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# OPPORTUNITIES *for* PROFIT *on* YOUR FARM*

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ANALYSES OF FARM business summaries of 252 farms included in a recent Alabama farm management study revealed that **volume of business, labor efficiency,** and **rates of production** were "factors affecting profits" that needed more attention on many farms.

## MEASURING VOLUME of BUSINESS

Volume of business on diversified farms can be measured by calculating the man days of work required for all crop and livestock enterprises on an individual farm under typical or specified conditions. These man days of work are referred to as productive man work units (PMWUs). The productive man work unit thus represents the work done in 1 day by 1 man. Total work units for various productive crop and livestock enterprises on a farm are an indicator of volume of business or number of productive days of work in a year.

## VOLUME IMPORTANT

Data from the study show that as volume of business increased, operator's labor income increased, Table 1. Operator's labor income measures return to the farm operator for his labor and management after subtracting cash expenses, value of unpaid family labor, and interest on capital, and after adjusting for inventory changes.

TABLE 1. VOLUME OF BUSINESS IN RELATION TO OPERATOR'S LABOR INCOME

| Volume of business | Operator's labor income |
|---|---|
| *PMWUs per farm* | *Dollars* |
| Less than 200 | −1,788 |
| 200 to 399 | − 268 |
| 400 to 599 | + 136 |
| 600 to 799 | + 900 |
| 800 and over | +1,545 |

## MEASURING LABOR EFFICIENCY

Labor efficiency can be measured by dividing the total number of productive man work units on a farm by the man equivalents on that farm. One man working full time or 2 hired men working 6 months each during the busy season may be considered to be 1 man equivalent. The greater the number of productive work units per man equivalent, the greater the labor efficiency.

*(Continued on back page)*

*This report is based on results from Hatch project 115, "An Economic Analysis of Farm and Home Managerial Opportunities and Adjustments in Alabama Agriculture."

# FARM BUSINESS COMPARISON

Many factors affect farm profits. Some of the more important ones are volume of business, labor efficiency, production rates, and selection and combination of enterprises.

Given in the farm business comparison worksheet below are the range of production rates, labor efficiency, volume of business, and income experienced by a sample of Alabama farmers cooperating in intensive Farm and Home Development activities.

The top figure of each column is the average for the best 10 per cent of farms in that factor. For example, the figure 850 at the top of the column headed "pounds lint cotton per acre" is the average of the 10 per cent of farms with the highest yield of cotton. Each figure below in that column is the average for the next lower 10 per cent. The figure 277 at the bottom of the column is the average of the 10 per cent of farms with the lowest yield of cotton.

**Each column is independent of the others.**

## HOW to USE the WORK SHEET

To see how your farm compares with the farms in the worksheet, draw a horizontal line in each column where your farm ranks. For example, if your farm produced 500 pounds of lint cotton per acre draw a heavy line in the "cotton" column between 496 and 511. Repeat for all columns that apply to your farm.

If you are in the lower end of some of the columns, you can see opportunities for improvements. The comparison will show which of the "factors affecting profits" is weakest on your farm.

Using the guide on page 3 you can calculate volume of business and labor efficiency on your farm.

FARM BUSINESS COMPARISON WORKSHEET

| Rates of production | | | | | | | | Labor efficiency |
|---|---|---|---|---|---|---|---|---|
| Lint cotton yield per acre | corn yield per acre | Alfalfa yield per acre | Other hay yield per acre | Milk sold per cow | Eggs per hen | Pigs weaned per litter | Beef cow calf crop | Productive work units per man equivalent |
| *Pounds* | *Bushels* | *Tons* | *Tons* | *Pounds* | *Number* | *Number* | *Per cent* | *Number* |
| 850 | 71 | 3.5 | 2.9 | 8,704 | 235 | 9 | 100 | 524 |
| 741 | 54 | 2.8 | 1.7 | 7,159 | 216 | 8 | 100 | 375 |
| 650 | 50 | 2.5 | 1.5 | 6,472 | 198 | 8 | 100 | 323 |
| 601 | 45 | 2.0 | 1.4 | 5,837 | 191 | 8 | 100 | 286 |
| 537 | 40 | 2.0 | 1.2 | 5,464 | 176 | 7 | 99 | 251 |
| 511 | 40 | 2.0 | 1.0 | 5,230 | 167 | 7 | 95 | 228 |
| 496 | 35 | 1.8 | 1.0 | 5,086 | 155 | 7 | 91 | 203 |
| 444 | 31 | 1.5 | 1.0 | 4,553 | 133 | 6 | 88 | 170 |
| 378 | 28 | 1.5 | .9 | 3,792 | 120 | 6 | 81 | 131 |
| 277 | 20 | 1.0 | .5 | 2,532 | 97 | 4 | 62 | 83 |

