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EVALUATING PROFITABILITY OF THE COW HERD: BASICS OF FINANCIAL RECORD KEEPING

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INTRODUCTION

It has often been said, “The only certain thing in this world is change.” This is, without a doubt, quite true in production agriculture. Changes in the beef cattle industry come in the form of technology, markets, weather, consumer preferences, etc. These changes present challenges and hardship to some and to others opportunities and profits. Another interesting thing about change is that we and/or the industry are, for whatever reason, often slow to adapt and adopt.

In this presentation, we will talk about some of the changes that are being suggested in beef production and financial records; and the analytical systems employed in an effort to further move the industry in the right direction of change. Specifically, we will address the importance of an integrated records system as it relates to the efforts of the National Cattlemen’s Association’s Integrated Resource Management (IRM) subcommittee to develop Standardized Performance Analysis (production and economic measures) in relation to the guidelines of the Farm Financial Standards’ Task Force (FFSTF) for financial analysis for agriculture (FFSTF, May 1991). The FFSTF basic objective was to provide standardization in the terminology and performance measures for evaluating ranch and farm financial performance throughout the United States. This group was supported by the American Bankers’ Association, Cooperative Extension, USDA, the Farm Foundation, Farm Credit Service, Farmers’ Home Administration, and a number of land grant institutions and private lenders and others. The underlying assumption of both these efforts is complete production and financial records.

Why the renewed focus in recent times on good records, complete financial information, better decision making, better management? Much has stemmed from the events of the early- to mid-1980s when American agriculture went through a rather dramatic restructuring. As a consequence of the events of the late 1970s and 1980s, the livestock industry, as well as other segments of agriculture, recognized the need to be more competitive with other sectors in our economy. It was decided that more complete financial and production information would be required than in the past to demonstrate the ability of the producer and the industry to compete for available capital—both in national and international markets. The question was asked: How can we demonstrate that as an industry we’re profitable? The answer was, standards must be developed that are compatible with general accepted accounting principles (GAAP) used in other industries. This would require the efforts of each individual producer and, of course, the industry as a whole.

One of the reasons for developing the integrated production and financial records (SPA) for the beef/cow industry is to provide business performance documentation that can be used for evaluation in the market place. Further, this type of financial and production performance

information and data will have a direct effect on those producers making individual management decisions. With complete production and financial information, ranchers and farmers can make informed decisions, which in the long-run will result in financial progress and financial sustainability. One of the important problems in agriculture, and certainly within the beef industry, has been historically low-rates of profitability, compared to other industries with similar capital investment and risk. So, if we are to compete with other segments of our society who compete for capital as well, we must be able to compete with rates of return that are competitive with other investment alternatives.

Again, the efforts, which have been expended by land-grant institutions through their Extension beef cattle specialists and others, have resulted in rather dramatic changes in the beef industry over time. Certainly, we have seen considerable progress in the weights of the steer calves we are weaning currently. In 1960, the average was around 380 pounds; this has increased to well over 500 pounds based on 1990 data. This certainly demonstrates that production efficiencies are being addressed and are improving. However, when we move from production to economic efficiencies, we have to keep in mind that production improvements have a cost attached to them. Iii order to evaluate the effect of those production efficiencies, we need to have both good production records and good financial records. If ranchers and farmers today can evaluate their production programs and their financial efforts in a logical and meaningful way, profits are going to be enhanced.

