

Farm Financial Analysis Series: Managing Farm Finances in Turbulent Times

Financial statements are essential tools for managing farm businesses. Often, an accountant or bookkeeper will produce these statements from the business's financial records. Although the manager or owner may not be the person who develops the statements, they should understand the information these statements provide about the financial condition of the business and be familiar with actions to improve poor financial performance.

To gain a complete picture of the farm's financial situation, use this publication alongside the other financial analysis tools in the Farm Financial Analysis Series. This series includes [P3709 *Managing Farm Finances in Turbulent Times*](#), [P3713 *Balance Sheet*](#), [P3710 *Cash Flow Statement*](#), and [P3712 *Ratios to Measure Farm Financial Health*](#).

A farm income statement is a summary of revenue and expenses for an accounting period. Sometimes called a "profit-and-loss" statement, it provides a measure of the farm's profitability. The income statement calculates the difference between revenue and expenses, with the resulting figure known as net farm income. A positive net farm income indicates a profit, while a negative net farm income indicates a loss.

Creating an Income Statement

The income statement has two main sections: revenue and expenses. Depending on the method used to determine net income, other factors such as accrual adjustments, capital adjustments, and depreciation may also be included.

Cash accounting and accrual accounting are two common methods used to develop income statements. Cash accounting is simpler, only including revenue and expenses from cash transactions during the period examined. However, this method may not provide a comprehensive view of the farm's current financial position. Accrual accounting is more complex, as it records revenue and expenses as they are incurred, not when cash is exchanged, providing a more accurate financial analysis.

A third option is accrual-adjusted accounting, a blend of cash and accrual methods. This method incorporates revenue and expenses along with changes in inventories, accounts receivable, and prepaid expenses. The tables under the "Income Statement Example" heading illustrate this approach. This publication explains how to construct an income statement using the accrual-adjusted method.

Revenue

The revenue section of the income statement includes all revenue generated during the accounting period. **Total crop revenue** includes crop sales, changes in crop inventory, and crop accounts receivables. Crop sales reflect the value of crops sold during the period and should match the amounts recorded in the cash flow statement. Changes in crop inventory and crop accounts receivable are determined by the difference between beginning and ending balance sheet values.

An increase in crop inventory could result from a rise in market value or an increase in the amount of inventory on hand, both of which represent an increase in revenue on the income statement. Accounts receivable includes items or services the farm has provided but has not yet received payment for. An increase in accounts receivable from beginning to end values raises revenue on the income statement.

Total market livestock revenue, similar to crop revenue, includes market livestock sales, changes in inventory, and accounts receivable. The sales value comes from the cash flow statement, while changes in inventory and accounts receivable come from the balance sheet. Market livestock is separate from breeding livestock.

Total breeding livestock revenue includes any sales of raised breeding livestock and changes in the value of these assets. Also included is the value of any purchased breeding livestock that was subsequently sold, adjusted for any gain or loss relative to the net book value.

Other operating revenues include crop insurance proceeds and agricultural program payments, such as Agricultural Risk Coverage (ARC) and Price Loss Coverage (PLC) payments. Additional operating revenue may include cash rent payments, payments for custom work,

or dividends from farm cooperatives. These should match the payments recorded in the cash flow statement.

Expenses

Expenses encompass operating expenses, feed purchases, feeder livestock purchases, changes in current assets and accrued expenses, depreciation expenses, and amortization of finance leases.

Operating expenses cover costs associated with farm operations, such as market livestock purchases, cash rent, chemicals, feed, fertilizers, fuel, labor, repairs, maintenance, and supplies. Purchases of capital assets, like machinery, are excluded as they are accounted for in depreciation.

The income statement uses economic **depreciation** as recommended by the Farm Financial Standards Council, differing from tax-related depreciation. Accelerated tax depreciation methods overstate asset costs in the early years of ownership. Economic depreciation is calculated by subtracting the equipment's salvage value from the purchase price, then dividing by the estimated useful life.

Changes in current assets are calculated by taking the difference between beginning and ending values of assets, excluding crop or livestock inventories. For more information on current assets, see Extension Publication [3713 Balance Sheet](#).

Income Statement Example

Revenues	
Item	Amount
Crop Sales	509,518
Increase (Decrease) in Crop Inventories	11,125
Increase (Decrease) in Crop Accounts Receivable	10,500
Total Crop Revenue	531,143
Market Livestock Sales	118,128
Increase (Decrease) in Livestock Inventories	3,150
Increase (Decrease) in Livestock Accounts Receivable	0
Total Market Livestock Revenue	121,278
Raised Breeding Livestock Sales	21,000
Increase (Decrease) in Base Value of Raised Breeding Livestock	13,000
Purchased Breeding Livestock Sales	7,915
Less: Net Book Value of Purchased Livestock Sales	(10,040)
Total Breeding Livestock Revenue	31,875
Crop Insurance Proceeds	0
Ag Program Payments	46,336
Other Operating Revenue	5,050
Increase (Decrease) in Other Receivables	0
Total other Operating Revenues	51,386
Gross Revenues	735,682

