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Farm Business Analysis Report



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1966 FARM BUSINESS ANALYSIS REPORT

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SECTION I 250 OHIO DAIRY FARMS

The highlights out of the total dairy summary are listed below in Table 1. The basis for sorting these 250 farms is income earned by full-time operator. Thus in Table 1 through 8, the groups are: the 25 percent of the farms with the highest income, the 25 percent with lowest income, and medium which is the 50 percent of the 250 farms lying between the high and low quarters. Later in this report, this same group of farms is sorted on the basis of other factors. A synopsis is given on three special sorts in Table 9, 10 and 11.

Table 1. Highlights

| | High 25% | My Farm | Low 25% | Medium 50% |
|---|-----------|---------|----------|------------|
| Pounds of Milk Sold | 752,081 | _____ | 348,378 | 479,603 |
| Milk Sold Per Cow | \$ 623 | _____ | \$ 487 | \$ 595 |
| Return Per \$1 Feed Fed | \$ 1.97 | _____ | \$ 1.44 | \$ 1.86 |
| Crop Acres | 236 | _____ | 128 | 154 |
| Value of Crops Per Acre | \$ 106 | _____ | \$ 80 | \$ 93 |
| Number of Cows | 55 | _____ | 31 | 38 |
| Number of Men | 2.1 | _____ | 1.6 | 1.7 |
| Cows Per Man | 26 | _____ | 19 | 22 |
| P.M.W.U. Per Man | 295 | _____ | 215 | 246 |
| Cost Per Cwt. Milk Prod. | \$ 3.47 | _____ | \$ 4.94 | \$ 4.11 |
| Capital Invested | \$123,089 | _____ | \$68,433 | \$83,483 |
| Gross Income | \$ 53,705 | _____ | \$21,019 | \$31,214 |
| Gross Per \$1 Invested | .44 | _____ | .31 | .37 |
| Total Overhead | \$ 14,769 | _____ | \$ 7,891 | \$ 9,536 |
| Overhead Divided by Gross | .28 | _____ | .38 | .31 |
| Mgt. and Labor Income Per Full Time Operator | \$ 17,040 | _____ | \$ 1,882 | \$ 7,757 |

Table 2. Cash Receipts

| | High 25% | Your Farm | Low 25% | Medium 50% |
|--------------------------|----------|-----------|----------|------------|
| Milk and Cream | \$34,468 | _____ | \$15,172 | \$22,427 |
| Poultry and Eggs | 469 | _____ | 141 | 164 |
| General Crops | 3,557 | _____ | 1,441 | 1,750 |
| Special Crops | 152 | _____ | 211 | 345 |
| Cash Rent and Royalties | 290 | _____ | 177 | 114 |
| Labor Off Farm | 218 | _____ | 148 | 181 |
| Custom Work | 511 | _____ | 215 | 226 |
| Wool | 9 | _____ | 16 | 7 |
| Other Livestock Products | 7 | _____ | 7 | 9 |
| Tax Refund | 144 | _____ | 84 | 98 |
| Patronage Dividend | 169 | _____ | 69 | 121 |
| Breeding Fees Received | 4 | _____ | 0 | 35 |
| Miscellaneous Receipts | 262 | _____ | 54 | 109 |
| Government Payments | 881 | _____ | 686 | 412 |
| Market Livestock | | | | |
| Swine | 772 | _____ | 146 | 448 |
| Cattle | 1,772 | _____ | 563 | 409 |
| Veal Calves | 528 | _____ | 192 | 332 |
| Lambs | 40 | _____ | 39 | 17 |
| Total Cash Receipts | \$44,254 | _____ | \$19,360 | \$27,206 |

Note in Table 2 that the high group had much higher milk receipts and total receipts than either of the other groups. This is an indication of a greater volume of business which is an essential step in achieving a satisfactory labor and management income.

Table 3. Cash Expenses

| | High 25% | Your Farm | Low 25% | Medium 50% |
|-------------------------------|----------|-----------|---------|------------|
| Hired Labor | \$ 2,464 | _____ | \$ 969 | \$ 1,097 |
| Feed Purchased | 6,444 | _____ | 3,799 | 4,354 |
| Farm Supplies | 871 | _____ | 443 | 618 |
| Machinery Repairs | 1,582 | _____ | 995 | 1,085 |
| Building, Fence, Tile Repairs | 516 | _____ | 307 | 438 |
| Fuel, Oil and Grease | 1,350 | _____ | 797 | 991 |
| Telephone (farm share) | 103 | _____ | 76 | 89 |
| Electricity (farm share) | 516 | _____ | 282 | 373 |
| Miscellaneous Expenses | 789 | _____ | 374 | 428 |
| Seeds and Plants | 725 | _____ | 364 | 455 |
| Fertilizer and Lime | 3,169 | _____ | 1,598 | 2,135 |

| | | | | |
|-----------------------------------|-----------------|-------|-----------------|-----------------|
| Machine Hire and Trucking | 650 | _____ | 564 | 487 |
| Auto Expense (farm share) | 328 | _____ | 287 | 263 |
| Interest on Notes and Mortgage | 2,068 | _____ | 1,057 | 1,227 |
| Veterinary and Medicine | 632 | _____ | 276 | 384 |
| Breeding Fees and Registration | 539 | _____ | 248 | 364 |
| Feeder Livestock Purchase | 706 | _____ | 750 | 582 |
| Taxes | 1,332 | _____ | 734 | 904 |
| Cash Rent | 1,165 | _____ | 273 | 308 |
| Insurance | 427 | _____ | 284 | 303 |
| Total Cash Expenses | \$26,373 | _____ | \$14,477 | \$16,885 |

Here note that the high group had higher expenses, particularly for hired labor, feed purchased and fertilizer and lime. These are variable expenses that tend to increase as volume or size of business is increased.

Table 4. Income and Investment

| | High 25% | Your Farm | Low 25% | Medium 50% |
|-----------------------------------|-----------------|-----------|-----------------|-----------------|
| <u>Capital Gain or Loss</u> | | | | |
| Raised Breeding Stock | \$ 3,821 | _____ | \$ 1,352 | \$ 2,292 |
| Purchased Breeding Stock | 71 | _____ | 117 | 43 |
| Machinery and Equipment | 165 | _____ | - 284 | - 46 |
| Total Capital Gain or Loss | \$ 4,057 | _____ | \$ 1,185 | \$ 2,289 |
| <u>Net Inventory Change</u> | | | | |
| Raised Breeding Stock | \$ 2,532 | _____ | \$ 606 | \$ 827 |
| Market Livestock | 26 | _____ | 72 | - 35 |
| Grain, Hay and Supplement | 3,449 | _____ | 599 | 1,468 |
| Supplies and Fertilizer | 92 | _____ | 23 | 41 |
| Total Inventory Change | \$ 6,099 | _____ | \$ 1,300 | \$ 2,300 |
| <u>Depreciation</u> | | | | |
| Buildings, Fence, Tile | \$ 1,503 | _____ | \$ 839 | \$ 972 |
| Machinery and Equipment | 3,552 | _____ | 1,911 | 2,371 |
| Purchased Breeding Stock | 120 | _____ | 122 | 66 |
| Total Depreciation | \$ 5,176 | _____ | \$ 2,871 | \$ 3,409 |

| | High 25% | Your Farm | Low 25% | Medium 50% |
|------------------------------------|------------------|-----------|-----------------|-----------------|
| <u>Capital Investment</u> | | | | |
| Purchased Breeding Stock | \$ 869 | _____ | \$ 932 | \$ 807 |
| Raised Breeding Stock | 20,064 | _____ | 8,274 | 11,973 |
| Market Livestock | 575 | _____ | 558 | 339 |
| Grain and Hay | 10,902 | _____ | 4,363 | 5,898 |
| Supplies and Fertilizer | 131 | _____ | 52 | 71 |
| Machinery and Equipment | 17,572 | _____ | 9,957 | 11,972 |
| Buildings, Fences, Tile | 23,595 | _____ | 13,849 | 15,461 |
| Land (current Agr. value) | 49,381 | _____ | 30,449 | 36,962 |
| Total Capital Investment | \$123,089 | _____ | \$68,433 | \$83,483 |
| <u>Income</u> | | | | |
| Gross Income | \$ 53,705 | _____ | \$21,019 | \$31,214 |
| Net Cash Income | 17,881 | _____ | 4,883 | 10,321 |
| Net Farm Income | 22,862 | _____ | 4,421 | 11,502 |
| Family Labor and Management Income | | | | |
| Total | 18,776 | _____ | 2,057 | 8,555 |
| Per Full-Time Operator | 17,040 | _____ | 1,882 | 7,757 |
| Net Margin % | 35 | _____ | 10 | 27 |

Table 4 presents information used in calculating the various income figures. Capital gains or losses are reported for income tax purposes. Actually, raised breeding stock that is sold should be listed under capital gains, although many farmers still recorded these sales under cash receipts, (Market Livestock, Cattle) as listed in Table 2.

Net Inventory Change measures the difference between beginning and closing inventories of livestock, feed and supplies. Depreciation is included as an annual expense.

Capital investment is an average of beginning and closing inventories for all items. The high income group had a much higher capital investment than the other two groups.

Gross income is total cash receipts (Table 2.) minus feeder livestock purchases (Table 3.) + total inventory change (Table 4.). Net cash income is total cash receipts minus total cash expenses. Net farm income is net cash income plus total inventory change, minus total depreciation. Family labor and management income is net farm income minus unpaid interest on the owner's equity. Net margin is family labor and management income as a percent of gross income. Family labor and management income per full-time operator is calculated by converting "months operator labor" Table 8 to years of operator labor and dividing family labor and management income by this figure.

Table 5. Capital Efficiency

| | High 25% | Your Farm | Low 25% | Medium 50% |
|---------------------------------|-----------------|-----------|-----------------|-----------------|
| Overhead Expenses | | | | |
| Depreciation | \$ 5,175 | _____ | \$ 2,871 | \$ 3,409 |
| Interest | 6,154 | _____ | 3,422 | 4,174 |
| Repairs (Bldg. & Fence) | 516 | _____ | 307 | 438 |
| Taxes | 1,332 | _____ | 734 | 904 |
| Insurance | 427 | _____ | 284 | 303 |
| Rent | 1,165 | _____ | 273 | 308 |
| Total | \$14,769 | _____ | \$ 7,891 | \$ 9,536 |
| Overhead As Percent of | | | | |
| Gross | 27.5 | _____ | 37.5 | 30.6 |
| Gross Income Per \$1,000 | | | | |
| Invested | \$ 436 | _____ | \$ 307 | \$ 374 |

In Table 5 all the overhead expenses are listed. The total interest is computed by multiplying the total investment (Table 4.) by 5 percent. The total overhead is divided by the gross income to determine the percent of the gross that is absorbed by overhead or fixed expenses. It should be noted that the high income farms are the lowest which indicates greater capital efficiency. This efficiency is expressed another way by the gross income generated by each \$1,000 invested.

Table 6. Crop Summary

| | High 25% | | Low 25% | | Medium 50% | |
|-----------------------------------|------------|-------|------------|-------|------------|-------|
| | Acres | Yield | Acres | Yield | Acres | Yield |
| Crop Production | | | | | | |
| Corn | 66 | 91 | 33 | 81 | 38 | 88 |
| Soybeans | 20 | 26 | 12 | 27 | 10 | 29 |
| Oats | 13 | 66 | 9 | 55 | 11 | 59 |
| Wheat | 18 | 43 | 10 | 36 | 12 | 41 |
| Alfalfa Hay | 70 | 4.3 | 26 | 3.1 | 46 | 3.5 |
| Clover, Mixed Hay | 6 | 2.4 | 23 | 1.9 | 13 | 2.4 |
| Green Chop | 3 | 14.3 | 2 | 10.8 | 1 | 11.3 |
| Corn Silage | 29 | 15.3 | 10 | 14.9 | 17 | 14.6 |
| Grass Silage | 7 | 8.1 | 1 | 9.0 | 4 | 8.4 |
| Other | 3 | -- | 2 | -- | 3 | -- |
| Special Crops | 1 | -- | 1 | -- | 0 | -- |
| Total Harvested Crop Acres | 236 | | 128 | | 154 | |

| | High 25% | Your Farm | Low 25% | Medium 50% |
|---|----------|-----------|----------|------------|
| Value of Crops | | | | |
| Total Value of Crops | \$24,928 | _____ | \$10,267 | \$ 14,355 |
| Value of Crops Per Harvested Acre | 106 | _____ | \$ 80 | \$ 93 |
| Machinery | | | | |
| Investment Per Harvested Crop Acre | \$ 71 | _____ | \$ 69 | \$ 74 |
| Machinery Costs Per Harvested Crop Acre | \$ 32 | _____ | \$ 34 | \$ 35 |

In Table 6, observe the differences in crop yields between groups. Some of this may be due to differences in land quality, but part of it is fertilizer use and cropping practices. Value of crops per harvested acre is a single measure that combines yield and crop prices for an easy comparison of crop production efficiency. There was quite a bit of difference between groups in this factor.