Level of Financial Record Keeping

Basically, all tax-paying Americans, beef cattle producers included, maintain some set of records. This may vary from hand-kept production and financial records in the form of a transaction journal and/or a general ledger to a very sophisticated computerized accounting package. The point is not the type of records system utilized in a business but how the records are used. Many cattlemen today have effectively developed their own types of systems that provide a lot of information but limited comparative knowledge. The key here is to insure that each and every producer is keeping the same type of production and financial information. Often one of the problems incurred by many of our livestock producers when it comes to evaluation of their operation, is comparison with peers. One of the areas in which we do not have very much information and consequently knowledge is in the areas of economic and financial efficiency. In many states, there appears to be reasonably sufficient production and financial information by which cow/calf producers and other types of livestock producers can compare themselves to their peer groups. Often, this information is provided through farm management associations, through the Extension Service, or through the local banker, who has developed a separate data base. An area where most producers would (at least based on our experience) like more information is the cost of production associated with the cow/calf operators in their area or in their state. Often this is available through enterprise budgets developed by the state. These budgets are available to producers and other users, but often due to differences in climate or geographical location, may not be representative of an individual producer or provide depth analysis needed. Thus we have the identified need to develop a set of standardized production and financial performance measures, which will provide the type of detail and completeness that will provide the level of analysis consistent with management needs today.

GUIDELINES FOR PRODUCTION AND
FINANCIAL PERFORMANCE ANALYSIS

Farm Financial Standards' Task Force

The initial effort to standardize terminology and performance measurement criteria was accomplished through the Farm Financial Standards' Task Force. Five financial criteria were recommended:

1. liquidity
2. solvency
3. profitability
4. repayment capacity
5. financial efficiency

It is from these five categories that the "sweet 16" arose, i.e., 16 financial measures/ratios that were identified as key indicators of financial position and performance. These measures/ratios are contained in Appendix A.

The primary function of financial ratios is to aid in understanding the financial position and performance. Ratios also assist in identifying areas of strength as well as weakness of your business. Ratios, however, do not provide answers. Further, not all ratios are appropriate for each and every business. Thus it is beneficial to select those ratios that provide the level of detail and understanding of the business that adds to the decision-making process.

Building on the efforts of FFSTF, the SPA criteria and measures will further enhance a cow/calf producer's ability to analyze his operation and enhance management decisions.

SPA for the Beef Industry

Cattlemen have generally been challenged to lower their cost of production, which will in turn allow the cattlemen to be more competitive, to increase profits, and to insure long-run sustainability of the beef cattle industry. The NCA/IRM Cow/Calf Financial Analysis Subcommittee has taken the cow/calf enterprise information and broken it into five general areas. These areas are: 1) reproduction performance, 2) production performance, 3) grazing and raised feed land use and productivity, 4) marketing-price and marketing practice, and 5) financial and economic performance. The guidelines developed within these five areas will facilitate the comparison of the production, financial, and marketing components of the business. Figure 1 illustrates the linkage between accounting, financial records, and financial statements. We start with accounting and financial records that in turn facilitate the preparation of key financial statements from which the five financial criteria of FFSTF are developed. The financial statements, in turn, allow the producer to allocate to each enterprise the associated revenue and expenses. Once the revenue and expenses are correctly identified and placed within the cow/calf enterprise, the financial and economic evaluation can be done.[1]

What Does Financial Analysis Provide?

Financial analysis, in general, addresses two areas: 1) financial position and 2) financial performance. Financial position is reference to the amount of resources controlled by the business and total claims against those resources at some point in time. Financial performance is the measurement of production and financial decisions over a period of time. Production analysis, which is an important component of the financial analysis, addresses cow-herd performance for a production period including reproduction and production measures.

Often farm/ranch accounting/production records lack the level of detail to accomplish the measurement of their financial position and performance. As agricultural businesses continue to evolve, business management will become increasingly an integral center of the overall management of the farm or ranch. Financial and production performance combined provide measures of economic efficiency.

Components of a Record Keeping System

Before anyone can properly benefit from the efforts of the NCA/IRM—Cow/calf Committee or Farm Financial Task Force, a record/accounting system must be in place to provide the necessary data/information.

The never-ending debate over cash versus accrual accounting goes on and on. In today's business environment, agricultural producers have a need to know the "true" profit or loss and financial positions as a result of their production activities. Cash accounting, which works well for income tax preparation, leaves a manager short when the accounting system is relied upon for management. Often the preparation of an accurate accrual based balance sheet at the beginning and at the end of the period (usually a calendar year) will also facilitate the development of an accrual based income statement (profit/loss).

