

Decision-Making Using Benchmarks

Long-run returns (excluding appreciation) in agriculture have been quite low over time and therefore it has often been difficult to justify making the necessary capital investments needed to take advantage of new technology and improved production systems.

Capital investments in the dairy sector have often resulted in low returns (2-4% ROA), due in part to the over-investment in machinery, buildings, equipment and land. The challenge for the future as margins continue to tighten is to focus on the assets that will provide the greatest returns and reduce investments in the lower return assets, while maintaining high operating efficiencies. This may mean increasing the level of specialization within a dairy farm business and having other businesses provide inputs and services (feed contracting, contract heifer rearing, contract veterinary services, contract manure handling, etc.) to the business.

The need to have management information systems (decision support systems) in place to monitor and control the performance of the dairy business and its component activities and processes has probably never been greater and will be crucial to the long-term viability of any dairy business. Being able to compare the performance of your business against those within and outside the dairy industry as you attempt to improve the performance of your business recognizes there is always room for improvement. The only real reason to undertake benchmarking is to improve upon existing performance in an objective manner. One of the fundamental reasons for benchmarking should be to learn something new and bring new ideas into a business.

Benchmarking

What are some of the reasons businesses get involved in the benchmarking process ?

- To assist in the development of realistic and achievable short- and long-term goals.
- Use information to predict trends in relevant

business areas and sectors.

- Facilitate "out of the box" thinking.
- Comparing your business with competitors or "best in class" businesses.
- To assist in establishing performance goals in relation to "state-of-the-art" practices.

One of the significant challenges facing management of any business is deciding how to increase the ability of the firm to generate value without sacrificing the interests of any of its stakeholders. Benchmarking is a way to identify impending problems and assist in pointing a business toward the opportunities that exist for improving performance. Using objective measures of performance assists in focusing attention where attention is most needed and allows for learning, which should translate into continuous improvement within an organization. "Benchmarking provides the compass readings and navigational details for attaining competitive excellence".

The overriding objective of benchmarking should be to identify best practices. Benchmarking identifies gaps in performance and opportunities for improvement, and it sheds new light on old methods, which may result in abandoning existing practices and starting all over.

Benchmarking is based in the philosophy of continuous improvement and is therefore a change management tool. Benchmarking targets the critical success factors for a business thereby assisting in the identification of what needs to be done to ensure the long-run success of the business.

It is important to recognize that every business has a different mission and set of governing values and a unique way of combining its resources into outputs. Benchmarking helps identify those components of the business that are supporting ongoing success (i.e. are critical for success).

Roles are the essence of what a person or function does within an organization. Questioning roles within a business means focusing in on HOW the work is performed and means asking "Are we



doing the right things?" (effectiveness), while examining processes should trigger a concern with "Are we doing things right?" (efficiency). Benchmarking targets for elimination, those processes that are constraining the organization or using excessive resources with questionable value creation. And while every process can be improved at some level, the overriding concern remains getting the most benefit out of each dollar spent on process improvements.

Benchmarking is done to provide focus to the following issues (McNair and Leibfried, 1992):

- Signal management's willingness to pursue a philosophy that embraces change in a proactive rather than reactive manner.
- Establishes meaningful goals and performance measures that reflect an external/customer focus, fosters quantum leap thinking, and focuses on high-payoff opportunities.
- Creates early awareness of competitive disadvantage
- Promotes teamwork that is based on competitive need and driven by data, not intuition or gut feeling.

The first step in benchmarking a business is to focus on the internal aspects of the business as this provides a framework to compare existing practices to external benchmark data. Competitive benchmarking focuses on looking outward to identify how other direct competitors are performing in comparison to your business. Having an appreciation for the strengths and weaknesses of the competition is an important step toward developing and implementing a successful strategy for the future.

Industry benchmarking goes beyond the one-to-one comparison of competitive benchmarking to look at trends. However, since everyone in the industry is basically trying to "play much of the same game", analyzing industry trends can help develop performance baselines, but it will seldom lead to the performance breakthroughs needed to accelerate your business ahead of the pack.

