

Benchmarking Profitability

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Last spring I read an article by the editors of the [Doane's Focus Report](#) on farm profitability. It is fine to say we need to improve profitability as we look at Return of Assets and Return on Equity but how do we know what needs to be done to make this improvement. The focus report gives some diagnostic tools to use as we drill down to what effects profitability. The report breaks the farm business down into four main areas that affect profitability. They are: Asset Management, Debt Management, Gross Revenue and Cost Control. The report then gave a list of diagnostic tools to use to evaluate each of the four profit management areas.

I used this information and the record analysis to build a worksheet that I use with my farmers. The worksheet "grades" the factors that affect each profit area and then allow the students to give themselves a grade on each of the four areas. Then they know which area they need to work on the most if they are going to improve profitability.

The worksheet has benchmarks that are used to make the grades of a "+" or "-". I used the bench marks from our record analysis. I used FINBIN from the Center for Farm Financial Management at the University of Minnesota to develop standards for the various types of farms. Some of the benchmarks need to be calculated since FINAN does not use them in analyzing records.

I will explain the factors and how they are calculated below:

Asset Based Measures

In order to be profitable we must have productive assets. They must generate cash income for the operation to pay its bills. Productive assets produce dollars directly. A dairy cow is an example of a very productive asset. She can produce as much as \$3,500 of gross farm income in a year. It is hard to assign any income generation to a pickup truck is an example of an unproductive asset. We will always have both types of assets in varying degrees in our asset base. We simply need more productive assets to offset the unproductive assets. The measures below in some way evaluate the productivity of the asset base.

Asset Turnover rate (Market Value)—this is read directly from the record analysis. I used market values because they could sell the assets and get a higher or lower return.

Machinery Costs per acre—I used the value for repairs, equipment leases and depreciation right from the record analysis for Rented Corn. Since we do not have a calculation for these costs over all acres in the FINAN analysis, I chose to compare rented corn values as the benchmark. I included repairs to give a fair comparison between those who have an older line of equipment and possible high repairs and those with new equipment and possible low repairs.

Machinery Value per acre—I went to the balance sheet and added the cost value of machinery and vehicles. I divided this number by the total crop acres. I used cost values because that is what the farmer actually has invested in his business minus depreciation taken off each year. This gives a good indication of whether he is buying too much machinery for the land that he runs.

Depreciation to total revenue—taken directly from the analysis Financial Standards.

Liability Based Measures

Managing debt is important to the success of a farm operation. Just like the assets, we can have productive and unproductive debt. We can have the wrong debt structure, with most our debt in the current category. We can be paying too high an interest rate. We can simply have too much debt. Successful farm managers control debt by borrowing money for productive purposes.

Leverage ratios—this is the debt to asset ratio taken directly from the record analysis. I used debt to asset because that is the most commonly used one in our state.

Interest Expense to total revenue—this is taken directly from the record analysis in the financial standards section of the analysis.

Asset structure compared to debt structure—there is no industry standard to compare. I went to the Solvency section of the analysis on page 4 and compared the % in debt in each of the debt categories. In general, it is best to have progressively lower percentages the further out we go in terms of time for repayment, lowest percentage on long term, highest in current. We manage debt best when we can have room in our debt structure to term out short-term debt if we happen to have a poor year and cannot pay off our current debt. Having room in the intermediate debt category means we can refinance the loss using machinery as collateral. I do not like to see farmers refinance to long-term debt. It is a last resort strategy that is tapping into our retirement or financial security fund.

Average interest paid on debt—I calculated this number by taking total interest paid in the income statement and dividing it by the total farm debt off the balance sheet.

Revenue Based Measures

“He who grosses the most wins” is a statement often made by a farm management instructor friend of mine. How do you gross the most? You sell high yielding crops or high producing livestock for the highest price. Size of business can also be a factor but is not measured here.

Average yield per acre—compare your farm with a benchmark. Look over several years. Are your yields consistently over the benchmark? If they are, you will generate more gross dollars than your neighbor with the lower yields.

Average livestock production per unit—this measure is similar to the one above. We need to produce above the benchmarks for the industry. This takes a good record keeping system to determine.

Average price received per unit sold—compare your sales prices with USDA average prices for the year. Better yet, compare your prices with a benchmark like FINBIN. Marketing above the average price for the year or in the upper 1/3 of the price range simply means more gross dollars and more profit.

Operating profit margin—this number is taken directly from the financial standards in the analysis.

Expense Based Measures

Controlling cost is one very important measure of profitability. If we gross a lot of dollars but spend an equal amount on expenses, we will not be profitable. Good managers spend their input capital in productive ways. They have a knack for spending money to make money. That principle is demonstrated in the measure below.

Cost items per acre or livestock unit—compare costs per unit for fertilizer, seed, chemical, feed, vet expense, breeding, rents, repairs, labor and other costs you might think of with a benchmark like FINBIN. Are you consistently lower or higher than the average?

Operating cost to total revenue—this number comes right from the record analysis financial standards. It measures how many dollars we spend to generate a dollar of income.

Operating profit margin—this number is taken directly from the financial standards in the analysis.

Modifications to the Worksheet

Since the enterprise mix and size of operation can have a bearing on profitability I have taken the worksheet developed and designed other sheets for more specific enterprises and sizes of business. To this point I have developed sheets for general farms, large and small crop farms where more than 70 % of their income is crop crops, and large, mid-sized and small dairy farms where 70% of their income comes from dairy.

On the dairy sheet I substituted **Facility costs per cow** for machinery costs per acre. The calculations are similar. I looked at the Dairy and Replacements report from FINBIN on a per cow basis and added together the repairs, leased facilities and depreciation for buildings and equipment. I also substituted **Facility Value per cow** for machinery value per acre. I went to the balance sheet and looked at building values based on cost. I divided this value by the average number of cows in the herd. Since this sheet is more fine tuned to dairy, I could put the exact FINBIN milk production and sales prices in the revenue measures category. I also added a couple of more specific cost control factors to the Expensed Based Measures. You may want to add others in place of the ones I chose.

As I sorted the enterprises with FINBIN to develop the benchmarks, I found the whole farm measures could not be sorted by number of head or number of acres. I tried to correlate the size with gross dollars generated for the whole farm factors and then by acres or number of cows for the enterprise benchmarks. I am not totally comfortable with what I did but feel the benchmark comparisons are accurate. For the whole farm summary I used \$500,000 and up for large dairies, \$100,00 to \$500,000 for mid sized dairies and under \$100,000 for small dairies. When I sorted for size, I used 300 cows and up for large dairies, 100 to 300 cows for mid sized dairies and under 100 cows for small dairies. For the cash crop farms I used gross dollars to sort out the two categories.