FARM BUSINESS MANAGEMENT

FARM ECONOMICS Facts & Opinions

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ANALYZING THE PROFITABILITY OF YOUR FARM BUSINESS

Now is a good time for farm operators to take a good look at the financial performance of their farm business for 2002. Most farm operators use a calendar year (January 1 – December 31) as their business year for income tax purposes and also to prepare financial statements about their operation. Even if a business is on a different fiscal year for tax reporting purposes, they may still want to prepare financial statements based on a calendar year.

ACCRUAL INCOME STATEMENT

An accrual income statement is a more accurate measure of the profitability of the farm business than the schedule F tax form. An accrual income statement matches revenues with costs for a given time period, regardless of when revenue was actually received or when expenses were actually paid. For example, plow down fertilizer applied and paid for in the fall of 2002 is considered a 2003 expense for business analysis purposes even though it will be taken as an expense on the 2002 income tax return for a cash basis tax payer. This is because it will be utilized for the 2003 crop.

To calculate accrual income, adjustments are made to cash income and expenses for changes in values between the beginning and end of the year for grain and livestock inventories, accounts receivable, accounts payable and prepaid expenses. Depreciation on machinery and buildings is also subtracted off. If the accounting system a producer is using does not generate an accrual income statement, the schedule F tax form along with the beginning and end of year balance sheet can be used to calculate accrual income. To cover a 12-month period, the balance sheet should be completed as of the same date every year, preferably December 31.

Conditions in certain areas of Illinois last year illustrate the importance of measuring income based on an accrual measure rather than a cash basis. To illustrate this, we will use Joe Farmer's information that is given in Figure 1. Joe Farmer is a cash basis farmer that sells most of his crop in the year after production. He experienced low yields in 2002 resulting from dry weather conditions. He also plans on receiving crop insurance payments, but not until 2003. He has been prepaying some expenses but paid less at the end of 2002 than in previous years. He is also expecting an additional government payment for the 2002 crop year when he signs up for the program in 2003.

GROSS FARM RETURNS

Joe's cash grain sales and other farm income in 2002 were $261,179. Most of this was grain produced in 2001 and sold in 2002. One of the accrual adjustments that is made in calculating gross returns is the difference between the beginning and ending grain inventory value. Due to the dry weather conditions

and resulting lower yields, the value of Joe's inventory on December 31, 2002 was $121,690. His beginning of year grain inventory value was $212,750. He therefore had a decline in inventory value of $91,060.

Joe is expecting to receive $42,300 in crop insurance proceeds for crop loss to his 2002 crop. He will not receive this until 2003. He is also expecting to receive another $15,100 in government direct payments for the 2002 crop year when he signs up for the new farm program. This also will not be received until 2003.

Joe's accrual based gross farm returns is calculated by taking his grain sales and other farm income of $261,179, subtracting off the $91,060 decrease in inventory value and adding back his increase in accounts receivable of $42,300 in crop insurance payments and $15,100 in government farm program payments. His gross farm returns for 2002 is $227,519.

OPERATING EXPENSES

Joe's cash operating expenses and deprecation total $221,650. To get to an accrual based figure, adjustments to the cash expenses are made for changes in accounts payable and prepaid expenses. Joe paid for $34,100 of nitrogen fertilizer in 2001 for the 2002 crop. He paid for only $6,500 of nitrogen fertilizer in 2002 for his 2003 crop. The difference of $27,600 is added to his cash operating expenses in determining total accrual expenses for 2002. Joe's interest due at the end of the year on borrowed money was $12,100 compared to only $4,200 at the beginning of the year. Since his interest due was larger at the end of the year, the difference of $7,900 is added to his cash operating expenses in determining total expenses for the year. Joe's total operating expenses for 2002, after the accrual adjustments are made, is $257,150.

NET FARM OPERATING INCOME

Joe's reported income of $39,529 on his 2002 schedule F. This was arrived at by subtracting his cash operating and depreciation expenses of $221,650 from his grain sales and other income of $261,179. However, after adjusting his net cash income for changes in inventory values, accounts receivables, prepaid expenses and accounts payable, his accrual net farm income was actually a negative $29,631. So while Joe thought he made about $40,000, he actually lost about $30,000, a $70,000 difference.

SUMMARY

The accrual income statement combined with a balance sheet are two key financial statements to analyze the farm business. With the completion of these statements, key financial ratios and other analysis can be completed to measure the direction the farm business is going financially.

Farm financial analysis tools which will help you complete an accrual income statement and balance sheet can be found at the University of Illinois *farmdoc* website.
http://www.farmdoc.uiuc.edu/finance/business.html

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Figure 1. Accrual Income Statement for Joe Farmer
Jan. 1. 2002 to Dec. 31. 2002

Grain Sales/Other Farm Income		**$261,179**	
Grain Inventory			
Beg. of Year	$212,750		
End of Year	$121,690		
Net change		**($91,060)**	
Accounts Receivable- Crop Insurance			
Beg. of Year	$0		
End of Year	$42,300		
Net change		**$42,300**	
Accounts Receivabe-Government Payments			
Beg. of Year	$0		
End of Year	$15,100		
Net change		**$15,100**	
Gross Farm Returns			**$227,519**
Cash Operating Expenses & Depreciation		**$221,650**	
Prepaid Expenses-Fertilizer, Chemicals, Seed			
Beg. of Year	$34,100		
End of Year	$6,500		
Net change		**$27,600**	
Accounts Payable-Interest			
Beg. of Year	$4,200		
End of Year	$12,100		
Net change		**$7,900**	
Total Operating Expenses			**$257,150**
Net Farm Operating Income			**($29,631)**