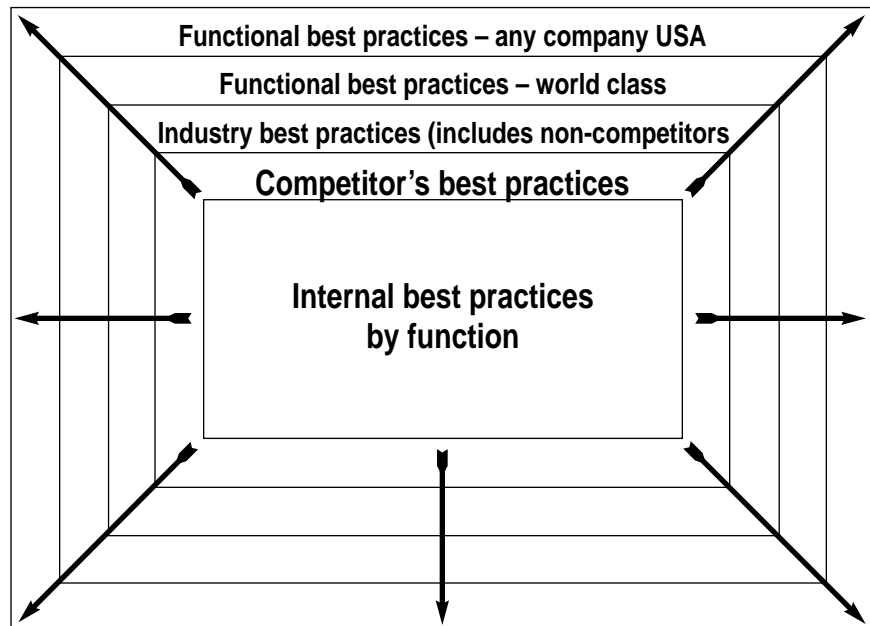


Figure 1. Source: Spendelini, M.J., 1992.

The final form of benchmarking is called best-in-class as it looks across multiple industries in search of innovative practices no matter what their source. Benchmarking should help support quantum leaps in performance, as critical success areas look up toward the "best" in identifying opportunities for performance improvement. Choosing any other target will likely result in short-run solutions to problems, but will probably not lead to long-run competitive advantages for the business.

Businesses that undertake a benchmarking process with a clear objective to achieve greater success gain more from the process than those businesses that get involved in benchmarking without a real sense of purpose. Figure 1 represents how the benchmarking process should move from internal analysis to "world class" comparisons.

Linking together the activities into a value chain emphasizes the interdependence of components of the business (units and individuals) and changes the focus of questioning from: "who screwed up?" to "what went wrong?" People respond to the measures used within the organization to evaluate them as "performance benchmarks" and will typically go out of their way to ensure that they meet their goals assuming they have been well defined and communicated to the individual. Therefore, it is no accident that the success of the benchmarking process is dependent on identifying, monitoring and controlling the right set of performance measures.

As management 'guru' Tom Peters "*Thriving on Chaos*" suggests: "what gets measured gets done, has never been so powerful a truth". Benchmarking needs to be an ongoing information intensive process, which will move the business through a series of defined steps:

1. Identify the core issues.
2. Establish the baseline internal performance levels and information.
3. Gather external information.
4. Analyze information and benchmark results.
5. Implement changes in existing processes to reflect these results.

Change for change's sake is not the objective; change that enhances the value of the farm business for all its stakeholders is !!

Benchmarking Dairy Farm Business Performance

The profitable dairy farm business can be characterized by high production efficiencies, reasonable income levels and excellent cost control. A business's expectations of the possible future gains from an investment or change in management practice or technology, must be based in part on past performance, and in part on forecasts of future performance. The profit equation is quite simple – profit = (price - cost) x volume, thereby indicating there are three ways to increase profitability: 1) Increase price; 2) decrease cost; 3) increase volume. These are the manager's three primary control factors for maintaining or increasing profit. Management is challenged to find the best balance among these three factors. A change in cost, volume or price may affect one or both of the other two factors.

The Levers of Financial Performance

In production agriculture there is often a tendency to focus on the operations side of the business, often neglecting the capital side of the business. The operating side of the business focuses on such things as, how many cows are milking, level of milk production, cost control, labor efficiency and parlor efficiency. On the other hand, the capital side of the business focuses on such things as, how much is invested in facilities and equipment and land to efficiently produce high quality milk and how is the debt and equity structured.

Operating efficiency is a measure of how revenues are converted into operating profits, or the earnings squeezed out of each dollar of sales (profit margin). Capital efficiency is a measure of the sales generated from each dollar of assets employed in the business, and is often measured by asset turnover ratio. The third key component affecting financial performance is financial leverage, which is a measure of the amount of equity used to finance assets employed in the business.