Table 7. Dairy Summary

| | High 25% | Your Farm | Low 25% | Medium 50% |
|---------------------------------|----------|-----------|----------|------------|
| Value of Feed Fed | | | | |
| Crops Fed | \$15,530 | _____ | \$ 8,001 | \$ 9,482 |
| Purchased Feed | 6,444 | _____ | 3,799 | 4,354 |
| Pasture | 419 | _____ | 406 | 336 |
| Total Value Feed Fed | \$22,393 | _____ | \$12,206 | \$14,172 |
| Value of Net Livestock | | | | |
| Increase | \$43,813 | _____ | \$17,597 | \$26,394 |
| Returns Per \$1.00 Feed Fed | \$1.97 | _____ | \$1.44 | \$1.86 |
| Number of Cows | 55 | _____ | 31 | 38 |
| Pounds of 3.5% Milk Sold | | | | |
| Total | 752,081 | _____ | 348,378 | 479,603 |
| Per Cow | 13,598 | _____ | 11,184 | 12,719 |
| Per Man Equivalent | 359,304 | _____ | 216,007 | 284,557 |
| Dairy Products Sold | | | | |
| Total | \$34,468 | _____ | \$15,172 | \$22,427 |
| Per Cow | 623 | _____ | 487 | 595 |
| As Percent of Gross Income | 64 | _____ | 72 | 72 |
| Cost of Producing Milk | \$26,088 | _____ | \$17,204 | \$19,688 |
| Cost Per Cwt. Milk Sold | \$ 3.47 | _____ | \$ 4.94 | \$ 4.11 |

In Table 7 there are comparisons of total value of feed fed, net livestock increase (sales, capital gains, inventory change, minus feeder livestock purchases) and a calculation of livestock returns per dollar of feed fed. This measures feeding efficiency, and there were important differences between groups in this factor. Observe that the high income group included large herds with higher production per cow and per man. Their cost of producing milk was lower because of higher productivity and efficiency in feeding and use of capital. This cost of producing milk includes interest on investment, \$300 per month for operator labor and \$200 per man month equivalent for other unpaid labor. The difference between cost of producing milk and price received for milk would be management income and net profit.

Table 8. Labor Efficiency

| | High 25% | Your Farm | Low 25% | Medium 50% |
|----------------------------------|----------|-----------|----------|------------|
| <u>Production Man Work Units</u> | | | | |
| Crops | 166 | _____ | 90 | 108 |
| Dairy | 442 | _____ | 249 | 302 |
| Swine | 3 | _____ | 1 | 2 |
| Beef Cows | -- | _____ | 1 | -- |
| Cattle Fattened | 1 | _____ | 3 | -- |
| Chickens | 5 | _____ | 2 | 2 |
| Sheep | -- | _____ | 1 | -- |
| Total PMWU | 618 | _____ | 347 | 414 |
| Months Operator Labor | 13 | _____ | 13 | 13 |
| Man-Year Equivalent of Labor | 2.1 | _____ | 1.6 | 1.7 |
| PMWU Per Man Equivalent | 295 | _____ | 215 | 246 |
| <u>Gross Income Per Man</u> | | | | |
| Equivalent | \$25,657 | _____ | \$13,033 | \$18,520 |

In Table 8, a productive man work unit is a standard labor requirement, representing 10 hours of labor at standard efficiency levels. To get an indication of labor requirements in hours, multiply the P.M.W.U. figures by 10. The high income group had good levels of labor efficiency as measured by P.M.W.U. and gross income per man equivalent.

Table 9. Highlights From Sort On Herd Size

| | High 25% | Your Farm | Low 25% | Medium 50% |
|-------------------------|----------|-----------|----------|------------|
| No. of Cows | 69 | _____ | 20 | 37 |
| Production Per Cow | 13,203 | _____ | 12,090 | 12,445 |
| Cost of Producing Milk | \$ 3.91 | _____ | \$ 4.17 | \$ 4.08 |
| Net Margin % | 26 | _____ | 34 | 27 |
| Overhead % | 29 | _____ | 26 | 30 |
| Returns Per \$ Feed Fed | \$ 1.88 | _____ | \$ 1.77 | \$ 1.78 |
| P.M.W.U. Per Man | 303 | _____ | 172 | 253 |
| Income Per Operator | \$11,654 | _____ | \$ 6,567 | \$ 7,776 |

When the 250 Ohio dairy farms are sorted on the basis of herd size, it becomes quite apparent that a large volume of business does contribute to a larger operator income. In Table 9 it can be seen that the high 25 percent averaged 69 cows in the production herd. The rate of production was not neglected and averaged more than 13,000 pounds per cow. These operators achieved a rather low cost of production. They also skillfully converted feed into milk as indicated by their \$1.88 return per \$1 of feed fed. Their margin stood at 26 percent and overhead at 29 percent. Their productive work load was high at 3,030 hours for each full time worker. As a result of volume and efficiency, these operators were able to attain an income 77 percent higher than the small herd with a lower degree of efficiency as seen in the low 25 percent of the group.

Table 10. Highlights From Sort On Production Per Cow

| | High 25% | Your Farm | Low 25% | Medium 50% |
|-------------------------|----------|-----------|---------|------------|
| Production Per Cow | 14,970 | _____ | 9,431 | 12,799 |
| Number of Cow | 45 | _____ | 33 | 42 |
| Cost of Producing Milk | \$ 3.70 | _____ | \$ 4.73 | \$ 4.00 |
| Net Margin % | 29 | _____ | 26 | 27 |
| Overhead % | 28 | _____ | 29 | 29 |
| Returns Per \$ Feed Fed | 1.76 | _____ | 1.68 | 1.91 |
| P.M.W.U. Per Man | 253 | _____ | 238 | 261 |
| Income Per Operator | \$10,618 | _____ | \$6,106 | \$8,789 |

The same group of 250 Ohio dairy farms was sorted on the basis of production per cow. In the highlights in Table 10, it can be seen that those with high production per cow were able to combine superior production with adequate size in order to achieve higher operator income.

Table 11. Highlights From Sort On Cost Of Producing Milk

| | Low Cost 25% | High Cost 25% | Medium 50% |
|-------------------------|--------------|---------------|------------|
| Cost of Producing Milk | \$ 3.30 | \$ 5.27 | \$ 3.98 |
| Production Per Cow | 13,202 | 10,932 | 13,192 |
| Number of Cows | 44 | 33 | 42 |
| Net Margin % | 39 | 11 | 27 |
| Overhead % | 25 | 33 | 30 |
| Returns Per \$ Feed Fed | \$ 1.98 | \$ 1.51 | \$ 1.86 |
| P.M.W.U. Per Man | 285 | 210 | 258 |
| Income Per Operator | \$14,718 | \$ 2,458 | \$ 8,445 |

In Table 11 the highlights of the sort on the basis of cost of producing milk are stated. Those farms which make up the low cost 25 percent are those managers who have successfully put together a very efficient milk production factory. As seen in the highlights, these farms had good production per cow, an adequate herd size to give volume, a high net margin, a low overhead, a high return per dollar of feed fed, and a relatively high productive work load for each worker. Through this superior combination of volume and efficiency, the low cost 25 percent had a net income per operator almost six times as large as the high cost farms.

SECTION II
OHIO HOG FARMS

This summary has been grouped by two tenure groups for analysis; namely, owner-operators and tenant-operators. The number of farms in both samples are small, but the results point up some current problems and accomplishments that deserve consideration.

The records were first analyzed individually and an individual computer print-out analysis was sent back to the farmer. Then the individual records were sorted, on the basis of Labor and Management Income per operator into three groups: High 25%, income group; low 25%, and medium 50% income group case of owner-operators. Just one average figure is given for the tenant group.

OWNER OPERATOR HOG FARMS

This summary includes data from 23 owner-operators. Typically, hog sales made up 66 to 84% of all salable receipts.

Table 1. General Summary

| | High 25% | My Farm | Low 25% | Medium 50% |
|---|-------------|------------|------------|---------------|
| * Labor and Management Income | \$10,485 | _____ | \$ - 1,358 | \$ 5,589 |
| Gross Income Per Farm | 49,210 | _____ | 21,640 | 28,549 |
| Gross Income (Per Man Equiv.) | 31,355 | _____ | 18,054 | 22,744 |
| Cash Expenses | 29,904 | _____ | 19,246 | 17,201 |
| Overhead Expenses | 12,887 | _____ | 7,999 | 10,021 |
| Overhead As Percent of Gross Income | 26% | _____ | 37% | 35% |
| Man Equiv. of Labor | 1.6 | _____ | 1.2 | 1.3 |
| P.M.W.U. Per Man | 211 | _____ | 156 | 166 |
| Number Crop Acres | 179 | _____ | 110 | 135 |
| Value of Crops Per Crop Acre | 107 | _____ | 81 | 96 |
| No. Sows | 57 | _____ | 33 | 31 |
| Return Per \$1.00 Feed Fed | \$1.58 | _____ | \$1.32 | \$1.46 |
| Pounds of Market Hogs Sold Per Man | 88,259 | _____ | 49,148 | 58,834 |
| Gross Income Per \$1,000 Invested | 359 | _____ | 320 | 244 |
| Total Capital Investment | 137,226 | _____ | 67,535 | 117,126 |
| Interest Not Yet Charged (Or Interest On Own Equity) | 5,340 | _____ | 1,972 | 4,598 |

* Income per farm after all cash expenses, depreciation and interest on own investment is deducted from cash receipts plus or minus changes in inventory.

WHY THE WIDE DIFFERENCE IN INCOME?

As you will note the high 25% had a Labor and Management Income of \$10,485 while the low 25% had a -\$1,358 income. This means the low group were living on their depreciation and interest on their own equity in the business.

Volume of output per man plus crop and livestock performance are important in the success formula. It is hard to single out any one basic difference between the high and low income farms. However, the high group excelled in crop and livestock performance as measured by yield per acre and return per \$1.00 feed fed plus output per man.

Following are a few key points to note when analyzing your own record and in looking over this summary:

1. Gross income per man equivalent is a very important consideration since this is a good indication of the work done or amount of product produced per man. Another evaluation is to compare total gross income to P.M.W.U. or productive man work units (number of 10 hour days). The P.M.W.U. figure is an indication of the number of days that productive employment was available per farm. High P.M.W.U. usually means high net income.
2. Another measure is gross value of crops per crop acre which is an indication of how well you are doing with the crop enterprise. On 100 bu. corn ground this should average over \$120 per crop acre.
3. The pounds of pork sold per man is an indication of volume of work per man and the return per \$1.00 feed fed is an indication of efficiency. Note difference between high and low group.
4. Overhead costs as a percent of the gross income is an important factor. This indicates the kind of job you are doing in putting your fixed assets to work. You can calculate this by adding up your depreciation, interest (both interest paid and interest on your equity), repairs on buildings, fences, etc., taxes and insurance. Then divide this total by your gross income (total cash income plus or minus change in inventory of grain, feed and livestock). Owner-operators should range from 25 to 40%. Tenants 14 to 20%. This being an above average price year for hogs makes this percentage factor lower than usual on most farms.
5. Machinery investment per crop acre and machinery costs (depreciation, fuel, repairs, custom work, etc.) are very important factors to keep a watch on. Above \$60 investment per crop acre should be a special concern and above \$30 cost is the area of asking why.
6. The important factor is the Labor and Management Income, which is what is left after cash expenses, depreciation and interest on your own investment is deducted from gross income.

Table 2. Cash Receipts

| | High 25% | My Farm | Low 25% | Medium 50% |
|--------------------------|-------------|------------|------------|---------------|
| Milk and Cream | \$ -- | _____ | \$ 89 | \$ 28 |
| Poultry and Eggs | -- | _____ | 3 | -- |
| General Crops | 2,325 | _____ | 2,374 | 3,853 |
| Special Crops | -- | _____ | 638 | 272 |
| Cash Rent and Royalties | 217 | _____ | 20 | 113 |
| Labor Off Farm | 60 | _____ | 29 | 44 |
| Custom Work | 543 | _____ | 233 | 298 |
| Wool | 91 | _____ | -- | 78 |
| Other Livestock Products | -- | _____ | -- | -- |
| Tax Refund | 310 | _____ | 39 | 77 |
| Patronage Dividend | 74 | _____ | 39 | 24 |
| Breeding Fees Received | -- | _____ | -- | 50 |
| Miscellaneous Receipts | 127 | _____ | 30 | -- |
| Government Payments | 249 | _____ | 820 | 684 |
| Market Livestock | | | | |
| Swine | 38,008 | _____ | 14,712 | 18,024 |
| Cattle | 2,221 | _____ | 1,315 | 3,286 |
| Veal Calves | 1,115 | _____ | 12 | 30 |
| Lambs | -- | _____ | -- | 305 |
| Total Cash Receipts | \$45,340 | _____ | \$20,353 | \$27,166 |

Observe that the high income group had much higher total receipts than did the low group. A high proportion of those receipts were from market hogs.

