

Getting Started In Ag: How Do I Know if My Farm Is Profitable?

While it may seem like a question that is relatively easy to answer, often the answer is more complex. The first goal of any production agriculture business should be to turn a profit or generate more revenue than expenses. If you are new or just starting out in agriculture, you may not realize there is more to profitability than simply generating more income than expenses. Looking at an enterprise in terms of cash receipts or expenses is only the first step toward determining profitability. There are many factors, several non-cash in nature, that must be considered to form an accurate picture of profitability.

Calculations at the Enterprise Level

The first step to establishing profitability is to calculate the profit margin at the enterprise level. Here, enterprise refers to major business activities that result in a saleable product and to which expenses and revenue can be readily calculated or assigned. Profitability can also be calculated at the whole farm or ranch level.

The importance of accurate records at this step cannot be overstated; it is the only way to properly gauge business performance, as well as provide solid financial footing when it comes to credit applications, tax preparation, and risk management planning. This includes keeping and recording all income and expense receipts (cash) for each enterprise. These receipts are then entered in a transaction journal and monthly ledger.

The next step is to compile a profit and loss statement, preferably monthly, then annually, first at an enterprise level and then for the entire operation. From there, a cash flow statement including all monthly cash inflows and outflows should be developed. A balance sheet, showing the values of all short and long-term assets and liabilities, should also be prepared every year.

Income Statement

Once a cash flow statement and balance sheet are compiled, the next step to determining profitability is to develop an income statement. Net farm income is most commonly defined as the amount of revenue remaining after all expenses have been paid, including taxes. An income statement, also known as a profit and loss statement, serves several functions: 1) it lists the sources of farm revenues; 2) it describes the nature of farm expenses; and 3) it provides the detail needed to estimate net farm income or profit.

An important concept to consider when constructing an income statement is cash versus accrual accounting. Cash accounting measures income and expenses when the actual transaction occurs or cash changes hands. Accrual accounting links expenses with associated revenues. In this way, the accrual method more accurately reflects income and expenses for an accounting period.

For example, suppose you buy \$5,000 worth of corn in December to feed in the following year. This entire amount (\$5,000) would be recorded as an expense in December under cash accounting. Under accrual accounting, you would record the expense and an offsetting inventory entry for the value of the corn, with no change to the profitability of the enterprise until the corn is actually fed.

Cash accounting provides an agricultural enterprise more flexibility when it comes to income taxes. However, accrual-based accounting and the accrual-based income statement, offer the only accurate picture of profitability.

An accrual-based income statement first lists the totals of

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How to Create an Income Statement

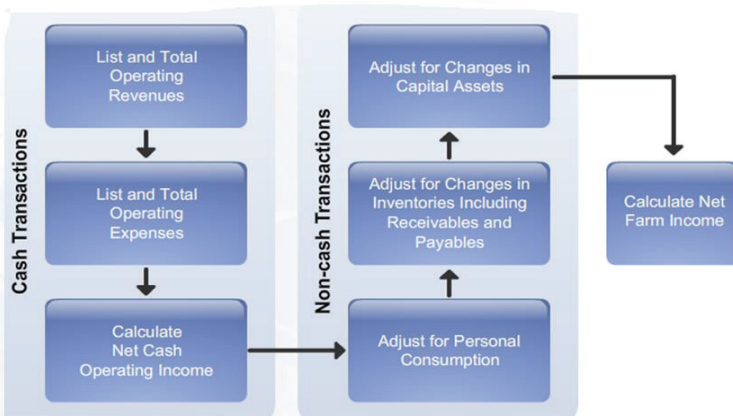


Figure 1 Steps to Create an Income Statement

all operating revenues. In addition to all crops and livestock production, be sure to include custom work, government payments, and all miscellaneous farm income. However, do not include inflows from loans, such as operating loan advances. Do the same for categories of business expense, while leaving out principal payments on debt. Subtracting total operating expenses from total operating income yields net cash operating income.

Next, you must account for any non-cash adjustments. From net cash operating income, subtract the value of any business-related personal consumption. This includes production, such as livestock consumed at home, or inputs and expenses, such as using fuel or insurance for personal use.

Then, account for changes in inventory and receivables. For example, if the quantity of an inventory is larger than in the previous period, make a positive adjustment on the income statement. Make a negative adjustment for inventory used where the quantity is smaller when compared to the beginning of the accounting period.

The final step is to adjust for capital transactions. Capital assets such as land, machinery, livestock, and buildings purchased or sold are accounted for with adjustments to these various totals. Depreciation, a key non-cash expense, is included in these adjustments as well. Depreciation refers to an asset's reduction in value as a result of its age and use. There are different methods for calculating depreciation, often based on the type of asset involved. Depreciation is often one of the largest non-cash expenses for most farms.

Once these adjustments are made, we arrive at net farm income. The accrual-based income statement can be used to accurately compare income over longer periods, e.g., year over year, and is a key financial statement lenders consider when reviewing credit applications. Figure 2 offers example financial data its flow through the various financial statements to arrive at an accrual-based income statement at the right-hand side of the figure.

Measures of Profitability

Several important measures of profitability in the form of ratios and indexes should also be considered when analyzing profitability. These metrics can provide a more in-depth look at how the farm business is performing. Ratios and indexes are often used by lenders when evaluating the creditworthiness of a borrower.