Expenses	
Item	Amount
Operating Expenses	466,329
Feed Purchases	31,783
Feeder Livestock Purchase	0
(Increase) Decrease in Current Assets	(20,469)
Increase (Decrease) in Accrued Expenses	2,015
Depreciation Expense	67,204
Amortization of Finance Leases	13,506
Total Crop Revenue	531,143
Income from Operations	175,314
Other Revenue (Expenses)	
Interest Income	0
Interest Expense on Current Debt	(3,648)
Interest Expense on Non-Current Debt	(32,594)
Total Gain (Loss) on Sale of Farm Assets	0
Other Miscellaneous Income (Expense)	0
Total Other Revenue (Expense)	(39,309)
Income before Income Tax (Net Farm Income)	136,005
Income Tax Expense	
Income Taxes	14,769
Increase (Decrease) in Accrued Income Taxes	(1,064)
Increase (Decrease) in Deferred Taxes	34,917
Total Income Tax Expense	48,622
Net Income	87,383

Table 1. Profitability measures.

Measure of Profitability	Formula	Calculations from Income Statement
Rate of Return on Farm Assets (ROA)	(Income from operations – Owner withdrawal for unpaid labor and management) / Average total farm assets	$(175,314 - 55,740^a) / 4,077,326^b = 2.93\%$
Rate of Return on Farm Equity (ROE)	(Income from operations – Farm interest expense – Owner withdrawal for unpaid labor & management) / Average total farm equity	$(175,314 - 39,309 - 55,740^a) / 2,552,593^c = 3.14\%$
Operating Profit Margin Ratio	(Income from operations – Owner withdrawal for unpaid labor and management) / Gross revenues	$(175,314 - 55,740^a) / 735,682 = 16.25\%$
EBITDA (earnings before interest, income taxes, depreciation, and amortization)	Income from operations + depreciation + amortization expense	$175,314 + 67,204 + 13,506 = \$256,024$

^aThe owner withdrawal for unpaid labor and management is found on Statement of Owner Equity. In this case the value is \$55,740.

^bThe average total farm assets value is calculated by taking the average of the beginning and ending values for total farm assets, which can be found on the Balance Sheet. In this case the average total farm asset value was \$4,077,326.

^cThe average total farm equity value is calculated by taking the average of the beginning and ending values for total farm equity, which can be found on the Balance Sheet. In this case the average total farm equity value was \$2,552,593.

Income

Income from operations is derived by subtracting total operating expenses from gross revenue, representing returns from regular farm operations. This metric is helpful for comparing financial conditions over time. It excludes capital purchases/sales and income taxes, though these items appear under other revenue/expenses, as they do not occur annually. Other revenue/expenses also include interest income or expense. Adding these other revenue/expenses to income from operations results in income before income tax, or **net farm income**, which indicates farm profitability.

The **income tax expense** section includes taxes paid, changes in accrued income taxes, and deferred tax changes. Subtracting total income tax expense from net farm income results in net income. **Net income** is the amount available for paying farm owners, covering living expenses, and paying personal income tax. This amount can also be reinvested into the farm through capital asset purchases or land acquisition.

How Can an Income Statement Help You?

An income statement is a valuable starting point for analyzing a farm's profitability, showing whether a profit or loss was achieved in the past year. If profitable, the income statement can guide you in allocating funds for family living expenses, other cash withdrawals, income and social security taxes, increased farm cash reserves, necessary farm asset purchases, or debt reduction.

Income Statement Analysis

The income statement enables you to assess the farm's profitability. Using data from the income statement, several ratios help further understand the farm's current financial status. Table 1 lists these ratios and provides calculation examples.

Rate of Return on Farm Assets (ROA) is calculated by dividing the return on farm assets (income from operations minus owner withdrawals for unpaid labor

and management) by the average farm asset value for the year. An ROA above 0.05 indicates a strong financial position.

Rate of Return on Farm Equity (ROE) is calculated by dividing the return on farm equity (income from operations minus farm interest expense minus owner withdrawals for unpaid labor and management) by average farm equity. An ROE above 0.10 is strong, while an ROE below 0.05 is weak.

Operating Profit Margin Ratio is calculated by dividing return on farm assets by gross revenue. This ratio indicates operating profit per dollar of revenue, with a ratio above 0.25 indicating a strong position and a ratio below 0.10 indicating a weak one.

Earnings Before Interest, Taxes, Depreciation, and Amortization (EBITDA) is calculated by adding income from operations, depreciation, and amortization expense. Comparing this figure to the farm's total interest or principal-and-interest payments helps measure repayment capacity.

Publication 3707 (POD-09-24)

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Extension Service of Mississippi State University, cooperating with U.S. Department of Agriculture. Published in furtherance of Acts of Congress, May 8 and June 30, 1914. ANGUS L. CATCHOT JR., Director