Table 3. Cash Expenses

| | High 25% | My Farm | Low 25% | Medium 50% |
|--------------------------------|-------------|------------|------------|---------------|
| Hired Labor | \$ 2,174 | _____ | \$ 369 | \$ 590 |
| Feed Purchased | 14,173 | _____ | 8,526 | 6,805 |
| Farm Supplies | 534 | _____ | 364 | 533 |
| Machinery Repairs | 884 | _____ | 594 | 693 |
| Building, Fence, Tile Repairs | 586 | _____ | 434 | 244 |
| Fuel, Oil and Grease | 1,110 | _____ | 854 | 782 |
| Electricity (farm share) | 193 | _____ | 197 | 234 |
| Telephone (farm share) | 135 | _____ | 78 | 48 |
| Miscellaneous Expenses | 108 | _____ | 134 | 105 |
| Seeds and Plants | 665 | _____ | 460 | 348 |
| Fertilizer and Lime | 3,871 | _____ | 2,096 | 2,047 |
| Machine Hire and Trucking | 418 | _____ | 305 | 254 |
| Auto Expense (farm share) | 551 | _____ | 331 | 198 |
| Interest on Notes and Mortgage | 1,521 | _____ | 1,405 | 1,258 |
| Veterinary and Medicine | 1,017 | _____ | 689 | 296 |
| Breeding Fees and Registration | 8 | _____ | 4 | 5 |
| Feeder Livestock Purchase | 255 | _____ | 1,457 | 1,637 |
| Taxes | 1,299 | _____ | 743 | 855 |
| Cash Rent | 49 | _____ | 4 | 6 |
| Insurance | 356 | _____ | 202 | 263 |
| Total Cash Expenses | \$29,907 | _____ | \$19,246 | \$17,201 |

Table 4. Income and Investment

| | High 25% | My Farm | Low 25% | Medium 50% |
|-----------------------------------|-------------|------------|------------|---------------|
| <u>Capital Gain or Loss</u> | | | | |
| Raised Breeding Stock | \$ 2,418 | _____ | \$ 1,077 | \$ 871 |
| Purchased Breeding Stock | 22 | _____ | 384 | 192 |
| Machinery and Equipment | - 17 | _____ | -- | 83 |
| Total Capital Gain or Loss | \$ 2,423 | | \$ 1,461 | \$ 1,146 |
| <u>Net Inventory Change</u> | | | | |
| Raised Breeding Stock | - 641 | _____ | - 448 | - 293 |
| Market Livestock | - 2,060 | _____ | 723 | - 393 |
| Grain, Hay and Supplement | 4,253 | _____ | 922 | 2,494 |
| Supplies and Fertilizer | 151 | _____ | 85 | - 10 |
| Total Inventory Change | \$ 1,703 | | \$ 1,282 | \$ 1,798 |
| <u>Depreciation</u> | | | | |
| Buildings, Fence, Tile | 1,075 | _____ | 900 | 917 |
| Machinery and Equipment | 2,441 | _____ | 1,641 | 1,790 |
| Purchased Breeding Stock | 221 | _____ | 699 | 90 |
| Total Depreciation | \$ 3,737 | | \$ 3,240 | \$ 2,797 |
| <u>Capital Investment</u> | | | | |
| Purchased Breeding Stock | 990 | _____ | 2,507 | 739 |
| Raised Breeding Stock | 6,130 | _____ | 1,869 | 2,165 |
| Market Livestock | 10,949 | _____ | 4,371 | 6,470 |
| Grain, Hay and Supplement | 13,181 | _____ | 3,982 | 7,377 |
| Supplies and Fertilizer | 651 | _____ | 67 | 41 |
| Machinery and Equipment | 10,806 | _____ | 8,152 | 9,762 |
| Buildings, Fences, Tile | 23,269 | _____ | 17,154 | 14,423 |
| Land | 71,250 | _____ | 29,433 | 76,149 |
| Total Capital Investment | \$137,226 | | \$67,535 | \$117,126 |
| <u>Capital Efficiency</u> | | | | |
| Interest Not Yet Charged (5%) | \$ 5,340 | _____ | \$ 1,972 | \$ 4,598 |
| Gross Income Per \$1,000 Invested | 359 | _____ | 320 | 244 |
| Overhead Expenses | | | | |
| Total | \$ 12,887 | _____ | \$ 7,999 | \$ 10,015 |
| As Per Cent of Gross Income | 26% | _____ | 37% | 35% |

This table presents information used in calculating the various income measures. Capital gain or loss is the gain or loss from sale of breeding stock and machinery or equipment. Net inventory change is the change in inventory of production items, such as livestock feed, and supplies. Capital investment is an average of beginning and closing inventories, to measure investment in the farm business for the year. Under capital efficiency, interest not yet charged is calculated by taking 5% of total capital investment and subtracting interest on notes and mortgages.

Overhead expenses include building, fence and tile repairs, interest on notes and mortgages, taxes, insurance, depreciation, and interest not yet charged. Overhead expense as a percent of gross income is another measure of capital efficiency. On efficiently operated farms, this figure should run around 25%.

Gross income is total cash receipts minus feeder livestock purchases plus total inventory change. Net cash income is total cash receipts minus total cash expenses. Net farm profit is net cash income plus total inventory change minus total depreciation.

Table 5. Crop Summary

| | High 25% | | My Farm | Low 25% | | Medium 50% | |
|----------------------------|------------|-------|---------|------------|-------|------------|-------|
| | Acres | Yield | | Acres | Yield | Acres | Yield |
| <u>Crop Production</u> | | | | | | | |
| Corn | 108 | 106 | _____ | 53 | 77 | 81 | 91 |
| Soybeans | 16 | 28 | _____ | 11 | 29 | 15 | 31 |
| Oats | 4 | 80 | _____ | 11 | 64 | 12 | 55 |
| Wheat | 33 | 43 | _____ | 12 | 41 | 11 | 44 |
| Alfalfa Hay | 3 | 1.5 | _____ | 6 | 1.5 | 3 | 3.7 |
| Clover, Mixed Hay | 14 | 1.9 | _____ | 14 | 2.4 | 10 | 1.7 |
| Green Chop | -- | -- | _____ | -- | -- | -- | -- |
| Corn Silage | -- | 17 | _____ | 3 | 16 | 2 | 10 |
| Grass Silage | -- | -- | _____ | -- | -- | -- | 11 |
| Other | -- | -- | _____ | -- | -- | -- | -- |
| Special Crops | -- | -- | _____ | 5 | 81 | 1 | -- |
| Total Harvested Crop Acres | <u>178</u> | | | <u>115</u> | | <u>135</u> | |
| Machinery Investment Per | | | | | | | |
| Harvested Crop Acre | 56 | | _____ | 68 | | 57 | |
| Per Harvested Crop Acre | 28 | | _____ | 33 | | 23 | |

In Table 5, the high income group had higher yields in most cases, and a higher total acreage in crops. The value of crops per harvested acre provides a measure of cropping intensity.

Table 6. Livestock Summary

| | High 25% | My Farm | Low 25% | Medium 50% |
|---------------------------------|-----------------|---------|-----------------|-----------------|
| <u>Value of Feed Fed</u> | | | | |
| Crop Fed | \$12,077 | _____ | \$ 3,665 | \$ 6,949 |
| Purchased Feed | 13,548 | _____ | 8,525 | 6,772 |
| Pasture | 334 | _____ | 215 | 322 |
| Total Value Feed Fed | <u>\$25,959</u> | | <u>\$12,405</u> | <u>\$14,043</u> |
| Value of Net Livestock Increase | 40,916 | _____ | 16,411 | 20,540 |
| Returns Per \$1.00 Feed Fed | 1.58 | _____ | 1.32 | 1.46 |

Observe the high proportion of purchased feed fed, but note also the returns per \$1.00 feed fed. Favorable hog prices were a factor in this high return, but again, the high income group did much better than the low group.

Table 7. Swine Summary

| | High 25% | My Farm | Low 25% | Medium 50% |
|----------------------------|-------------|------------|------------|---------------|
| Number Sows and Gilts | 57 | _____ | 33 | 31 |
| Number Litters Farrowed | 100 | _____ | 57 | 58 |
| Total Pigs Weaned | 805 | _____ | 453 | 449 |
| Pigs Weaned Per Litter | 8.1 | _____ | 7.9 | 7.7 |
| Sales | | | | |
| Market Hogs Sold | 734 | _____ | 284 | 333 |
| Pounds of Market Hogs Sold | 141,215 | _____ | 58,978 | 58,834 |
| Number Feeder Pigs Sold | 3 | _____ | 136 | 75 |

Table 7 represents swine production information. The high income group had larger sow herds and hog marketings. All had good performance in terms of pigs weaned per litter.

The difference in volume of work per man in terms of pounds of market hogs sold is very evident here. This possibility of increased output per man could be limited by lack of building resources. However, it may be in many cases the use of available buildings could be intensified.

TENANT HOG FARMS

This summary includes data on the averages of 14 farms. Since the sample was so small, the data was not divided into high, medium and low groups.

The tenant labor and management income could be compared to the average of the medium 50% owner-operators. You want to realize the owner-operator has more depreciation, interest on his own equity, and other overhead cost to cover before labor and management income is determined.

Note the higher gross income per \$1,000 of investment on tenant farms than on owner-operator and higher labor and management income because tenant is getting return only to non-land investments and labor. His main contribution is labor and management.

This summary includes only the tenant's share of gross income, expenses, and investments.

14 TENANT HOG FARMS

Table 1. General Summary

| | My Farm | Average 14 Farms |
|---|------------|---------------------|
| Labor and Management Income | _____ | \$ 8,406 |
| Gross Income Per Farm | _____ | 21,112 |
| Gross Income (Per Man Equiv.) | _____ | 21,840 |
| Cash Expenses | _____ | 13,373 |
| Overhead Expenses | _____ | 3,043 |
| Overhead As % of Gross Income | _____ | 14 |
| Man Equiv. of Labor | _____ | .97 |
| P.M.W.U. Per Man | _____ | 235 |
| Pounds of Market Hogs Sold | _____ | 73,753 |
| No. Sows | _____ | 18 |
| Return Per \$1.00 Feed Fed | _____ | 1.48 |
| No. Crop Acres | _____ | 192 |
| Value of Crops Per Crop Acre | _____ | 116 |
| Gross Income Per \$1,000 Invested | _____ | 1,151 |
| Total Capital Invested | _____ | 18,342 |
| Interest Not Yet Charged (Or Interest On Own Equity) | _____ | 456 |

Table 2. Cash Receipts (Tenant Hog Farms)

| | My Farm | Average 14 Farms |
|-------------------------|------------|---------------------|
| General Crops | _____ | \$ 3,694 |
| Special Crops | _____ | 565 |
| Cash Rent and Royalties | _____ | 0 |
| Labor Off Farm | _____ | 317 |
| Custom Work | _____ | 1,088 |
| Tax Refund | _____ | 73 |
| Patronage Dividend | _____ | 43 |
| Miscellaneous Receipts | _____ | 92 |
| Government Payments | _____ | 514 |
| Market Livestock | | |
| Swine | _____ | 12,809 |
| Cattle | _____ | 1,869 |
| Lambs | _____ | 0 |
| Total Cash Receipts | | <u>\$21,064</u> |

Table 3. Cash Expenses

| | My Farm | Average 14 Farms |
|---------------------------------|------------|---------------------|
| Hired Labor | _____ | \$ 893 |
| Feed Purchased | _____ | 4,609 |
| Farm Supplies | _____ | 361 |
| Machinery Repairs | _____ | 560 |
| Fuel, Oil and Grease | _____ | 665 |
| Electricity (farm share) | _____ | 173 |
| Telephone (farm share) | _____ | 51 |
| Miscellaneous Expenses | _____ | 88 |
| Seeds and Plants | _____ | 314 |
| Fertilizer and Lime | _____ | 1,503 |
| Machine Hire and Trucking | _____ | 68 |
| Auto Expense (farm share) | _____ | 150 |
| Interest on Notes and Mortgages | _____ | 461 |
| Veterinary and Medicine | _____ | 170 |
| Feeder Livestock Purchase | _____ | 2,866 |
| Taxes | _____ | 243 |
| Cash Rent | _____ | 17 |
| Insurance | _____ | 141 |
| Total Cash Expense | | <u>\$13,333</u> |

Table 4. Income and Investment

| | My Farm | Average 14 Farms |
|-----------------------------------|------------|---------------------|
| Total Capital Gain or Loss | _____ | \$ 610 |
| Total Inventory Change | _____ | 2,342 |
| <u>Depreciation</u> | | |
| Buildings, Fence, Tile | _____ | 0 |
| Machinery and Equipment | _____ | 1,631 |
| Purchased Breeding Stock | _____ | 111 |
| Total Depreciation | _____ | \$ 1,740 |
| Total Capital Investment | _____ | \$18,342 |
| <u>Capital Efficiency</u> | | |
| Interest Not Yet Charged | _____ | 456 |
| Gross Income Per \$1,000 Invested | _____ | 1,151 |
| Overhead Expenses | _____ | |
| Total | _____ | 3,043 |
| As Percent of Gross Income | _____ | 14% |

Table 5. Machinery Costs

| | My Farm | Average 14 Farms |
|---|------------|---------------------|
| Machinery Investment Per Harvested Crop Acre | _____ | \$ 36 |
| Machinery and Power Cost Per Harvested Crop Acre | _____ | 11 |

Table 6. Livestock Summary

| | My Farm | Average 14 Farms |
|---------------------------------|------------|---------------------|
| <u>Value of Feed Fed</u> | | |
| Crops Fed | _____ | \$ 3,761 |
| Purchased Feed | _____ | 4,609 |
| Pasture | _____ | 67 |
| Total Value Feed Fed | _____ | \$ 8,437 |
| Value of Net Livestock Increase | _____ | \$12,522 |
| Returns Per \$1.00 Feed Fed | _____ | 1.48 |

In Table 6 observe the high proportion of purchased feed fed, but note also the returns per \$1.00 feed fed.

Table 7. Swine Summary

| | My Farm | Average 14 Farms |
|----------------------------|------------|---------------------|
| Number Sows and Gilts | _____ | 18 |
| Number Litters Farrowed | _____ | 32 |
| Pigs Weaned Per Litter | _____ | 7.9 |
| Sales | | |
| Market Hogs Sold | _____ | 338 |
| Pounds of Market Hogs Sold | _____ | 73,753 |
| Number Feeder Pigs Sold | _____ | 11 |

The number of sows and production is only one-half of the production from the farm. In this case, the average tenant is actually taking care of 36 sows and 64 litters, etc.

SECTION III

OHIO CROP FARMS

There were 102 Ohio crop farms summarized for the 1966 business analysis. They included:

Section III- A

63 Farms where the operator was part owner operator, part tenant.

Section III- B

14 Farms that were owner operator.

Section III- C

25 Farms operated by tenants where the tenants share of the business is analyzed.

There are some striking differences in the groups which need attention.