Operating Efficiency

Operating efficiency is a measure of how well operations produces cash. The operating efficiency is equal to the operating profit divided by the value of farm production (VFP) or gross revenue less cost of goods.

Operating Efficiency =

Operating Profit/Value of Farm Production

Operating profit is equal to the Value of Farm Production minus all operating expenses, excluding depreciation, interest, and amortization expenses (which are considered to be capital expenses). The main reason for using the VFP, instead of the gross revenue is to account for the cost of the goods sold (thereby reflecting the value-added by the business). To calculate VFP, subtract all livestock purchased for resale, and purchased feed from total revenue.

Highly efficient businesses have operating efficiencies between 40% and 60% of value of farm production, average efficiencies typically range between 25% and 40% and lower efficiencies are usually those less than 25%.

Capital Efficiency

As discussed above, operating efficiency is a measure of how well your operations produce revenue, capital efficiency is a measure of how well your investment, or assets are producing revenue. The Asset Turnover Ratio is used to determine how well your assets are producing revenue in relation to the level of investment in your business. Asset Turnover Ratio is equal to the VFP divided by the average total farm assets.

Asset Turnover Ratio = Value of Farm Production/avg. Total Farm Assets

Asset turnover varies greatly across types of businesses. The ratio is typically a measure of capital



intensity, with a low asset turnover signifying a capital-intensive business and a high asset turnover the reverse. In agriculture, which has characteristically been a capital-intensive business, asset turnover ratios of greater than 0.5 have been considered to be very good, while 0.3 or less are more typical asset turnover ratios and are considered to be relatively low.

Measuring Profitability

A common measure of profitability is Return on Farm Assets (ROA), which measures the combined effect of operating efficiency and capital efficiency. The operating efficiency multiplied by the asset turnover ratio is equal to the return on assets (ROA).

$$\text{Return on Farm Assets} =$$

$$\text{Operating Efficiency} \times \text{Asset Turnover Ratio}$$

A good rule of thumb is to have an ROA which is 1.5 to 2 times the prime lending rate (at the current prime rate of: 7.75%, 1.5x=11.6% and 2x=15.5% ROAs). If the return received is equal to or lower than the interest rate on your borrowed capital, then you are not making any money on the debt that was taken out, and will not have any left over for purchase or new assets for growth.

Return on Equity

Another common measure of return is the Return on Equity (ROE). ROE is really a measure of the efficiency with which your business is employing the owner's (investor's) capital or the percentage return to owners on their investment. There are three factors that determine ROE. In addition to the two discussed previously (operating profit and asset turnover) we add financial leverage to compute return on equity. The financial leverage represents the proportion of total asset in relation to owner assets (equity).

$$\text{Return on Equity} = \text{Profit Margin} \\ \times \text{Asset Turnover} \times \text{Financial Leverage}$$

Putting It All Together to Achieve Balanced Business Growth

It has been well documented in the business literature that balancing the utilization of profits across three or four areas will help to position the business for balanced growth.

For a sole proprietor (family living/draw and

taxes is often the residual claimant) we can consider allocating operating profits across these four areas in equal proportions:

25% for interest

25% for family living and taxes

25% for principal payments on debt

25% for asset purchases (growth and risk)

If family living/salaries/dividends partner draws, were categorized as a business expense (in the case of corporations or partnerships, then you would use three equal proportions: 33.3% for interest, 33.3% for principle payments on debt, 33.3% for asset purchases (growth and risk)

Farm Financial Standards

(are we comparing milk to milk?)

For a benchmarking effort to be effective we have to understand the similarities and differences that exist in the way production and financial information is collected, summarized and reported. The Farm Financial Standards Council has gone a long way toward developing consistent terminology and definitions for key financial performance measures as shown below.

Farm Financial Standards Mission Statement:

The mission of the FFSC is to provide education and a national forum to facilitate the development, review, communication and promotion of uniformity and integrity in both financial reporting and analytic techniques useful for effective and realistic measurement of the financial position and the financial performance of agricultural producers.

It should be noted that "the Council has no standing to specify Generally Accepted Accounting Principles (GAAP) or changes thereto. That responsibility rests primarily with the Financial Accounting Standards Boards (FASB) and the American Institute of Certified Public Accountants (AICPA). The Council believes that financial statements prepared in accordance with GAAP, together with certain supplemental information important to farmers and analysts, represents an appropriate standard for production agriculture.