For example, rate of return on assets (ROA) is estimated by dividing the sum of net farm income and interest paid, minus the value of operation labor and management, by average farm assets. ROA compares earnings to the value of the assets used in the operation. An ROA of greater than 5 percent generally indicates a profitable business. A low ROA of 1 percent or lower indicates a need to increase revenue and/or decrease expenses, or that debt servicing is too high.

Rate of return on equity (ROE) is calculated by dividing net farm income, minus the value of labor and management, by the average farm net worth. ROE compares the value of the farm's earnings to the owner's investment. Generally, an ROE of greater than 10 percent indicates a profitable business. A farm business with an ROE of less than 5 percent indicates there is room for improvement.

For More Information

RightRisk.org is an educational resource for producers with many levels of financial management experience, including those new or just beginning in agriculture. Visit RightRisk.org for more information on financial and risk management, including numerous online tools and courses.

Introduction				Enter Data		Financial Statements		Ratios		Credit Scoring		Family Living, Revenues, Expenses		
Balance Sheet				Assets		Liabilities						Income Statement - Accrual Adj.		
		Beginning	Ending	Beginning	Ending	Beginning	Ending						Income	
Cash on Hand	25,000	19,520		Accounts Payable (Exp)	0	0	0	Cash Income (Net of cull livst sales)					\$564,721	
Crops Held for Feed (Exp)	0	0		Accrued Interest (Exp)	26,759	25,304		Non-Cash Income Adjustments					0	
Crops Held for Sale (Inc)	100,000	100,000		Current Principal	67,207	60,682		Non-Cash Income (Raised Brdqd Lvstkl)					17,500	
Market Livestock (Inc)	0	0		Other Current Liability (Exp)	0	0		Capital Gain/Loss on Breeding Lvstkl (Net)					140	
Other Current Assets (Inc)	0	0		Short Term Notes (Exp)	0	0		Gross Revenue					\$572,361	
Invest Growing Crops (Exp)	0	0		Def. Tax on Current Assets	0	0		Expense						
Supp & Prepaid Exp. (Exp)	15,000	15,000		Operating Loan Carryover	0	0		Cash Expense (Excluding Interest)					426,848	
Total Current Assets	140,000	134,520		Total Current Liab.	85,966	85,966		Non-Cash Feed Inventory Adjustment					0	
Non-Current Assets				Non-Current Liabilities				Other Non-Cash Non-Interest Expense					0	
Mach. & Equipment	800,000	570,000		Prin. on T.D. & C.L.	465,178	404,517		Depreciation (Land, Bldgs, Equip.)					65,500	
Breeding Livestock	189,500	171,000		Def. Tax on Long Term Assets	0	0		Total Operating Expense					491,348	
Real Estate (Land, Bldgs, Impr)	3,190,000	3,161,000		Total Business Liab.	551,144	490,483		Cash Int. Exp. - T.D. & C.L.					28,759	
Total Business Assets	4,099,500	4,036,520		Business Net Worth	3,548,356	3,546,037		Cash Int. Exp. - Operating					8,027	
				Change in Equity From Beginning to End of Year	(2,319)			Non-Cash Interest Expense					(3,455)	
								Total Expense					\$524,679	
Cash Flow Statement				Inflows		OutFlows						Statement of Owner Equity		
Crop Sales & Net Insurance Payments	445,050			Cash Expenses	No Interest >	426,848		Beginning Net Worth (Cost/Mkt)					3,548,356	
Mkt & Cull Livestock Sales	108,793			Other Cash Business Outflows/Expense		0		Net Income					47,681	
Lvstkl Secondary Product Sales	0			Cash Int. Exp. - T.D. & C.L.*		28,759		Income+SS+Def. Tax-Cash & Non-Cash					0	
Government Payments	18,609			Cash Int. Exp. - Operating	7.000%	8,027		Net Income					47,681	
Other Cash business Inflows/Income	0			Loan Prin. Payments - T.D. & C.L.		57,207							Accrual	
Operating Loan Proceeds	70%	229,353		Breeding Livestock Asset Purchases		8,000		Statement of Owner Equity						
Loan Proceeds Capital Assets	0			Mach & Equip & Real Estate Purchase		0		Beginning Net Worth (Cost/Mkt)					3,548,356	
Non-Business Inflows/Revenue				Owner withdrawals		50,000		Net Income					47,681	
Other Nonfarm Inflows	0			Cash Taxes Paid (Income & SS)		0		Non-Business Cash Inflows					+	
Other Nonfarm Inflows	0			Other Cash Outflows (Not Expenses)		0		Owner Withdrawals (Cash)					50,000	
Total Cash Inflows	\$801,714			Subtotal	\$577,841			Asset Valuation Change/Cont./Distrib.					=	
				Operating Loan Prin. Payments		\$229,353		Calculated Ending Net Worth						3,546,037
				Total Cash Outflows	\$807,194			Reported Ending Net Worth (Cost/Mkt)						3,546,037
				Annual Net Cash Flow (never < zero)	19,520			Discrepancy						\$0

Figure 2 Example Financial Statement Information Developed using the RD Financial Tool; RightRisk.org