Highlight Comparisons

| | <u>High 25%</u> | <u>Low 25%</u> | <u>Medium 50%</u> |
|--|-----------------|----------------|-------------------|
| Capital Investment | | | |
| 63-Part owner - Part tenant | \$122,084.80 | \$80,996.65 | \$100,943.67 |
| 14-Owner operator | 294,557.00 | 43,301.89 | 189,999.88 |
| 25-Tenant operator | 40,582.12 | 29,016.36 | 26,151.83 |
| Gross Income | | | |
| 63-Part owner - Part tenant | 47,999.80 | 17,762.06 | 29,665.61 |
| 14-Owner operator | 69,807.78 | 9,726.95 | 31,230.54 |
| 25-Tenant operator | 42,887.12 | 17,824.38 | 27,241.69 |
| Family & Labor Management Income Per Full Time Operator | | | |
| 63-Part owner - Part tenant | 21,596.25 | 755.68 | 9,234.69 |
| 14-Owner operator | 12,669.54 | - 1,072.57 | 6,678.61 |
| 25-Tenant operator | 21,238.39 | 3,068.04 | 12,348.17 |
| Gross Income Per \$1,000 Invested | | | |
| 63-Part owner - Part tenant | 393.17 | 219.29 | 293.88 |
| 14-Owner operator | 236.99 | 224.63 | 164.37 |
| 25-Tenant operator | 1,056.80 | 614.29 | 1,041.67 |

| | Net Margin | | |
|-----------------------------|--|----------------|-------------------|
| | <u>High 25%</u> | <u>Low 25%</u> | <u>Medium 50%</u> |
| 63-Part owner - Part tenant | 43.12 | 4.06 | 29.73 |
| 14-Owner operator | 28.18 | - 6.66 | 20.20 |
| 25-Tenant operator | 46.08 | 20.08 | 39.95 |
| | Operator Age | | |
| 63-Part owner - Part tenant | 38.56 | 44.60 | 40.84 |
| 14-Owner operator | 31.75 | 40.00 | 59.33 |
| 25-Tenant operator | 31.00 | 30.50 | 34.08 |
| | Crop Acres Operated | | |
| 63-Part owner - Part tenant | 473.11 | 229.61 | 298.75 |
| 14-Owner operator | 535.75 | 115.77 | 218.42 |
| 25-Tenant operator | 630.08 | 350.00 | 331.50 |
| | Percent of Gross Income Consumed by Overhead | | |
| 63-Part owner - Part tenant | 23.59 | 41.02 | 32.99 |
| 14-Owner operator | 34.96 | 50.92 | 45.66 |
| 25-Tenant operator | 17.61 | 29.27 | 16.64 |

As one compares the above based on ownership or control of land operated we can see that net income for the efficient, large volume operator is worthwhile regardless of the amount of land owned. "The operation of the land is where the money is."

In making reference to the part owner - part tenant section the high income operators owned 27% of 473 crop acres, the low income group owned 47% of 230 crop acres and the medium income group owned 36% of 299 acres.

Acquiring control of land to operate is a more important factor to net operating income than ownership of land. Ownership of land has other values such as inflation insurance and investment benefits that cannot be measured by year-to-year net operating profit.

SECTION III A
63 OHIO CROP FARMS (PART OWNER, PART TENANT)

This section summarized the 1966 farm account records kept by 63 Ohio crop farmers. On these farms, 50% or more of the income was from the sale of crops, primarily grain. Typically, crop sales accounted for two-thirds or more of total sales.

These farm records were analyzed and then sorted into three groups based on net return to labor and management per full-time operator. The groupings were: High 25%--the 15 farms with the highest operator income, low 25%--the 16 farms with the lowest operator income, and medium 50%, those 31 farms between the high and low groups. The tables that follow present this data by groups for each item or analysis factor computed. The discussion that follows each table points up some of the more significant differences between groups.

TABLE 1. CASH RECEIPTS

| | High 25% | My Farm | Low 25% | Medium 50% |
|--------------------------|-------------|------------|-------------|---------------|
| Milk and Cream | \$ 0.00 | _____ | \$ 294.33 | \$ 381.33 |
| Poultry and Eggs | 1,960.86 | _____ | 1,365.81 | 106.63 |
| General Crops | 25,959.21 | _____ | 9,712.12 | 16,919.60 |
| Special Crops | 3,581.97 | _____ | 2,285.92 | 1,334.80 |
| Cash Rent and Royalties | 720.08 | _____ | 75.39 | 201.81 |
| Labor Off Farm | 361.64 | _____ | 70.67 | 147.76 |
| Custom Work | 1,198.67 | _____ | 381.02 | 663.51 |
| Wool | 34.59 | _____ | 4.13 | 69.72 |
| Other Livestock Products | 0.00 | _____ | 0.00 | 14.93 |
| Tax Refund | 156.09 | _____ | 189.53 | 166.02 |
| Patronage Dividend | 207.32 | _____ | 116.69 | 84.51 |
| Breeding Fees Received | 0.00 | _____ | 0.00 | 23.50 |
| Miscellaneous Receipts | 704.79 | _____ | 148.20 | 537.35 |
| Government Payments | 955.53 | _____ | 968.57 | 1,681.53 |
| Market Livestock | | | | |
| Swine | 2,316.73 | _____ | 762.24 | 1,326.58 |
| Cattle | 1,382.53 | _____ | 1,782.61 | 2,074.08 |
| Veal Calves | 0.00 | _____ | 29.61 | 20.77 |
| Lambs | 27.37 | _____ | 13.33 | 231.59 |
| Total Cash Receipts | \$39,567.40 | _____ | \$18,200.18 | \$25,986.03 |

The high income group had more than twice as high total cash receipts as did the low group. They had much higher receipts from crops, indicating that they were more specialized in crop production.

TABLE 2. CASH EXPENSES

| | High 25% | My Farm | Low 25% | Medium 50% |
|--------------------------------|-------------|------------|-------------|---------------|
| Hired Labor | \$ 2,211.29 | _____ | \$ 890.64 | \$ 805.51 |
| Feed Purchased | 1,650.11 | _____ | 1,402.94 | 890.24 |
| Farm Supplies | 1,031.45 | _____ | 546.60 | 807.02 |
| Machinery Repairs | 1,344.25 | _____ | 889.56 | 1,040.24 |
| Building, Fence, Tile Repairs | 167.44 | _____ | 216.91 | 282.94 |
| Fuel, Oil and Grease | 1,693.93 | _____ | 1,018.45 | 1,301.24 |
| Electricity (farm share) | 153.85 | _____ | 143.47 | 162.02 |
| Telephone (farm share) | 76.68 | _____ | 64.52 | 63.19 |
| Miscellaneous Expenses | 751.82 | _____ | 284.20 | 218.81 |
| Seeds and Plants | 1,322.86 | _____ | 610.07 | 817.87 |
| Fertilizer and Lime | 4,272.36 | _____ | 2,749.13 | 3,741.44 |
| Machine Hire and Trucking | 826.76 | _____ | 686.39 | 389.52 |
| Auto Expense (farm share) | 213.65 | _____ | 152.27 | 203.50 |
| Interest on Notes and Mortgage | 2,128.33 | _____ | 1,007.78 | 1,090.32 |
| Veterinary and Medicine | 196.89 | _____ | 62.47 | 74.07 |
| Breeding Fees and Registration | 2.59 | _____ | 11.47 | 25.86 |
| Feeder Livestock Purchase | 967.74 | _____ | 1,197.59 | 869.50 |
| Taxes | 876.97 | _____ | 604.90 | 834.60 |
| Cash Rent | 234.04 | _____ | 243.33 | 519.11 |
| Insurance | 335.86 | _____ | 328.51 | 259.35 |
| Total Cash Expense | \$20,458.89 | _____ | \$13,110.56 | \$14,396.34 |

In Table 2, note that the high income group also had higher expenses, in most cases in direct proportion to their higher receipts. There are a few exceptions to this. Taxes and insurance were nearly the same for all groups. Building and fence repairs were very low, but machinery and other crop costs made up a large proportion of the total.

TABLE 3. INCOME AND INVESTMENT

| | High 25% | My Farm | Low 25% | Medium 50% |
|-----------------------------|-------------|------------|------------|---------------|
| <u>Capital Gain or Loss</u> | | | | |
| Raised Breeding Stock | \$119.31 | _____ | \$186.46 | \$304.49 |
| Purchased Breeding Stock | - .92 | _____ | 20.87 | 5.37 |
| Machinery and Equipment | 130.90 | _____ | 250.05 | 268.15 |
| Total Capital Gain or Loss | \$249.29 | _____ | \$457.38 | \$578.01 |
| <u>Net Inventory Change</u> | | | | |
| Raised Breeding Stock | \$ -284.37 | _____ | \$110.37 | \$- 147.90 |
| Market livestock | 1,633.31 | _____ | 298.57 | 483.77 |
| Gain, Hay and Supp. | 7,764.40 | _____ | -140.93 | 3,603.56 |
| Supplies and Fertilizer | 37.50 | _____ | 34.06 | 31.63 |
| Total Inventory Change | \$9,150.84 | _____ | \$302.08 | \$3,971.06 |

| | | | |
|-----------------------------------|---------------------|-------|------------------------------------|
| <u>Depreciation</u> | | | |
| Buildings, Fence, Tile | \$ 729.34 | _____ | \$ 525.35 \$ 743.98 |
| Machinery and Equipment | 3,093.33 | _____ | 1,554.28 2,503.96 |
| Purchased Breeding Stock | 13.67 | _____ | 5.42 115.08 |
| Total Depreciation | \$3,836.34 | | \$2,085.05 \$3,363.02 |
| <u>Capital Investment</u> | | | |
| Purchased Breeding Stock | \$ 54.60 | _____ | \$ 515.72 \$ 323.66 |
| Raised Breeding Stock | 412.19 | _____ | 813.39 1,269.98 |
| Market Livestock | 2,033.41 | _____ | 1,318.66 2,043.36 |
| Grain, Hay and Supplies | 17,350.64 | _____ | 5,714.40 10,702.15 |
| Machinery and Equipment | 21,166.52 | _____ | 8,351.94 12,764.51 |
| Buildings, Fences, Tile | 12,480.64 | _____ | 7,988.18 10,156.10 |
| Land - Current Value | 68,471.87 | _____ | 56,228.00 63,634.26 |
| Total Capital Investment | \$122,084.80 | | \$80,996.65 \$100,943.67 |
| <u>Capital Efficiency</u> | | | |
| Interest Not Yet Charged (5%) | \$3,975.91 | _____ | \$3,042.06 \$3,956.86 |
| Gross Income Per \$1,000 Invested | 393.17 | _____ | 219.29 293.88 |
| Overhead Expenses | | | |
| Total | 11,320.85 | _____ | 7,285.22 9,787.09 |
| As Per Cent of Gross Income | 23.59 | _____ | 41.02 32.99 |
| <u>Income</u> | | | |
| Gross Income | 47,999.80 | _____ | 17,762.06 29,665.61 |
| Net Cash Income | 19,108.51 | _____ | 5,089.62 11,589.69 |
| Net Farm Profit | 24,672.31 | _____ | 3,764.03 12,775.74 |
| Family Labor & Management Income | | | |
| Total | 20,696.41 | _____ | 721.98 8,818.88 |
| Per Full-Time Operator | 21,596.25 | _____ | 755.68 9,234.69 |
| Net Margin % | 43.12 | _____ | 4.06 29.73 |

Table 3 presents information that was combined with data from Tables 1 and 2 in calculating various measures of income, and also efficiency in use of capital.

The first section, Capital Gain or Loss, reports the net income from sale of capital items such as breeding stock and machinery.

Net Inventory Change measures change in inventory of production items. This is important in getting a true picture of the year's production and income.

Capital investment is an average of beginning and closing inventories, representing average investment for the year. Gross income per \$1,000 invested is a measure of efficiency in use of capital. The High income group got twice as much "work" out of each \$1,000 of capital as the low income group did.

Interest not yet charged was calculated by taking 5% of Total Capital Investment and subtracting Interest on Notes and Mortgages from this. The high income group borrowed more capital than the low income group as indicated by the interest expense, but they had more total capital to operate the business.

Overhead expenses include building, fence and tile repairs, interest on notes and mortgages, taxes, insurance, depreciation, and interest not yet charged. These might also be termed fixed expenses. Note that there was some difference between groups in amount of overhead expenses, but quite a bit of difference in overhead as a per cent of gross income.

Gross income is total cash receipts minus feeder livestock purchases plus total inventory change. This is a measure of total production for the year, expressed in dollars. The high group had 2.7 times as much gross income as the low group, yet their overhead expenses were only 50 per cent higher.

Net cash income is total cash receipts minus total cash expenses. Net farm profit is net cash income plus total inventory change, minus total depreciation (all from Table 3). Family labor and management income is net farm profit minus interest not yet charged. Net margin is family labor and management income as a per cent of gross income. Net margin provides a single measure of economic efficiency, or profitability of the farm business. The medium and high groups did very well in this respect; the low group "earned" a very low wage for their labor and management.