However, The Financial Guidelines for Agricultural Producers does identify and provide suggested treatment for certain areas of financial reporting that, although not in accordance with GAAP, are in relatively widespread use among interested parties other than the accounting profes-

sion". Table 1 depicts some of the definitions of key performance measures as defined by the Farm Financial Standard Council and some suggested goals and comments for reference.

Developing a Farm Business Plan: A Roadmap for Your Business Future

Identify and track your progress toward meeting your business and personal goals by first articulating the long term general objectives. Then continue with more specific measurable goals like equity funding levels, production per cow, number of cows, spendable family income (in current dollar terms), weeks of vacation, intentions about business growth and control, including any plans or intent to transfer it to the next generation in so many years, etc. Try to order them in a logical way that shows the relationship between profits and other measures of personal success as you see them.

As more people become involved in the management team, the less detail on personal goals will be helpful. Preparing and submitting a detailed business plan to potential creditors or investors is standard practice throughout the business community. The day of "handshake lending" is about over even for the well-established business. People offering potential funding need to know who you are, where you have been, where you are, and where you want to be in business and related terms. They need to know, so they can evaluate their risk exposure and your ability to meet the lending terms or provide a return on their investment.

The proposed plan must be realistic and achievable to be credible. Neither over optimism nor pessimism is useful. Contingency plans which charac-

terize both the "upside potential" and the "downside risk" should be included in the plan. Your goals should be specific, verifiable, realistic and time bounded. Write goals so that they will have these characteristics and then you can more easily track your progress toward achieving them and set new goals for the business.

Summary

The progressive dairy farm manager recognizes the importance of adopting and implementing profitability-enhancing production and management practices and techniques. He/she views the dairy farm as a business and him/herself as a business manager striving to achieve business and family goals through the operation of a profitable dairy farm business. Benchmarking is a way to identify impending problems and assist in pointing a business toward the opportunities for improvement.

Using objective measures of performance assists in focusing attention where attention is most needed and allows for learning that should translate into continuous improvement within the business. Careful scrutiny of all investments and vigilant cost control will go a long way toward increasing the chances of success for a dairy business, today and in the future.

Developing and implementing a management information system that uses a standard chart of accounts and standard methods for calculating performance measures to monitor and control the performance of the business will be a key ingredient to the success of the business!

Benchmarking targets the critical success factors for a business thereby assisting in the identification of what needs to be done to ensure the long-run success of the business.



Table 1. Farm Financial Standards Ratio Calculations.

ratio	calculation	goal	comments
• LIQUIDITY – Ability to meet short run obligations without disrupting normal operation			
current ratio	current assets / current liabilities	> 1.25	Trend is important. Need access to cash to pay bills on current basis and continue business
working capital	current assets - current liabilities	>25% of value of farm production	Higher working capital is needed based on the price volatility of inputs and products.
• SOLVENCY – Ability to meet all liabilities in the event you quit the business, or who is the “true” owner			
equity/asset ratio	farm equity/ farm assets	>60%	Measures your ownership level and control of the business
• FINANCIAL PERFORMANCE – PROFITABILITY MEASURES – Ability of management and capital to generate a profit to cover family living expenses, build equity (growth) and service debt.			
return on farm assets	(net farm income + interest expense - family living / avg. farm assets)	>9%	New investments need returns greater than lending rate on asset
return on farm equity	(net farm income - family living / avg. farm equity	6-10%	Should be greater than a CD or Treasury bill considering the risk of farming
• FINANCIAL PERFORMANCE - FINANCIAL EFFICIENCY MEASURES – How well management and the business assets generate farm revenue and how efficient a production system is in place.			
asset turnover ratio	value farm production / avg. total farm assets	>.35	Measures how well you are using capital assets to generate revenue
operating expense ratio	total operating expense / value farm production	<65%	How much of each dollar of revenue is going to expenses
depreciation expense ratio	depreciation expense / value farm production	<12%	If value is 5% or less, you may not be investing in your business to be competitive long term
interest expense ratio	interest expense / value farm production	<12%	Operators with high debt load need to be more efficient than the one-half of farmers who have no debt
net farm income from operation ratio	net farm income / value farm production	>20%	Measures how much of each dollar is available for family living, to build equity (growth) and service debt
• REPAYMENT CAPACITY – Ability to meet term debt payments on a timely basis.			
term debt coverage	(net farm income + non- farm income + depreciation + interest expense - income tax - family living) / (current principal on term debt and cap lease + interest expense)	>1.3	Greater than 1.0 gives manager the opportunity to manage (make choices)
capital replacement & term debt repayment margin	net farm income + non- farm income + depreciation - income tax - family living - scheduled current portion term debt - principal on personal liabilities	> annual family draw	Cash available for capital purchases, savings or retirement