Our suggestion of key components that your record keeping system should contain and which will facilitate the preparation of accrual based financial statements are:

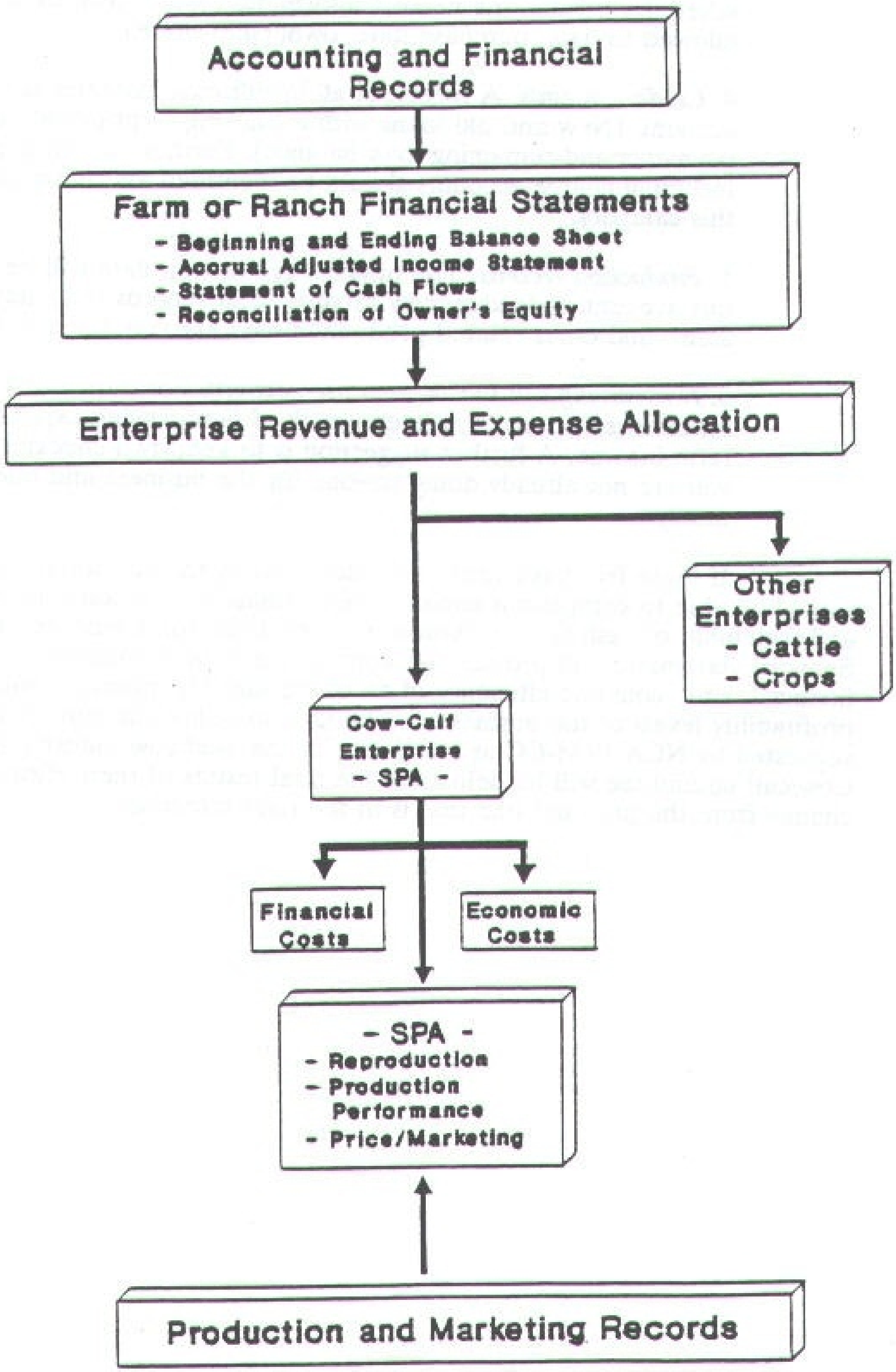
1. *Receipts and expenditure accounts* (by enterprise if possible). These are the cash transactions incurred by the business.
2. *Income and Expense accounts and inventories on both a market value and cost basic.*
3. *Capital account.* All machinery, equipment, buildings, improvements, and other capital investments should be identified. Often depreciation schedules contain the needed information (cost basis, depreciation allowed to date, purchase date, ownership share).
4. *Credit accounts.* A record of all farm/ranch liabilities is entered in this account. (New and old loans with a tracking of principal and interest payments and remaining loan balance). Further, accounts payable including charge accounts should be identified and maintained within this category.
5. *Production records.* The physical production data will be contained in this account. Individual cow records, field records (e.g., hay yield per acre), and other related