TABLE 4. CROP SUMMARY

| | High 25% | | My Farm | Low 25% | | Medium 50% | |
|----------------------------------|-----------|--------|------------|-----------|-------|------------|--------|
| | Acres | Yield | | Acres | Yield | Acres | Yield |
| Crop Production | | | | | | | |
| Corn | 222.94 | 114.72 | _____ | 98.29 | 97.84 | 106.45 | 101.61 |
| Soybeans | 152.34 | 34.40 | _____ | 63.15 | 30.72 | 102.74 | 33.19 |
| Oats | 23.63 | 68.43 | _____ | 11.60 | 63.59 | 17.79 | 70.36 |
| Wheat | 51.91 | 49.81 | _____ | 18.89 | 39.97 | 38.11 | 51.47 |
| Alfalfa Hay | 1.62 | 3.77 | _____ | 9.67 | 1.38 | 11.66 | 2.82 |
| Clover, Mixed Hay | 4.06 | 2.03 | _____ | 15.47 | 1.46 | 7.60 | 2.23 |
| Green Chop | 0.00 | 0.00 | _____ | 0.00 | 0.00 | 0.06 | 20.00 |
| Corn Silage | 0.25 | 22.50 | _____ | 1.33 | 5.00 | 1.19 | 16.76 |
| Grass Silage | 0.00 | 0.00 | _____ | 0.00 | 0.00 | 0.00 | 0.00 |
| Other | 0.00 | 0.00 | _____ | 1.73 | 16.92 | 7.88 | 78.63 |
| Special Crops | 16.36 | -- | _____ | 9.48 | -- | 5.27 | -- |
| Total Harvested Crop | | | | | | | |
| Acres | 473.11 | | _____ | 229.61 | | 298.75 | |
| Total Value of Crops | 52,829.93 | | _____ | 20,426.04 | | 29,628.32 | |
| Value of Crops Per | | | | | | | |
| Harvested Acre | 115.66 | | _____ | 92.79 | | 100.95 | |
| Machinery Investment Per | | | | | | | |
| Harvested Crop Acre | 42.00 | | _____ | 31.50 | | 38.44 | |
| Power and Machinery | | | | | | | |
| Costs | 7,031.57 | | _____ | 4,337.54 | | 5,413.16 | |
| Power and Machinery Costs | | | | | | | |
| Per Harvested Crop Acre | 13.95 | | _____ | 16.36 | | 16.30 | |
| % of Cropland in Corn | | | | | | | |
| & Soybeans | 82.09 | | _____ | 71.31 | | 70.97 | |
| % of Cropland owned by | | | | | | | |
| Operator | 26.95 | | _____ | 47.28 | | 36.56 | |

The crop summary in Table 4 presents acres and yields of each crop. The high income group had more than twice as many acres plus higher yields as compared to the low group. The high income group produced more value per acre and had a higher percentage of cropland in corn and soybeans.

Value of crops per harvested acre was calculated from total value of crops and total harvested crop acres. This provides a single measure of intensity of crop production.

Machinery investment per acre and power and machinery costs per harvested crop acre in large part reflect the size of business. The greater the acreage, the lower these figures tend to be.

TABLE 5. LABOR EFFICIENCY

| | High 25% | My Farm | Low 25% | Medium 50% |
|--|-------------|------------|-------------|---------------|
| <u>Production Man Work Units</u> | | | | |
| Crops | 331.17 | — | 160.74 | 209.13 |
| Dairy | 0.00 | — | 6.40 | 7.06 |
| Swine | 16.17 | — | 3.98 | 7.31 |
| Beef Cows | 0.00 | — | 7.10 | 2.81 |
| Cattle Fattened | 7.36 | — | 10.27 | 9.65 |
| Chickens | 20.56 | — | 4.76 | 1.52 |
| Sheep | 0.50 | — | .23 | 3.74 |
| Total | 375.77 | — | 193.49 | 241.22 |
| <u>Months Operator Labor</u> | 11.50 | — | 11.46 | 11.46 |
| <u>Man-Year Equivalents of Labor</u> | 1.84 | — | 1.29 | 1.32 |
| <u>PMWU Per Man Equivalent</u> | 204.35 | — | 149.65 | 182.33 |
| <u>Gross Income Per Man Equivalent</u> | \$26,103.84 | — | \$13,740.58 | \$22,423.26 |
| <u>Age of Operator</u> | 38.56 | — | 44.60 | 40.84 |

Productive man work units were calculated to measure labor output. One PMWU is equivalent to 10 hrs. of work at standard rates of accomplishment. PMWU per man provides a measure of labor efficiency. Here the low income group was low, the other two groups quite close together. Because of the seasonal labor peaks of crop production, total labor efficiency for the year tends to be lower for crop farms than for livestock farms. Gross income per man equivalent was quite good for the high and medium income groups and particularly good for the high income group.

These same crop farms were also sorted on the basis of value of crops per harvested acre. The more pertinent data from this sort is presented in Table 6.

SPECIAL SORT
63 OHIO CROP FARMS (PART OWNER, PART TENANT) ON
TABLE 6. VALUE OF CROPS PER HARVESTED ACRE

| | High 25% | My Farm | Low 25% | Medium 50% |
|---|-------------|------------|------------|---------------|
| Value of crops per harvested acre | 131.23 | _____ | 69.64 | 103.10 |
| Income per operator | 12,877.20 | _____ | 6,938.42 | 10,725.47 |
| Harvested Acres | 338.93 | _____ | 222.00 | 357.77 |
| Overhead as a per cent of Gross Income | 30 | _____ | 29 | 31 |
| % of Crop acres owned | 36 | _____ | 34 | 35 |
| Fertilizer expense per harvested acre | 10.80 | _____ | 11.42 | 11.78 |
| Yield of corn | 125.22 | _____ | 72.11 | 103.72 |
| Per cent of cropland in: Corn & Soybeans | 84 | _____ | 68 | 74 |
| Gross Income per man equivalent | 23,989.18 | _____ | 16,060.40 | 23,165.32 |
| Age of operator | 41 | _____ | 45 | 39 |

When sorted on the basis of value of general crops harvested per acre, we see the farms with the high income per acre were larger farms than the low performance farms. The fertilizer cost per acre was nearly the same for all farms in this sort.

Both productivity and volume of business are necessary to make reasonable profit in crop farming.

SECTION III B
14 OHIO CROP FARMS (OWNER OPERATOR)

This section summarizes the 1966 farm account records kept by 14 Ohio Crop Farmers (owner operator). On these farms, 50% or more of the income was from the sale of crops, primarily grain. Typically, crop sales accounted for two-thirds or more of total sales.

These farm records were analyzed and then sorted into three groups based on net return to labor and management per full-time operator. The groupings were: High 25%--the 4 farms with the highest operator income, low 25%--the 4 farms with the lowest operator income, and medium 50%, those 6 farms between the high and low groups. The tables that follow present this data by groups for each item or analysis factor computed. The discussion that follows each table points up some of the more significant differences between groups.

TABLE 1. CASH RECEIPTS

| | High 25% | My Farm | Low 25% | Medium 50% |
|--------------------------|-------------|------------|-------------|---------------|
| Milk and Cream | \$ 0.00 | _____ | \$ 0.00 | \$ 23.00 |
| Poultry and Eggs | 0.00 | _____ | 0.00 | 105.15 |
| General Crops | 40,637.70 | _____ | 5,597.76 | 14,819.98 |
| Special Crops | 954.73 | _____ | 7.34 | 4,474.05 |
| Cash Rent and Royalties | 750.83 | _____ | 0.00 | 120.00 |
| Labor Off Farm | 320.63 | _____ | 21.20 | 48.94 |
| Custom Work | 407.52 | _____ | 242.06 | 1,441.82 |
| Wool | 0.00 | _____ | 0.00 | 8.23 |
| Other Livestock Products | 0.00 | _____ | 0.00 | 0.00 |
| Tax Refund | 90.41 | _____ | 63.23 | 132.03 |
| Patronage Dividend | 1,090.99 | _____ | 0.37 | 141.23 |
| Breeding Fees Received | 0.00 | _____ | 0.00 | 0.00 |
| Miscellaneous Receipts | 553.72 | _____ | 79.02 | 105.08 |
| Government Payments | 2,747.60 | _____ | 800.62 | 1,886.44 |
| Market Livestock | | | | |
| Swine | 2,658.80 | _____ | 3,290.11 | 747.80 |
| Cattle | 25,935.65 | _____ | 30.00 | 3,674.40 |
| Veal Calves | 0.00 | _____ | 0.00 | 0.00 |
| Lambs | 0.00 | _____ | 0.00 | 0.00 |
| Total Cash Receipts | \$76,148.59 | _____ | \$10,131.72 | \$27,728.15 |

The high income group had more than 7 times the total cash receipts as did the low group. They had much higher receipts from crops, indicating that they were more specialized in crop production.

TABLE 2. CASH EXPENSES

| | High 25% | My Farm | Low 25% | Medium 50% |
|--------------------------------|-------------|------------|------------|---------------|
| Hired Labor | \$ 1,659.96 | _____ | \$ 216.36 | \$ 669.89 |
| Feed Purchased | 2,779.68 | _____ | 1,343.66 | 795.05 |
| Farm Supplies | 1,989.02 | _____ | 55.08 | 562.00 |
| Machinery Repairs | 2,445.67 | _____ | 534.79 | 876.68 |
| Building, Fence, Tile Repairs | 706.14 | _____ | 203.13 | 148.25 |
| Fuel, Oil and Grease | 2,017.12 | _____ | 553.74 | 929.46 |
| Electricity (farm share) | 341.39 | _____ | 98.16 | 105.64 |
| Telephone (farm share) | 78.13 | _____ | 35.92 | 52.30 |
| Miscellaneous Expenses | 2,173.52 | _____ | 164.04 | 434.74 |
| Seeds and Plants | 1,802.85 | _____ | 511.20 | 753.10 |
| Fertilizer and Lime | 9,283.20 | _____ | 1,535.06 | 4,400.44 |
| Machine Hire and Trucking | 432.01 | _____ | 205.06 | 837.07 |
| Auto Expense (farm share) | 560.14 | _____ | 82.54 | 198.13 |
| Interest on Notes and Mortgage | 7,804.28 | _____ | 1,146.92 | 921.45 |
| Veterinary and Medicine | 172.40 | _____ | 86.37 | 36.37 |
| Breeding Fees and Registration | 0.00 | _____ | 0.00 | 10.83 |
| Feeder Livestock Purchase | 14,571.05 | _____ | 133.50 | 880.11 |
| Taxes | 2,627.11 | _____ | 418.90 | 1,401.92 |
| Cash Rent | 0.00 | _____ | 0.00 | 0.00 |
| Insurance | 662.97 | _____ | 152.63 | 300.85 |
| Total Cash Expense | \$52,106.68 | _____ | \$7,477.08 | \$14,314.29 |

In Table 2, note that the high income group also had higher expenses, in most cases in direct proportion to their higher receipts. There are a few exceptions to this. Hired labor was a larger item on the high income farms because they needed more labor than the family provided. The high income farms borrowed nearly 8 times the money to operate as the medium income farms and nearly 7 times as much as the low income farms.

TABLE 3. INCOME AND INVESTMENT

| | High 25% | My Farm | Low 25% | Medium 50% |
|-----------------------------|-------------|------------|------------|---------------|
| <u>Capital Gain or Loss</u> | | | | |
| Raised Breeding Stock | \$-00.00 | _____ | \$00.00 | \$341.67 |
| Purchased Breeding Stock | - 7.50 | _____ | -10.50 | 44.17 |
| Machinery and Equipment | - 5.75 | _____ | -- | 527.17 |
| Total Capital Gain or Loss | \$-13.25 | _____ | - \$10.50 | \$913.01 |
| <u>Net Inventory Change</u> | | | | |
| Raised Breeding Stock | \$ 398.00 | _____ | \$-115.00 | \$ -185.00 |
| Market Livestock | 3,486.50 | _____ | 206.75 | 26.83 |
| Grain Hay and Supplies | 4,359.00 | _____ | -352.51 | 2,599.50 |
| Supplies and Fertilizer | 0.00 | _____ | 0.00 | 1,028.17 |
| Total Inventory Change | \$8,243.50 | _____ | \$-260.76 | \$3,469.50 |

| | | | | |
|-----------------------------------|---------------------|-------|--------------------|---------------------|
| <u>Depreciation</u> | | | | |
| Buildings, Fence, Tile | \$1,411.99 | _____ | \$ 385.64 | \$1,023.04 |
| Machinery and Equipment | 3,146.80 | _____ | 1,619.32 | 1,748.32 |
| Purchased Breeding Stock | 2.75 | _____ | 8.25 | 58.67 |
| Total Depreciation | \$4,561.54 | | \$2,013.21 | \$2,830.03 |
| <u>Capital Investment</u> | | | | |
| Purchased Breeding Stock | \$ 82.00 | _____ | \$ 22.62 | \$ 644.17 |
| Raised Breeding Stock | 464.00 | _____ | 282.50 | 213.33 |
| Market Livestock | 13,135.00 | _____ | 193.37 | 1,660.58 |
| Grain, Hay and Supp. | 22,470.00 | _____ | 2,314.99 | 11,762.92 |
| Supplies and Fertilizer | 0.00 | _____ | 0.00 | 514.08 |
| Machinery and Equipment | 24,381.12 | _____ | 6,359.56 | 10,064.89 |
| Buildings, Fences, Tile | 27,554.75 | _____ | 3,753.84 | 14,223.25 |
| Land | 206,470.12 | _____ | 30,375.00 | 150,916.67 |
| Total Capital Investment | \$294,557.00 | | \$43,301.89 | \$189,999.88 |
| <u>Capital Efficiency</u> | | | | |
| Interest Not Yet Charged (5%) | 8,041.08 | _____ | 1,018.17 | 8,658.75 |
| Gross Income Per \$1,000 Invested | 236.99 | _____ | 224.63 | 164.37 |
| Overhead Expenses | | | | |
| Total | 24,403.12 | _____ | 4,952.97 | 14,261.26 |
| As Per Cent of Gross Income | 34.96 | _____ | 50.92 | 45.66 |
| <u>Income</u> | | | | |
| Gross Income | 69,807.78 | _____ | 9,726.95 | 31,230.54 |
| Net Cash Income | 24,041.91 | _____ | 2,654.64 | 13,413.86 |
| Net Farm Profit | 27,710.62 | _____ | 370.16 | 14,966.33 |
| Family Labor & Management Income | | | | |
| Total | 19,669.54 | _____ | - 648.01 | 6,307.58 |
| Per Full-Time Operator | 19,669.54 | _____ | -1,072.57 | 6,678.61 |
| Net Margin % | 28.18 | _____ | - 6.66 | 20.20 |

Table 3 presents information that was combined with data from Tables 1 and 2 in calculating various measures of income, and also efficiency in use of capital.