References:

1. AgriSolutions, Agro Systems and AgriBank/Farm Credit Associations. 1998. *Similar Farms Analysis - 1997 - AgBase Results*. Brighton, IL and St. Paul, MN.
2. Barney, J.P. and T.R. Smith. 1998. *How local dairy communities can compete in the global marketplace*. *J. Dairy Sci.* 81:1762.
3. Farm Financial Standards Council. 1996. *Financial Guidelines for Agricultural Producers* (www.ffsc.org). To order a printed copy - contact: Carroll Merry, Farm Financial Standards Council, 1212 S. Naper Boulevard, Suite 119, Naperville, IL 60540 Telephone 630-637-0199 FAX 630-637-0198. E-mail HYPERLINK "mailto:countryside-mktg@worldnet.att.net" Countryside-Mktg@worldnet.att.net
4. McNair, C.J. and K.H.J. Leibfried. 1992. *Benchmarking: A tool for Continuous Improvement*. Oliver Wight Publications, Inc. Essex Junction, VT.
5. Smith, T.R., L.P. Johnson and S. Kenyon. 1995. *Dairy Business Focus: Benchmarks for the Future, Tips to help Wisconsin dairy farms continue to compete*. Special insert in: *The Wisconsin Agriculturist Magazine, Farm Progress Publications*. 8pp.
6. Spendolini, M. J. 1992. *The Benchmarking Book*. American Management Association. New York, NY.
7. Cornell University, Cornell Program on Dairy Markets and Policy: <http://cpdmp.cornell.edu:81/>. Assembled from dairy producers across the US attending 1997 Florida workshop.
8. Farm Financial Standards Council. *Providing a framework and standards for consistent reporting of financial information for agricultural producers*. <http://www.ffsc.org>. Commodity sub-committees are developing commodity-specific standard chart of accounts and reporting guidelines.
9. Financial Partners, NE Farm Credit Assoc., Midwest FCS and Dairy Strategies, LLC. HYPERLINK <http://www.farmcredit.com> www.farmcredit.com. www.dairystrategies.com. Predominately Northeast and Midwest (>300 cows): NY, PA, New England, OH, MI, IA, WI, MN, SD
10. Genske, Mulder & Co.. LLP. Accounting firm; Chino, Modesto, Tulare and Gustine, California (909-627-7381). Predominately West and Southwest: CA, OR, WA, ID, NM, AZ, TX.
11. Moore Stephens, Frazer & Torbet, LLP: Dairy Farm Operating Trends. Accounting and Consulting Firm; Visalia and City of Industry, CA HYPERLINK <http://www.msftllp.com> www.msftllp.com. Predominately West and Southwest: CA, OR, WA, ID, NM, AZ, TX, CO.
12. Robert Morris Associates (RMA). RMA, One Liberty Place, Suite 2300, Philadelphia, PA 19103. *Industry studies: (examples)* http://www.rmahq.org/Annual_Studies/studies_fr.html. Focused on serving the financial services industry, benchmarks a broad range of industries, including dairy farms and dairy manufacturers.
13. University of Florida. Dept. of Dairy and Poultry Science: <http://dps.ufl.edu/>. Primarily Florida/DHI benchmarks for SE states.

Dairy Benchmarking Contacts, Internet Sites and References:

1. AgriSolutions, Farm Credit Services (7th district), AgriBank, FCB/ AgriProfits/Profit Profiles www.farmcredit.com/ and AgriSolutions Inc.): HYPERLINK <http://www.agrisolutions.com> www.agrisolutions.com. Predominately mid-west states: WI, MN, MI, OH, IN, IL, MO, KY, TN, AR, ND
2. Center for Dairy Profitability, University of Wisconsin. <http://www.wisc.edu/dairy-profit> www.wisc.edu/dairy-profit (Financial benchmarks database) or:

