.9	2,471
83,500 - 197,882	108,550	19	153,299	15.6	4,110
All farms	74,946	55	115,850	12.7	2,807

Feed Efficiency: Returns per $100 of feed are a measure of feed efficiency. In this study, as the returns per $100 of feed fed dairy cattle increased from $120 to $252 in 1952, the Operator's Labor Income increased from $1,953 to $3,071 (Table 17).

TABLE 17.--RELATIONSHIP BETWEEN RETURNS PER $100 FEED FED DAIRY CATTLE AND LABOR INCOME: 54 Central Missouri Dairy Farms, 1952

Returns per $100 Feed Fed Dairy Cattle		Number	Operator's
Range	Average	of Farms	Labor Income
$ 68 - 149	$ 120	18	$ 1,953
150 - 204	171	18	2,945
205 - 340	252	18	3,071
All farms	181	54	2,656

Combined Effect of Size and Efficiency: Individually, each of the various farm business factors has a considerable influence on returns to the farm operator. Combined, their influence becomes still greater. Table 18 shows the combined effect of size and efficiency on Labor Income.

Moving across the Table, labor efficiency is held constant and increases in the volume of business lead to increases in Labor Income. This is particularly true for farms with high labor efficiency. However, with a poorly organized farm where the labor efficiency is low, increases in size of the business lead to lower rather than higher returns to the operator.

TABLE 18.--RELATIONSHIP BETWEEN SIZE OF BUSINESS, LABOR EFFICIENCY, AND LABOR INCOME: Estimated Values Based on 56 Central Missouri Dairy Farms, 1952

Labor Efficiency	Size of Business (Total Productive Man Work Units)			
Work Units Per Man	Small 221 - 312	Medium-Small 313 - 422	Medium-Large 423 - 499	Large 500 - 1,000
	---Operator's Labor Income---			
Low 178 - 249	$ 2,024	$ 1,675	$ 1,319	$ 551
Medium-Low 250 - 292	1,831	1,948	2,068	2,327
Medium-high 293 - 339	1,676	2,168	2,670	3,753
High 340 - 490	1,392	2,570	3,770	6,365

Moving downward in each column, size of business is held constant and increases in labor efficiency lead to increases in the Operator's Labor Income. This is particularly true for the larger farm businesses. With the smaller farm units, particularly the part-time units, there is a tendency for labor income to decline. In this case, the quantity of inputs other than labor (particularly the capital input in terms of machinery and equipment) which are necessary to attain a high labor efficiency, is not justified in terms of economic return to the farm operator on a small farm unit.

Progressing diagonally downward and across the table the combined effect of volume of business and labor efficiency is shown. In 1952, the small inefficient farm business obtained a Labor Income of $2,024; on the other hand, the large highly efficient business obtained a Labor Income of $6,365.

Cumulative Effect of Six Factors: Farmers who are above average in several factors affecting profits usually have a much higher income than those who are above average in only a few. In this study, farmers who excelled in one or two factors had a labor income which was considerably above the income of farmers who were below average in all factors (Table 19). Farmers who excelled in three or four factors had a higher income than those who excelled in only one or two factors, and farmers with 5 or 6 factors above average had a labor income which was still higher.

TABLE 19.--RELATIONSHIP BETWEEN THE NUMBER OF FARM MANAGEMENT FACTORS ABOVE AVERAGE AND LABOR INCOME*: 56 Central Missouri Dairy Farms, 1952

Number of Factors in which Farmer Excelled	Number of Farms	Operator's Labor Income
0	4	$ 623
1 or 2	27	1,693
3 or 4	21	3,801
5 or 6	4	6,729

*The factors used were (1) Number of Dairy Cows, (2) Cows Per Man, (3) Work Units Per Man, (4) Pounds of Milk Sold Per Cow, (5) Bushels of Soybeans Per Acre, and (6) Returns per $100 Feed Fed Dairy Cows.