The first section, Capital Gain or Loss, reports the net income from sale of capital items such as breeding stock and machinery.

Net Inventory Change measures change in inventory of production items. This is important in getting a true picture of the year's production and income. This year as in past years, the low income farms have reduced inventory while the high and medium income farms have increased in inventory.

Capital investment is an average of beginning and closing inventories, representing average investment for the year. Gross income per \$1,000 invested is a measure of efficiency in use of capital. The High income group got more "work" out of each \$1,000 of capital than the low and medium income groups did.

Interest not yet charged was calculated by taking 5% of Total Capital Investment and subtracting Interest on Notes and Mortgages from this.

Overhead expenses include building, fence and tile repairs, interest on notes and mortgages, taxes, insurance, depreciation, and interest not yet charged. These might also be termed fixed expenses. Note that there was a very great difference between groups in amount of overhead expenses, and quite a bit of difference in overhead as a per cent of gross income.

Gross income is total cash receipts minus feeder livestock purchases plus total inventory change. This is a measure of total production for the year, expressed in dollars. The high group had more than 7 times as much gross income as the low group, yet their overhead expenses were 5 times as high as the low income group.

Net cash income is total cash receipts minus total cash expenses. Net farm profit is net cash income plus total inventory change, minus total depreciation (all from Table 3). Family labor and management income is net farm profit minus interest not yet charged. Net margin is family labor and management income as a per cent of gross income. Net margin provides a single measure of economic efficiency, or profitability of the farm business. The medium and high groups did very well in this respect; the low group "earned a negative margin" for their labor and management.

TABLE 4. CROP SUMMARY

| | High 25% | | My Farm | Low 25% | | Medium 50% | |
|--|-----------|-------|---------|----------|-------|------------|-------|
| | Acres | Yield | | Acres | Yield | Acres | Yield |
| <u>Crop Production</u> | | | | | | | |
| Corn | 298.00 | 92.94 | — | 32.75 | 75.30 | 79.75 | 96.76 |
| Soybeans | 90.25 | 39.11 | — | 43.70 | 24.85 | 73.00 | 32.34 |
| Oats | 34.00 | 72.43 | — | 14.00 | 40.98 | 16.50 | 62.02 |
| Wheat | 81.25 | 48.66 | — | 8.30 | 45.45 | 32.00 | 51.07 |
| Alfalfa Hay | 6.50 | 1.92 | — | 0.00 | 0.00 | 7.33 | 0.68 |
| Clover, Mixed Hay | 6.00 | 3.00 | — | 12.23 | 1.48 | 9.83 | 1.66 |
| Green Chop | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 |
| Corn Silage | 18.75 | 9.93 | — | 0.00 | 0.00 | 0.00 | 0.00 |
| Grass Silage | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 |
| Other | 1.00 | 50.75 | — | 4.80 | 26.82 | 0.00 | 0.00 |
| Special Crops | 6.50 | -- | — | 0.00 | -- | 7.17 | -- |
| Total Harvested Crop Acre | 535.75 | -- | | 115.77 | -- | 218.42 | -- |
| Total Value of General Crops Produced | 55,530.90 | | | 7,839.44 | | 20,417.32 | |
| Value of Crops Per Harvested Acre | 103.65 | | | 67.71 | | 93.48 | |
| % of Crops in Corn and Soybeans | 71.25 | | | 66.03 | | 69.94 | |

| | | | | |
|---|----------|-------|----------|----------|
| Machinery Investment Per Harvested Crop Acre | 40.52 | _____ | 45.23 | 99.04 |
| Power and Machinery Costs | 9,413.29 | _____ | 3,071.38 | 3,651.10 |
| Power and Machinery Costs Per Harvested Crop Acre | 15.64 | _____ | 21.84 | 14.16 |

The crop summary in Table 4 presents acres and yields of each crop. The high income group had 5 times as many acres plus higher yields as compared to the low group.

Value of crops per harvested acre was calculated from total value of crops and total harvested crop acres. This provides a single measure of intensity of crop production.

Machinery investment per acre and power and machinery costs per harvested crop acre in large part reflect the size of business.

TABLE 5. LABOR EFFICIENCY

| | High 25% | My Farm | Low 25% | Medium 50% |
|--|-------------|------------|------------|---------------|
| <u>Production Man Work Units</u> | | | | |
| Crops | 379.57 | _____ | 81.04 | 157.91 |
| Dairy | 0.00 | _____ | 0.00 | 0.00 |
| Swine | 10.39 | _____ | 17.40 | 1.56 |
| Beef Cows | 0.00 | _____ | 0.00 | 0.00 |
| Cattle Fattened | 133.92 | _____ | 0.00 | 14.85 |
| Chickens | 0.00 | _____ | 0.00 | 1.00 |
| Sheep | 0.00 | _____ | 0.00 | 1.33 |
| Total | 523.89 | | 98.45 | 176.65 |
| <u>Months Operator Labor</u> | 12.00 | _____ | 7.25 | 11.33 |
| <u>Man-Year Equivalents of Labor</u> | 1.86 | _____ | 0.77 | 1.31 |
| <u>PMWU Per Man Equivalent</u> | 282.23 | _____ | 128.41 | 135.31 |
| <u>Gross Income Per Man Equivalent</u> | 37,622.23 | _____ | 12,687.33 | 23,921.27 |
| <u>Operator Age</u> | 31.75 | _____ | 40.00 | 49.33 |

Productive man work units were calculated to measure labor output. One PMWU is equivalent to 10 hrs. of work at standard rates of accomplishment. PMWU per man provides a measure of labor efficiency. Here the low and medium income groups were low, the high income group quite satisfactory. Because of the seasonal labor peaks of crop production, total labor efficiency for the year tends to be lower for crop farms than for livestock farms. Gross income per man equivalent was quite good for the high income and medium group and particularly good for the high income group.

These same 14 crop farms were also sorted on the basis of value of crops per harvested acre. The more pertinent data from this sort is presented in Table 6, Special Sort - 14 Ohio Crop Farms (owner operator).

SPECIAL SORT
14 OHIO CROP FARMS (OWNER OPERATOR) ON
TABLE 6. VALUE OF CROPS PER HARVESTED ACRE

| | High 25% | My Farm | Low 25% | Medium 50% |
|--|-------------|------------|------------|---------------|
| Value of General Crops Per Harvested Crop Acre | 111.44 | _____ | 48.26 | 92.68 |
| Labor & Management Income Per Operator | 10,116.54 | _____ | 3,297.32 | 12,953.42 |
| Harvested Crop Acres | 330.75 | _____ | 66.52 | 387.92 |
| Gross Farm Income | 47,558.85 | _____ | 9,413.60 | 47,365.73 |
| Labor & Management Income Per Farm | 9,273.49 | _____ | 2,747.76 | 10,974.43 |
| Overhead Expenses | 21,066.46 | _____ | 2,797.38 | 16,847.54 |
| Overhead As A Percent of Gross | 44.27 | _____ | 29.72 | 35.57 |
| Fertilizer Cost Per Acre | 24.62 | _____ | 10.17 | 14.78 |
| Age of Operator | 37 | _____ | 44 | 43 |

When sorted on the basis of value of general crops per harvested crop acre the high value per acre farms produced \$53.18 more value per acre than the low group and \$18.76 more than the medium group.

The labor and management income was nearly the same for the high and medium groups and much above the low performance farms.

The low performance farms were also the smaller farms.

The fertilizer input per acre was nearly 2½ times as high on the high producing farms as compared to the low producing farms.

The age of the operator of the low producing farms were 7 years the elder of the age of operator on the high producing farms.

Productivity and volume of business are both a necessary contribution to success in crop farming.

SECTION III C
25 OHIO CROP FARMS (TENANTS)

This section summarizes the 1965 farm account records kept by 29 Ohio crop farmers. On these farms, 50% or more of the income was from the sale of crops, primarily grain. Typically, crop sales accounted for two-thirds or more of total sales, and government payments (mostly related to crop production) accounted for an additional 1-3%.

These farm records were analyzed and then sorted into three groups based on net return to labor and management per full-time operator. The groupings were: High 25%--the 6 farms with the highest operator income, low 25%--the 6 farms with the lowest operator income, and medium 50%, those 13 farms between the high and low groups. The tables that follow present this data by groups for each item or analysis factor computed. The discussion that follows each table points up some of the more significant differences between groups.

TABLE 1. CASH RECEIPTS

| | High 25% | My Farm | Low 25% | Medium 50% |
|----------------------------|--------------------|------------|---------------------|---------------------|
| Milk and Cream | \$ 0.00 | _____ | \$ 181.69 | \$ 592.52 |
| Poultry and Eggs | 0.00 | _____ | 74.03 | 45.89 |
| General Crops | 27,869.73 | _____ | 9,573.82 | 16,039.63 |
| Special Crops | 485.70 | _____ | 29.77 | 1,227.12 |
| Cash Rent and Royalties | 0.00 | _____ | 421.35 | 123.35 |
| Labor Off Farm | 542.83 | _____ | 267.91 | 148.48 |
| Custom Work | 2,423.97 | _____ | 726.65 | 1,515.70 |
| Wool | 33.04 | _____ | 123.39 | 48.72 |
| Other Livestock Products | 0.00 | _____ | 0.00 | 2.72 |
| Tax Refund | 109.94 | _____ | 159.44 | 163.12 |
| Patronage Dividend | 18.72 | _____ | 76.10 | 81.14 |
| Breeding Fees Received | 0.00 | _____ | 0.00 | 0.50 |
| Miscellaneous Receipts | 126.37 | _____ | 14.37 | 290.40 |
| Government Payments | 1,025.75 | _____ | 193.08 | 710.91 |
| Market Livestock | | | | |
| Swine | 387.38 | _____ | 5,976.69 | 649.67 |
| Cattle | 4,271.43 | _____ | 551.16 | 2,226.70 |
| Veal Calves | 0.00 | _____ | 4.58 | 18.88 |
| Lambs | 31.96 | _____ | 1,199.21 | 200.71 |
| Total Cash Receipts | \$37,326.82 | | \$ 19,577.22 | \$ 24,086.16 |

The high income group had about twice as much total cash receipts as did the low group. They had much higher receipts from crops, indicating that they were more specialized in crop production.

TABLE 2. CASH EXPENSES

| | High 25% | My Farm | Low 25% | Medium 50% |
|---------------------------------|--------------------|------------|--------------------|--------------------|
| Hired Labor | \$1,174.70 | _____ | \$ 554.65 | \$ 1,240.73 |
| Feed Purchased | 79.41 | _____ | 1,166.02 | 639.06 |
| Farm Supplies | 682.11 | _____ | 430.38 | 495.17 |
| Machinery Repairs | 985.01 | _____ | 821.41 | 1,384.74 |
| Building, Fence, Tile Repairs | 0.00 | _____ | 88.73 | 22.17 |
| Fuel, Oil and Grease | 2,083.89 | _____ | 1,161.82 | 1,209.62 |
| Electricity (farm share) | 120.13 | _____ | 83.66 | 154.98 |
| Telephone (farm share) | 68.17 | _____ | 36.75 | 59.64 |
| Miscellaneous Expenses | 179.68 | _____ | 116.40 | 336.98 |
| Seeds and Plants | 1,659.65 | _____ | 508.83 | 802.51 |
| Fertilizer and Lime | 5,598.33 | _____ | 3,037.65 | 3,655.86 |
| Machine Hire and Trucking | 606.99 | _____ | 171.51 | 716.37 |
| Auto Expense (farm share) | 407.75 | _____ | 85.91 | 291.16 |
| Interest on Notes and Mortgages | 1,493.16 | _____ | 300.90 | 360.18 |
| Veterinary and Medicine | 5.12 | _____ | 9.65 | 46.02 |
| Breeding Fees and Registration | 3.00 | _____ | 4.08 | 4.22 |
| Feeder Livestock Purchase | 501.19 | _____ | 882.81 | 1,093.30 |
| Taxes | 396.33 | _____ | 204.02 | 319.83 |
| Cash Rent | 1,916.67 | _____ | 789.45 | 788.62 |
| Insurance | 238.60 | _____ | 284.01 | 234.74 |
| Total Cash Expense | \$18,199.89 | | \$10,788.69 | \$13,855.90 |

In Table 2, note that the high income group also had higher expenses, in most cases in direct proportion to their higher receipts. There are a few exceptions to this. Taxes and insurance were nearly the same for all groups. Interest expenses were much higher for the high income group than the low and medium groups indicating much higher use of borrowed capital.