production data are contained in this account.

6. Non-ranch/farm income/expense account. For most ranch/farm businesses, this account keeps track of family living expenses and off- farm income. A further suggestion is to keep two checking accounts if you are not already doing so—one for the business and one for the family.

If these five basic areas are addressed by the accounting system, one should be able to complete a balance sheet (financial position), income statement and statement of cash flows (financial performance) for a business. Further, these financial statements will provide the appropriate data to measure production, financial, and economic efficiency of an operation. The manager will know the profitability levels of the business and be able to utilize the various measures suggested by NCA-IRM-CC as standards for the beef/cow industry. The IRM Cow/calf committee will be delivering the final results of their efforts shortly. A change from the past and one that is in the right direction.

[1] Financial enterprise analysis is taken directly from the accrual adjusted income statement. The economic analysis accounts for the opportunity cost of resources used in the production process in addition to the expenses identified in the financial analysis. For example, land rental values are used to account for this resource cost.


Accounting and Financial Records
Farm or Ranch Financial Statements
- Beginning and Ending Balance Sheet
- Accrual Adjusted Income Statement
- Statement of Cash Flows
- Reconciliation of Owner's Equity
Enterprise Revenue and Expense Allocation
Other Enterprises
- Cattle
- Crops
Cow-Calf Enterprise - SPA -
Financial Costs
Economic Costs
- SPA -
- Reproduction
- Production Performance
- Price/Marketing
Production and Marketing Records

APPENDIX A

FARM FINANCIAL RATIOS

RECOMMENDED FARM FINANCIAL MEASURES

Liquidity

1. Current ratio = Total current farm assets/Total current farm liabilities
2. Working capital = Total current farm assets - Total current farm liabilities

Solvency

3. Debt/asset ratio = Total farm liabilities/Total farm assets
4. Equity/asset ratio = Total farm equity/Total farm assets
5. Leverage ratio = Total farm liabilities/Total farm equity

Profitability

6. Rate of return on farm assets = (NFIFO + Farm interest expense - Value of operator and unpaid family labor and management)/Average total farm assets
7. Rate of return on farm equity = (NFIFO - Value of operator and unpaid family labor and management)/Average total farm equity
8. Net farm income (from income statement)

Financial efficiency

9. Asset turnover ratio = Gross revenue/Average total farm assets
10. Operating profit margin ratio = (NFIFO + Farm interest expense - Value of operator and unpaid family labor and management)/Gross revenue
11. Operating expense ratio = Operating expense/Gross revenue
12. Depreciation expense ratio = Depreciation expense/Gross revenue
13. Interest expense ratio = Interest expense/Gross revenue
14. Net farm income from operations ratio = NFIFO/Gross revenue

Repayment capacity

15. Term debt and capital lease coverage ratio = (NFIFO + Total nonfarm income + Depreciation expense + interest on term debt and capital leases - Total income tax expense - Withdrawal for family living)/Annual scheduled principal and interest payments on term debt and capital leases
16. Capital replacement and term debt repayment margin = NFIFO + Total nonfarm income + Depreciation expense - Total income tax expense - Family living withdrawals - Payment on unpaid operating debt from a prior period - Principal payments on current portion of term debt and capital leases - Total annual payments on personal liabilities (if not included in withdrawals for family living)

NOTE: NFIFO is net farm income from operations