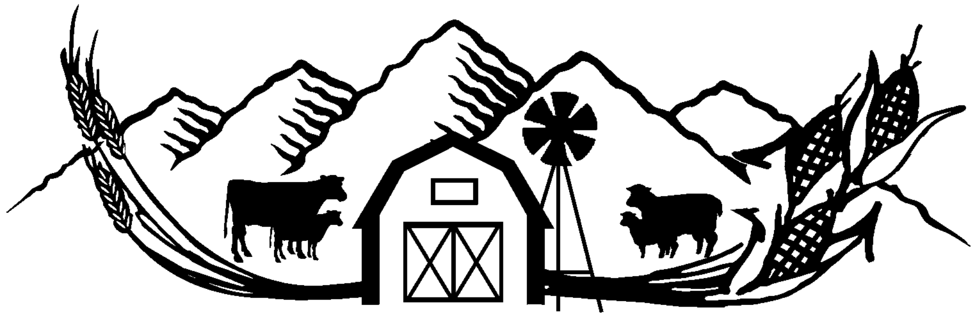

Risk and Resilience in Agriculture

Financial Management and Analysis

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As we move into the 21st Century with reduced government farm programs, increased global competition and other risks and uncertainties, agricultural managers must secure and interpret information related to production, marketing, and finance. Most farmers and ranchers prefer to concentrate on production. However, today's agricultural businesses are too big and complex for managers to ignore marketing and finance when making management decisions.

Sound financial analysis is no longer an option but a necessity for survival. Many farmers have a natural gift for financial management and have been quite successful in managing their business with little or no formal training. Even these people are learning, understanding, and using tools designed to provide answers to a variety of different financial questions.

Record Keeping

Successful persons will need to keep records and obtain more information about financial analysis and enterprise contributions. There are several reasons to keep a good set of farm/ranch records. In the past, farmers and ranchers kept records primarily for tax purposes and loan acquisition. Some kept records for lease arrangements, and government program documentation. Today and into the future, management of the business is the primary reason to keep a good set of records.

Records do not have to be detailed and complex to be useful. However, it is necessary to devote enough time and effort to keep the information required to develop: 1) a beginning and ending balance sheet; 2) an accrual adjusted income statement, a cash flow statement, and an enterprise budget for each existing enterprise or potential enterprise. The statements allow a producer to systematically analyze financial progress, plan operations for the year ahead, and demonstrate repayment ability to lenders.

Financial Statements

The balance sheet also referred to as a net worth statement, summarizes the assets and liabilities of the farm or ranch. The net worth or owners equity is determined by subtracting total liabilities (what is owed) from the total assets (what is owned). At a minimum, a balance sheet should be prepared at the end of the fiscal year.

The income statement summarizes cash receipts (gross farm income) and expenses (cash and non-cash) for the farm or ranch. The purpose of the statement is to measure the net return (net farm income) of a firm's production over a specific period of time (most likely a calendar year).

The cash flow statement summarizes cash inflows (receipts) and outflows (expenses) over a specific period of time. It includes farm receipts, capital sales, non-farm income, operating expenses, capital expenses, debt payments, and family living expenses.

One of the most basic and important management decisions is choosing the combination of products or enterprises to produce. An enterprise budget is a listing of all estimated income and expenses associated with growing a specific crop or livestock commodity to provide an estimate of its profitability.

Financial Ratios

Financial ratios are a way of using the information generated by the financial statements to answer key questions about a business.

I. Liquidity -- Is the business generating enough cash inflow to pay financial obligations as they come due without disrupting the normal operations of the business?

Liquidity Measures:

1. Current Ratio = $\frac{\text{Total Current Farm Assets}}{\text{Total Current Farm Liabilities}}$

2. Working Capital =Total Current Assets - Total Current Farm Liabilities

II. Profitability -- Is the business generating enough income to provide a competitive return on the money invested in the business?

Profitability Measures:

1. Rate of Return on Equity = $\frac{\text{NFIFO}^{1} - \text{OFLM}^{2}}{\text{Average Total Farm Equity}}$

2. Rate of Return on Assets = $\frac{\text{NFIFO + Interest Expense - OFLM}}{\text{Average Total Farm Assets}}$

3. Net Farm Income = Total Accrued Revenues - Total Accrued Expenses

[1] Net Farm Income From Operations
[2] Operator and Unpaid Family Labor & Management

III. Solvency -- How stable is the business and how able can it continue operations as a viable usiness after financial adversity?

Solvency Measures:

1.Debt to Asset Ratio = $\dfrac{\text{Total Farm Liabilities}}{\text{Total Farm Assets}}$

2. Equity to Asset Ratio = $\dfrac{\text{Total Farm Equity}}{\text{Total Farm Assets}}$

3. Leverage Ratio = $\dfrac{\text{Total Farm Liabilities}}{\text{Total Farm Equity}}$

IV. Financial Efficiency -- How efficient are inputs (land, labor, capital, machinery, breeding stock, farm inputs, and other farm assets) being used to generate gross revenues?

Financial Efficiency Measures:

1. Operating Expense Ratio = $\dfrac{\text{Operating Expenses - Depreciation Expenses}}{\text{Gross Revenues}}$

2. Asset Turnover Ratio = $\dfrac{\text{Gross Revenues}}{\text{Average Total Farm Assets}}$

These financial measures adequately measure financial position and financial performance. All financial measures need not be calculated for every situation - the situation may not call for all financial measures, and the accounting information may not be available to calculate all financial measures. Finally, this list of financial measures is not exhaustive and the user may calculate additional measures if the information is accurate and the ratios provide more insight.