TABLE 3. INCOME AND INVESTMENT

| | High 25% | My Farm | Low 25% | Medium 50% |
|-----------------------------------|-------------------|------------|-------------------|-------------------|
| <u>Capital Gain or Loss</u> | | | | |
| Raised Breeding Stock | \$ 9.34 | _____ | \$ 273.98 | \$ 35.60 |
| Purchased Breeding Stock | 0.00 | _____ | 9.35 | 333.03 |
| Machinery and Equipment | 10.00 | _____ | -5.00 | 37.70 |
| Total Capital Gain or Loss | \$19.34 | | \$278.33 | \$406.33 |
| <u>Net Inventory Change</u> | | | | |
| Raised Breeding Stock | 46.67 | _____ | \$- 516.00 | 318.77 |
| Market Livestock | 125.83 | _____ | -1,986.25 | 602.75 |
| Grain, Hay and Supp. | 5,948.27 | _____ | 1,398.06 | 2,647.29 |
| Supplies and Fertilizer | 14.71 | _____ | - 44.17 | 273.69 |
| Total Inventory Change | \$6,042.15 | | \$1,148.36 | \$3,842.51 |

| | | | |
|-----------------------------------|---------------------|--------------------|--------------------|
| <u>Depreciation</u> | | | |
| Buildings, Fence, Tile | \$ 0.00 | \$ 79.17 | \$ 13.24 |
| Machinery and Equipment | 4,888.97 | 3,103.40 | 2,588.56 |
| Purchased Breeding Stock | 0.00 | 6.65 | 46.08 |
| Total Depreciation | \$ 4,888.97 | \$3,189.21 | \$2,647.88 |
| <u>Capital Investment</u> | | | |
| Purchased Breeding Stock | \$ 53.12 | \$ 429.79 | \$ 479.86 |
| Raised Breeding Stock | 225.00 | 1,113.17 | 590.31 |
| Market Livestock | 1,903.08 | 2,437.96 | 2,028.08 |
| Grain, Hay and Supp. | 10,229.07 | 9,711.13 | 9,227.22 |
| Supplies and Fertilizer | 207.02 | 293.42 | 141.62 |
| Machinery and Equipment | 27,964.82 | 14,144.98 | 13,516.59 |
| Buildings, Fences, Tile | 0.00 | 885.92 | 168.15 |
| Land | 0.00 | 0.00 | 0.00 |
| Total Capital Investment | \$ 40,582.12 | \$29,016.36 | \$26,151.83 |
| <u>Capital Efficiency</u> | | | |
| Interest Not Yet Charged (5%) | \$ 535.95 | \$1,149.91 | 947.41 |
| Gross Income Per \$1,000 Invested | 1,056.80 | 614.29 | 1,041.67 |
| Overhead Expenses | 7,553.01 | 5,216.80 | 4,532.21 |
| Total | | | |
| As Per Cent of Gross Income | 17.61 | 29.27 | 16.64 |
| <u>Income</u> | | | |
| Gross Income | \$ 42,887.12 | \$17,824.38 | \$27,241.69 |
| Net Cash Income | 19,126.93 | 8,788.54 | 10,230.27 |
| Net Farm Profit | 20,299.45 | 4,729.30 | 11,831.21 |
| Family Labor & Management Income | | | |
| Total | 19,763.50 | 3,579.38 | 10,883.80 |
| Per Full-Time Operator | 21,238.39 | 3,068.04 | 12,348.17 |
| Net Margin % | \$ 46.08 | \$ 20.08 | \$ 39.95 |

Table 3 presents information that was combined with data from Tables 1 and 2 in calculating various measures of income, and also efficiency in use of capital.

The first section, Capital Gain or Loss, reports the net income from sale of capital items such as breeding stock and machinery.

Net Inventory Change measures change in inventory of production items. This is important in getting a true picture of the year's production and income.

Capital investment is an average of beginning and closing inventories, representing average investment for the year. Gross income per \$1,000 invested is a measure of efficiency in use of capital. The High income group produced 72% more "work" out of each \$1,000 of capital than the low income group.

Interest not yet charged was calculated by taking 5% of Total Capital Investment and subtracting Interest on Notes and Mortgages from this. The high income farms had a much lower percentage equity in the business than the low and medium income farms.

Overhead expenses include building, fence and tile repairs, interest on notes and mortgages, taxes, insurance, depreciation, and interest not yet charged. These might also be termed fixed expenses. Note that there was some difference between groups in amount of overhead expenses, but quite a bit of difference in overhead as a per cent of gross income.

Gross income is total cash receipts minus feeder livestock purchases plus or minus total inventory change. This is a measure of total production for the year, expressed in dollars. The high group had more than twice as much gross income as the low group, yet their overhead expenses were only 50 per cent higher.

Net cash income is total cash receipts minus total cash expenses. Net farm profit is net cash income plus or minus total inventory change, minus total depreciation (all from Table 3). Family labor and management income is net farm profit minus interest not yet charged. Net margin is family labor and management income as a per cent of gross income. Net margin provides a single measure of economic efficiency, or profitability of the farm business. The medium and high groups did very well in this respect; the low group "earned" a very low wage for their labor and management.

TABLE 4. CROP SUMMARY

| | High 25% | | My Farm | Low 25% | | Medium 50% | |
|---------------------------------|----------|-------|---------|---------|-------|------------|--------|
| | Acres | Yield | | Acres | Yield | Acres | Yield |
| Crop Production | | | | | | | |
| Corn | 349.17 | 93.90 | _____ | 133.67 | 89.30 | 149.54 | 100.18 |
| Soybeans | 142.82 | 30.80 | _____ | 87.33 | 29.65 | 105.62 | 32.96 |
| Oats | 31.50 | 83.96 | _____ | 18.17 | 57.12 | 11.69 | 57.25 |
| Wheat | 63.42 | 48.23 | _____ | 58.17 | 42.10 | 39.46 | 55.74 |
| Alfalfa Hay | 5.50 | 2.27 | _____ | 5.67 | 3.94 | 13.69 | 3.01 |
| Clover, Mixed Hay | 3.67 | 1.85 | _____ | 22.33 | 1.94 | 6.46 | 1.83 |
| Green Chop | -- | -- | _____ | -- | -- | -- | -- |
| Corn Silage | 19.17 | 10.87 | _____ | .67 | 12.50 | 2.42 | 11.62 |
| Grass Silage | 1.17 | 3.43 | _____ | -- | -- | 2.23 | 8.97 |
| Other | 12.67 | -- | _____ | 27.00 | -- | .38 | -- |
| Special Crops | 1.72 | -- | _____ | -- | -- | 9.73 | -- |
| Total Harvested Crop | 630.08 | -- | _____ | 350.00 | -- | 331.50 | -- |
| Acres | | | | | | | |
| Value of General Crops | | | | | | | |
| Per Acre | 101.42 | | _____ | 90.82 | | 104.63 | |
| % Cropland in Corn and Soybeans | 81.03 | | _____ | 62.30 | | 76.67 | |

| | | | | |
|---------------------------|----------|-------|----------|----------|
| Machinery Investment Per | | | | |
| Harvested Crop Acre | 41.62 | _____ | 36.66 | 36.00 |
| Power and Machinery Costs | 7,946.88 | _____ | 5,324.65 | 5,450.58 |
| Power and Mach. Costs Per | | | | |
| Harvested Crop Acre | 11.83 | _____ | 13.80 | 14.25 |

The crop summary in Table 4 presents acres and yields of each crop. The high income group had nearly twice as many acres plus higher yields as compared to the low group.

Value of crops per harvested acre was calculated from total value of crops and total harvested crop acres. This provides a single measure of intensity of crop production.

Machinery investment per acre and power and machinery costs per harvested crop acre in large part reflect the size of business. The greater the acreage, the lower these figures tend to be.

TABLE 5. LABOR EFFICIENCY

| | High 25% | My Farm | Low 25% | Medium 50% |
|--|--------------|------------|-------------|---------------|
| Production Man Work Units | | | | |
| Crops | 442.26 | _____ | 247.10 | 238.86 |
| Dairy | 0.00 | _____ | 8.00 | 13.23 |
| Swine | 6.61 | _____ | 26.93 | 5.89 |
| Beef Cows | 6.93 | _____ | 1.19 | 3.30 |
| Cattle Fattened | 34.65 | _____ | 2.02 | 19.46 |
| Chickens | 0.00 | _____ | 2.00 | .65 |
| Sheep | 1.67 | _____ | 2.60 | 6.71 |
| Total | 492.12 | | 298.83 | 288.09 |
| <u>Months Operator Labor</u> | 11.17 | _____ | 14.00 | 10.58 |
| <u>Man-Year Equivalents of Labor</u> | 1.57 | _____ | 1.35 | 1.35 |
| <u>PMWU Per Man Equivalent</u> | 314.40 | _____ | 215.47 | 213.33 |
| <u>Gross Income Per Man Equivalent</u> | \$ 27,399.05 | _____ | \$13,250.96 | \$20,172.33 |
| <u>Operator Age</u> | 31.00 | _____ | 30.50 | 34.08 |

Productive man work units were calculated to measure labor output. One PMWU is equivalent to 10 hrs. of work at standard rates of accomplishments. PMWU per man provides a measure of labor efficiency. The high income group had considerably better labor efficiency than the low or medium group.

These same 25 crop farms were also sorted on the basis of value of crops per harvested acre. The more pertinent data from this sort is presented in Table 6.

TABLE 6. CROP TENANT FARMS BY SPECIAL SORT
VALUE OF GENERAL CROPS PER HARVESTED CROP ACRE

| | High 25% | My Farm | Low 25% | Medium 50% |
|---|-------------|------------|------------|---------------|
| Value of General Crops Per Harvested Crop Acre | \$ 132.76 | _____ | \$ 73.83 | \$ 101.47 |
| Income of Operator | 15,545.34 | _____ | 11,143.46 | 10,317.96 |
| Harvested Acres | 436.33 | _____ | 560.17 | 403.76 |
| Acres in Corn & Soybeans | 393 | _____ | 396.0 | 285.00 |
| Fertilizer Expense per Acre Harvested (Tenant Share) | 15.19 | _____ | 6.28 | 7.33 |
| Yield of Corn | 120.77 bu. | _____ | 68.57 bu. | 96.88 bu. |
| Percent of Cropland in Corn and Soybeans | 90.08 % | _____ | 70.74 % | 70.59 % |
| PMWU Per Man Equivalent | 223.77 | _____ | 278.99 | 228.05 |
| Gross Income per man equiv- alent | 27,330.63 | _____ | 17,508.01 | 18,803.43 |
| Machinery Investment per Cropland Acre | 47.71 | _____ | 30.82 | 38.08 |
| Power and Machinery Costs Per Cropland Acre | 19.22 | _____ | 11.09 | 11.74 |

When sorted on the basis of value of general crops per harvested acre, the high producing farms produced \$58 more per crop acre than the low value per acre farms. The fertilizer cost was over twice as much. The income per operator was 40% higher and the harvested acres were 124 acres less per farm on the high performance farms as compared to the low performance farms.

The productive man work units per man equivalent was higher for the low producing farms but the gross income per man equivalent for the high performance farms were nearly \$10,000 higher than the low value per acre farm.

Both the machinery investment and power and machinery costs were much higher on the high value per acre farms as compared to the low and medium value per acre farms.

Productivity and profitability go hand in hand. Size and profitability are not in direct relationship to each other if productivity is sacrificed.

SECTION IV
30 OHIO BEEF FARMS

This group summarizes the 1966 farm account records of farms with 50% or more of the income from cattle sales. Cattle sales made up the major proportion of the farm income, supplemented by crop sales, swine, and government payments.

Again, these records were analyzed, sorted and averaged, all by electronic computer. They were sorted on the basis of net return to labor and management per full-time operator. The top 8 were placed in the high group, the bottom 8 in the low group and the middle 14 in the medium group. The tables present the averages for each group, item by item, as they were analyzed, and some explanation of the data and significant comparisons are pointed out in the paragraphs that follow each table.

TABLE 1. CASH RECEIPTS

| | High 25% | My Farm | Low 25% | Medium 50% |
|--------------------------|--------------------|------------|--------------------|--------------------|
| Milk and Cream | \$ 0.00 | _____ | \$ 0.00 | \$ 98.30 |
| Poultry and Eggs | 272.82 | _____ | 0.00 | 981.12 |
| General Crops | 13,249.59 | _____ | 3,573.59 | 2,506.26 |
| Special Crops | 224.75 | _____ | 369.66 | 2,135.15 |
| Cash Rent and Royalties | 346.25 | _____ | 447.62 | 146.40 |
| Labor Off Farm | 62.50 | _____ | 164.92 | 57.46 |
| Custom Work | 1,189.55 | _____ | 212.79 | 332.02 |
| Wool | 0.00 | _____ | 0.00 | 88.85 |
| Other Livestock Products | 0.00 | _____ | 54.24 | 0.00 |
| Tax Refund | 191.53 | _____ | 89.53 | 101.40 |
| Patronage Dividend | 225.81 | _____ | 28.67 | 85.46 |
| Breeding Fees Received | 0.00 | _____ | 0.00 | 5.71 |
| Miscellaneous Receipts | 193.83 | _____ | 166.81 | 104.80 |
| Government Payments | 989.24 | _____ | 957.75 | 826.71 |
| Market Livestock | | | | |
| Swine | 8,745.65 | _____ | 4,405.08 | 1,024.79 |
| Cattle | 45,976.10 | _____ | 23,232.47 | 33,912.50 |
| Veal Calves | 0.00 | _____ | 0.00 | 57.39 |
| Lambs | 0.00 | _____ | 0.00 | 507.76 |
| Total Cash Receipts | <u>\$71,667.62</u> | _____ | <u>\$33,703.14</u> | <u>\$42,972.06</u> |

In Table 1, total cash receipts for the high income group were quite a bit higher than for the other two groups, indicating a greater volume of business. The low group had greater sales than did the medium group, indicating that greater volume alone does not produce higher incomes. These were cattle feeding farms, and total receipts are a little misleading because a part of those receipts are from sale of cattle that had been purchased. Only a part of these sales represent production on these farms. This will become more obvious in Table 3 where gross income figures are presented.