| Volume of business | | | | | Income | | |
|---|---|---|---|---|---|---|---|
| Total work units | Man equivalents | Cotton acreage | Dairy cows milked | Beef Cows in herd | Gross | Operator's labor income | Return on investment |
| *Number* | *Number* | *Acres* | *Number* | *Number* | *Dollars* | *Dollars* | *Per cent* |
| 1,332 | 6.9 | 71 | 74 | 140 | 29,999 | 6,324 | +15.7 |
| 818 | 3.4 | 38 | 47 | 53 | 16,181 | 3,187 | + 7.6 |
| 641 | 2.5 | 25 | 36 | 30 | 12,111 | 1,678 | + 3.5 |
| 550 | 2.1 | 20 | 27 | 22 | 10,325 | 919 | + 1.0 |
| 461 | 1.9 | 16 | 23 | 16 | 8,312 | 312 | - .5 |
| 395 | 1.6 | 13 | 20 | 12 | 6,427 | - 401 | - 3.5 |
| 325 | 1.4 | 11 | 12 | 8 | 4,965 | - 882 | - 6.8 |
| 268 | 1.2 | 9 | 8 | 6 | 3,727 | -1,585 | -10.4 |
| 217 | 1.1 | 6 | 5 | 3 | 2,816 | -2,984 | -14.7 |
| 148 | .8 | 4 | 3 | 1 | 1,509 | -5,753 | -20.5 |

# BUSINESS VOLUME and LABOR EFFICIENCY

| Crops | Acres on this farm | PMWUs per acre | Total PMWUs |
|---|---|---|---|
| Cotton, hand picked | | | |
| 550 lb. lint/acre | ____ × | 11.0 | = ____ |
| 450 lb. lint/acre | ____ × | 10.0 | = ____ |
| 350 lb. lint/acre | ____ × | 8.5 | = ____ |
| Corn, grain | ____ × | 1.5 | = ____ |
| Hogging off | ____ × | 1.2 | = ____ |
| Silage | ____ × | 3.0 | = ____ |
| Peanuts, combined | ____ × | 1.8 | = ____ |
| Stacked | ____ × | 5.7 | = ____ |
| Sorghum, silage | ____ × | 3.1 | = ____ |
| Grain | ____ × | 1.8 | = ____ |
| Garden | ____ × | 15.0 | = ____ |
| Irish potatoes, commercial | ____ × | 7.6 | = ____ |
| Peaches, non-bearing | ____ × | 3.1 | = ____ |
| Bearing | ____ × | 15.8 | = ____ |
| Crops for small seed or small grain | ____ × | .7 | = ____ |
| Alfalfa for hay, Establishment | ____ × | .8 | = ____ |
| Other years | ____ × | .6/cutting | = ____ |
| Coastal Bermuda for hay, Establishment | ____ × | 1.1 | = ____ |
| Other years | ____ × | .6/cutting | = ____ |
| Winter legume, green manure | ____ × | .3 | = ____ |
| Temporary grazing, annual | ____ × | .5 | = ____ |
| Other hay crops[1] | ____ × | 1.0 | = ____ |
| Improved pastures | | | |
| Mowed only | ____ × | .2 | = ____ |
| Mowed and fertilized | ____ × | .4 | = ____ |
| TOTAL | ____ × | XX | = ____ |

[1] Includes oats, Johnsongrass, clover, and lespedeza.

| Livestock | No. on this farm | PMWUs per unit | Total PMWUs |
|---|---|---|---|
| Dairy cow, bulk tank and pipeline | ____ × | 8.0 | = ____ |
| Dairy cow, machine—no bulk tank and pipeline | ____ × | 12.0 | = ____ |
| Dairy cow, hand milking | ____ × | 15.0 | = ____ |
| Beef cow | ____ × | 1.5 - 2.0 | = ____ |
| Young cattle | ____ × | 1.8 | = ____ |
| Calves | ____ × | .5 | = ____ |
| Feeder cattle on dry lot | ____ × | .3/mo. | = ____ |
| on pasture | ____ × | .2/mo. | = ____ |
| Dairy bull | ____ × | 5.0 | = ____ |
| Beef bull | ____ × | 4.0 | = ____ |
| Ewes and rams | ____ × | .5 | = ____ |
| Lambs | ____ × | .2 | = ____ |
| Feeder lambs | ____ × | .1 | = ____ |
| Sow, 2 litters | ____ × | 2.6 | = ____ |
| Boar | ____ × | 3.0 | = ____ |
| Market hogs, from weaning to market | ____ × | .5 | = ____ |
| Laying hens, per 100 floor flock | ____ × | 12.0 | = ____ |
| cage | ____ × | 15.0 | = ____ |
| Replacement chicks raised, per 100 | ____ × | 4.0 | = ____ |
| Broilers, per 1,000 produced | ____ × | 4.8 | = ____ |
| Turkeys, per bird 7½ mo. | ____ × | .1 | = ____ |
| ____ | ____ × | | = ____ |
| ____ | ____ × | | = ____ |
| TOTAL | ____ × | XX | = ____ |

MAN EQUIVALENTS

| *Workers* | *Months of Farm Work* |
|---|---|
| Operator | ____ |
| Family | ____ |
| Hired labor | ____ |
| Other | ____ |
| Total months | ____ |
| Man equivalents (months÷12) | ____ |

LABOR EFFICIENCY

| | | |
|---|---|---|
| Total crop PMWUs | | ____ |
| Total livestock PMWUs | | ____ |
| Miscellaneous off-farm work | | ____ |
| Total PMWUs | | ____ |
| ____ ÷ | ____ = | ____ |
| Total PMWUs | Man equivalents | Work units per man equivalent |

## COMPUTING VOLUME and LABOR EFFICIENCY

1. Using the worksheet above, get total labor requirements for each crop and livestock enterprise on your farm. Multiply number of acres or animals in each farm enterprise by the number of work units (PMWUs). Simply fill in blanks under the "acres on farm" or "livestock on farm" and multiply by the PMWU figure given. For enterprises not listed, estimate the man days of work required.

2. Calculate volume of business on your farm by adding the total number of work units needed for **all crops, all livestock enterprises, and days of miscellaneous off-farm employment.** Compute this in the space provided.

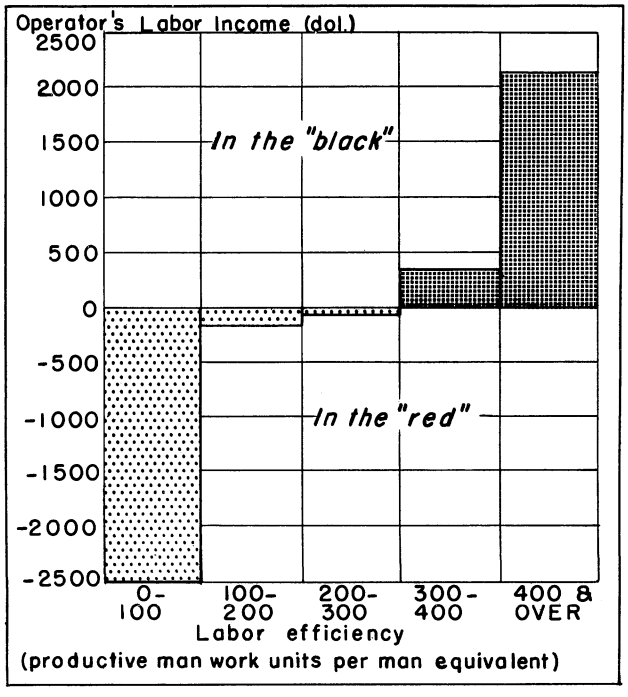
3. Compute the labor force or man equivalents used on your farm by dividing 12 into the number of months worked by all workers.

4. Divide total number of work units by the number of man equivalents to get work units per man or labor efficiency.

*(Continued from front page)*

## LABOR EFFICIENCY AFFECTS PROFITS

It was found that as labor efficiency increased, operator's labor income increased. The chart suggests that opportunities for greater income exist by increasing labor efficiency.




As shown in the chart, operator's labor incomes were higher on farms with the greatest labor efficiency.

Increased labor efficiency may also mean more productive work done with less effort. For example, an improved milking arrangement that saves a dairyman 100 yards walking per milking means walking 1,695 miles less over 40 years.

## LOW RATES of PRODUCTION

Many farmers can increase income by increasing yields. For example, for the farms included in the study, it was found that as yield of corn per acre increased, operator's labor income increased, Table 2.

TABLE 2. CORN YIELDS IN RELATION TO OPERATOR'S LABOR INCOME

| Corn yield per acre | Operator's labor income |
|---|---|
| *Bushels* | *Dollars* |
| Less than 30 | −623 |
| 30 to 40 | −257 |
| 40 to 50 | +297 |
| 50 and over | +356 |

Similar relationships exist for other crops, since machinery and labor costs are not much greater for producing high yields of crops than for low yields. It costs no more to cultivate a high-yielding variety of cotton properly spaced than to cultivate a low-yielding variety improperly spaced. Costs in terms of time and labor are no greater for preparing a high-producing milk cow for milking than for a low producer. **Resources in the form of fertilizer, feed, or better milk cows should be added as long as returns from the last unit added exceed costs of that unit.** Until resource commitments reach such a point, opportunities for greater profits exist.

### YOUR FARM?

Volume of business, labor efficiency, and rates of production are three important factors affecting success in farming. The guides on pages 2 and 3 show how your farm ranks with respect to these factors. **Opportunities for greater profit may exist on your farm!**