TABLE 2. CASH EXPENSES

| | High 25% | My Farm | Low 25% | Medium 50% |
|---------------------------------|--------------------|------------|--------------------|--------------------|
| Hired Labor | \$ 2,634.11 | _____ | \$ 1,467.90 | \$ 1,868.73 |
| Feed Purchased | 6,440.60 | _____ | 4,807.42 | 4,495.74 |
| Farm Supplies | 896.85 | _____ | 520.05 | 763.21 |
| Machinery Repairs | 1,903.12 | _____ | 745.96 | 1,309.41 |
| Building, Fence, Tile Repairs | 459.52 | _____ | 329.87 | 227.25 |
| Fuel, Oil and Grease | 1,608.83 | _____ | 948.06 | 969.76 |
| Electricity (farm share) | 294.67 | _____ | 175.15 | 214.43 |
| Telephone (farm share) | 87.42 | _____ | 64.40 | 57.82 |
| Miscellaneous Expenses | 385.41 | _____ | 214.72 | 327.80 |
| Seeds and Plants | 1,219.15 | _____ | 486.18 | 461.79 |
| Fertilizer and Lime | 6,913.76 | _____ | 1,999.64 | 2,751.11 |
| Machine Hire and Trucking | 599.56 | _____ | 297.80 | 582.98 |
| Auto Expense (farm share) | 219.95 | _____ | 416.28 | 274.35 |
| Interest on Notes and Mortgages | 2,324.96 | _____ | 1,270.43 | 1,480.17 |
| Veterinary and Medicine | 413.80 | _____ | 205.88 | 217.53 |
| Breeding Fees and Registration | 6.25 | _____ | 11.00 | 2.81 |
| Feeder Livestock Purchase | 26,436.89 | _____ | 17,457.67 | 19,829.00 |
| Taxes | 1,500.62 | _____ | 974.43 | 933.51 |
| Cash Rent | 1,307.88 | _____ | 420.21 | 917.79 |
| Insurance | 418.65 | _____ | 259.22 | 250.70 |
| Total Cash Expense | \$56,072.00 | _____ | \$33,072.27 | \$37,935.88 |

Table 2 presents cash expenses. Note that feeder livestock purchases was a very large item for each group. The low income farms had around \$1,000 less interest expense than the high income and medium income farms.

TABLE 3. INCOME AND INVESTMENT

| | High 25% | My Farm | Low 25% | Medium 50% |
|-----------------------------------|--------------------|------------|-------------------|-------------------|
| <u>Capital Gain or Loss</u> | | | | |
| Raised Breeding Stock | \$299.69 | _____ | \$620.98 | \$47.36 |
| Purchased Breeding Stock | 21.12 | _____ | 151.67 | - 2.36 |
| Machinery and Equipment | 375.00 | _____ | 77.67 | 3.00 |
| Total Capital Gain or Loss | \$695.81 | _____ | \$850.32 | \$48.00 |
| <u>Net Inventory Change</u> | | | | |
| Raised Breeding Stock | \$ 201.25 | _____ | \$ -277.00 | \$ -18.00 |
| Market Livestock | 6,848.12 | _____ | 1,839.33 | 2,196.96 |
| Grain, Hay and Supp. | 6,816.87 | _____ | 3,701.08 | 1,930.03 |
| Supplies and Fertilizer | 133.75 | _____ | 96.82 | - 61.14 |
| Total Inventory Change | \$14,000.00 | _____ | \$1,681.59 | \$4,047.85 |

| | | | |
|-----------------------------------|---------------------|-------|----------------------------------|
| <u>Depreciation</u> | | | |
| Buildings, Fence, Tile | \$1,630.56 | _____ | \$1,067.54 \$1,022.31 |
| Machinery and Equipment | 3,606.40 | _____ | 1,775.86 1,764.38 |
| Purchased Breeding Stock | 64.50 | _____ | 319.67 57.79 |
| Total Depreciation | \$5,301.46 | | \$3,313.07 \$2,844.47 |
| <u>Capital Investment</u> | | | |
| Purchased Breeding Stock | \$ 1,144.81 | _____ | \$ 2,490.25 \$ 252.46 |
| Raised Breeding Stock | 2,619.37 | _____ | 4,006.16 131.86 |
| Market Livestock | 28,403.19 | _____ | 7,792.25 19,253.20 |
| Grain, Hay and Supplies | 14,706.94 | _____ | 8,788.37 10,381.38 |
| Supplies and Fertilizer | 263.75 | _____ | 137.59 77.71 |
| Machinery and Equipment | 22,028.00 | _____ | 11,093.53 11,304.69 |
| Buildings, Fences, Tile | 23,297.31 | _____ | 23,229.52 14,187.90 |
| Land | 79,773.44 | _____ | 98,708.45 53,089.29 |
| Total Capital Investment | \$172,236.81 | | \$132,246.00 \$108,678.49 |
| <u>Capital Efficiency</u> | | | |
| Interest Not Yet Charged (5%) | 6,286.88 | _____ | 5,341.89 3,953.75 |
| Gross Income Per \$1,000 Invested | 347.93 | _____ | 141.99 250.64 |
| Overhead Expenses | 16,292.09 | _____ | 11,338.89 9,689.86 |
| Total | | | |
| As Per Cent of Gross Income | 27.19 | _____ | 60.39 35.57 |
| <u>Income</u> | | | |
| Gross Income | 59,926.54 | _____ | 18,777.36 27,238.91 |
| Net Cash Income | 15,595.62 | _____ | 630.87 5,036.18 |
| Net Farm Profit | 24,989.96 | _____ | - .30 6,287.55 |
| Family Labor & Management Income | | | |
| Total | 18,703.09 | _____ | -5,342.18 2,333.80 |
| Per Full-Time Operator | 19,306.41 | _____ | -6,410.61 2,649.18 |
| Net Margin % | 31.21 | _____ | -28.45 8.57 |

Table 3 presents information that was combined with data from Tables 1 and 2 in calculating various measures of income and also efficiency in use of capital.

The first section, Capital Gain or Loss, reports the net income from sale of capital items such as breeding stock and machinery.

Net Inventory Change measures change in inventory of production items. This is important in getting a true picture of the year's production and income.

Capital investment is an average of beginning and closing inventories, representing average investment for the year. Gross income per \$1,000 invested is one measure of efficiency in use of capital. Here the high group demonstrated efficient capital use. The low income group showed inefficient capital use.

Interest net yet charged was calculated by taking 5% of the total capital investment and subtracting interest on notes and mortgages. (Cash expenses, Table 2).

Overhead expenses included buildings, fence and tile repairs, interest on notes and mortgages, taxes, insurance, depreciation, and interest not yet charged. The high and medium groups had low overhead in proportion to their gross incomes. The low income group had comparatively high overhead. On efficiently operated farms, overhead expenses should not exceed 25-30% of gross income.

Gross income was calculated by taking total cash receipts minus feeder livestock purchases plus total inventory change. This measures total production for the year in dollars. Notice that gross income is somewhat lower than total cash receipts for this type of farm because of the feeder livestock purchases. The high income group had a very high gross income.

Net cash income is total cash receipts minus total cash expenses. The low income group made money on a cash basis but lost money after adjustments were made for inventory change.

Net farm profit is net cash income, plus total inventory changes, minus total depreciation (all from Table 3).

Family labor and management income is net farm profit minus interest not yet charged. Net margin is family labor and management income as a per cent of gross income. This is a measure of economic efficiency. Both the high and the medium groups had a positive net margin. The high group had nearly double the volume (gross) of the medium group, and nearly 4 times the net income. The low income group had a negative net margin, and operated at a loss. Perhaps the tables that follow will help pinpoint factors contributing to that loss.

TABLE 4. CROP SUMMARY

| | High 25% | | My Farm | Low 25% | | Medium 50% | |
|-----------------------------|----------|--------|---------|---------|-------|------------|-------|
| | Acres | Yield | | Acres | Yield | Acres | Yield |
| <u>Crop Production</u> | | | | | | | |
| Corn | 207.50 | 111.07 | — | 59.66 | 105. | 72.50 | 97.06 |
| Soybeans | 43.62 | 33.88 | — | 16.33 | 31.17 | 7.79 | 33.00 |
| Oats | 9.12 | 67.88 | — | 1.49 | 61.11 | 7.71 | 59.68 |
| Wheat | 45.00 | 48.70 | — | 14.67 | 40.71 | 18.79 | 42.85 |
| Alfalfa Hay | 15.50 | 3.42 | — | 7.00 | 5.00 | 3.57 | 4.68 |
| Clover, Mixed Hay | 25.37 | 3.45 | — | 35.33 | 2.52 | 15.46 | 2.54 |
| Green Chop | 0.00 | 0.00 | — | -- | -- | 0.86 | 17.17 |
| Corn Silage | 25.62 | 20.15 | — | 21.34 | 18.38 | 18.04 | 17.08 |
| Grass Silage | 8.50 | 4.85 | — | .49 | 23.33 | 6.00 | 7.96 |
| Other | 11.25 | 40.53 | — | -- | -- | 1.43 | 37.90 |
| Special Crops | 0.00 | -- | — | -- | -- | 4.07 | -- |
| <u>Total Harvested Crop</u> | | | | | | | |
| Acres | 391.50 | -- | — | 156.29 | -- | 152.14 | -- |

| | | | | |
|---|-----------|-------|-----------|-----------|
| Total Value of General Crops | 46,096.21 | _____ | 17,138.65 | 15,777.59 |
| Value of Crops Per Harvested Acre | 117.74 | _____ | 88.33 | 103.70 |
| % of Cropland in Corn and Soybeans | 69.14 | _____ | 62.28 | 63.23 |
| Machinery Investment | | | | |
| Per Harvested Crop Acre | 61.13 | _____ | 60.13 | 65.08 |
| Power and Machinery Costs | 7,849.71 | _____ | 4,525.82 | 5,134.09 |
| Power and Machinery Costs Per Harvested Crop Acre | 21.78 | _____ | 24.53 | 29.55 |

Table 4 presents the crop summary. In general, differences in yield were not great, but the high group had much greater crop acreages. Value of crops per harvested acre is a measure of cropping intensity and productivity. Total Power and Machinery Costs were higher for the high income group but was the lowest per acre of cropland.

Machinery investment per acre was similar for all groups.

TABLE 5. LIVESTOCK SUMMARY

| | High 25% | My Farm | Low 25% | Medium 50% |
|---------------------------------|-------------|------------|------------|---------------|
| <u>Value of Feed Fed</u> | | | | |
| Crops Fed | 18,849.32 | _____ | 9,357.70 | 11,093.92 |
| Purchased Feed | 6,440.60 | _____ | 4,854.10 | 4,495.74 |
| Pasture | 285.75 | _____ | 294.00 | 248.14 |
| Total Value Feed Fed | 25,790.67 | _____ | 14,505.80 | 15,837.84 |
| Value of Net Livestock Increase | 35,927.86 | _____ | 8,890.43 | 19,071.38 |
| Returns Per \$1.00 Feed Fed | 1.39 | _____ | .61 | 1.20 |
| Beef Cattle Fattened | 214.12 | _____ | 137.82 | 124.00 |

In the livestock summary, feed costs are brought together, using average market prices for the home grown crops fed. The total feed bill on these farms was quite high. Net livestock increase was calculated by taking all cash receipts from livestock and livestock products, subtracting feeder livestock purchases, adding capital gain or loss from raised and purchased breeding stock, and net inventory change in raised breeding stock and market livestock. This net livestock increase measures total livestock production in dollars. Dividing it by total value of feed fed gives returns per dollar of feed fed--a measure of feeding efficiency. The high and medium income groups did very well for this type of farm, but the low group received much less than they put into their livestock. The returns per dollars worth of feed fed are unsatisfactory for all groups but especially the low income groups. For every dollars worth of feed fed they received 61¢ of livestock increase. Part of this could be rationalized in buying cattle at a higher price and selling them at a reduced price and some of the problem could be poor feeding efficiency.

TABLE 6. LABOR EFFICIENCY

| | High 25% | My Farm | Low 25% | Medium 50% |
|---------------------------------|-------------|------------|------------|---------------|
| Production Man Work Units | | | | |
| Crops | 274.05 | _____ | 156.29 | 109.35 |
| Dairy | 1.00 | _____ | 0.00 | 4.00 |
| Swine | 35.78 | _____ | 35.48 | 3.86 |
| Beef Cows | 24.21 | _____ | 43.13 | 0.93 |
| Cattle Fattened | 235.54 | _____ | 151.62 | 136.40 |
| Chickens | 3.75 | _____ | 0.00 | 7.54 |
| Sheep | 0.00 | _____ | 0.00 | 5.54 |
| Total | 574.33 | _____ | 339.61 | 267.63 |
| Months Operator Labor | 11.62 | _____ | 10.01 | 10.57 |
| Man-Year Equivalents of Labor | 1.84 | _____ | 1.37 | 1.61 |
| Efficiency | | | | |
| PMWU Per Man Equivalent | 312.67 | _____ | 247.90 | 166.12 |
| Gross Income Per Man Equivalent | 32624.18 | _____ | 13,706.11 | 16,907.95 |
| Operator Age | 39.62 | _____ | 41.66 | 43.29 |

In Table 6 a productive man work unit is a standard labor unit, representing 10 hours of man labor at standard efficiency levels. By calculating PMWU's and dividing by man year equivalents of labor we can measure labor efficiency. PMWU per man equivalent should be over 300 for this type of farm. The cattle feeding operations on these farms were probably highly mechanized, resulting in high levels of labor efficiency for all groups. The high income group had a larger proportion of their PMWU's from crops. The combination of large crop acreage plus a large, efficient cattle feeding operation worked very well for them. Note the high gross income per man for this group.