

The Income and Expense Statement

The income statement reflects revenues, expenses, and asset amortization, as well as gains and losses of certain assets over a period of time. The main purpose of the income statement is to indicate the income and profitability of the business over a period of time, which can be one month, three months, a year or some other time period.

The income statement has three main sections: revenue, expenses, and net income.

Income statements for farm businesses are usually prepared on an annual basis. In addition, under the Canadian Income Tax Act, farms can file income tax returns based on cash accounting systems. While this is useful for tax management purposes, income statements produced by the cash method of accounting, unadjusted for items such as prepaid expenses or inventory changes, for example, may give a false indication of the financial performance of the farm business.

For example, farm businesses usually grow crops and produce livestock on an annual basis, but the expenses and revenues associated with crops and livestock are not always incurred in the same year. There exists the potential for a mismatch of revenues and expenses. For example, feeders may be purchased in the fall, fed over the winter, and sold the next year. But the purchase costs of the animals are usually expensed in the year of purchase, and the revenue from the sale of the feeders is usually recorded in the year of sale, when each of these transactions occurs. Similarly, feed for the cattle feeder operation may be purchased and expensed in December, but fed over the next few months. This would result in inaccurate accounting information for farms with a December 31st year-end.

Accrual accounting requires that the revenues and expenses be matched to the economic events to which they are related so that the actual financial performance of the business for a specified period of time can be accurately reported. A cash income statement, without making accrual adjustments, cannot provide this information.

Another example is deferred storage tickets received for grain sold at the end of December, and using the storage ticket to purchase fertilizer in December for use next year. Cash accounting methods and Income tax rules allow revenue from deferred grain sale to recognize when the deferred ticket matures in the new year, while at the same time recognizing the fertilizer expense in December. Without making accrual adjustments, income statements prepared using the cash method does not provide a true picture of the operation's profitability because:

- ◆ Some of the revenue from sales may represent production from the previous year or fiscal period;
- ◆ Not all of the production from the year or fiscal period may be sold in that same year or fiscal period;
- ◆ The expensing of inputs such as fertilizer may be expensed in the year or fiscal period in which it was purchased, not the year or fiscal period it is used.

Farm clients file their income tax on an annual basis under the cash accounting income and expense method. Although this cash statement does not provide an accurate reflection of the profitability of the farm operation it provides a good starting point for building the accrued income and expense statement. The cash revenue and expense amounts stated on the income tax income and expense statement, and then accrual adjustments are made to the cash income and expense amounts to calculate the accrued net income.

Figure A1-2 shows an example of an Accrued Income and Expense Statement. In this statement cash revenue is entered as a lump sum. This revenue could be broken down and shown in detail if required. The adjustments to cash revenue to calculate accrued revenue are for accounts receivable and inventories. The opening amounts for these items are collected from the opening net worth statement. The closing amounts of these accrual adjustment items are brought in from the closing net worth statement. The adjustment is minus the opening amounts and plus the closing amounts as the opening inventories and receivables were generated in the previous accounting period. The closing amounts were generated in the accounting period being reported in these statements. Once the overall accrual adjustment is calculated (\$70,000) it is added to the cash revenue received (\$250,000) to calculate the accrued revenue for the period of \$320,000.

Cash expenses are also entered as a lump sum in this statement. These cash expenses could be broken down and shown into detail if required as well. The accrual adjustments to the cash expenses are for accounts payable, supplies inventory for production, accrued interest, and depreciation. Again the opening amounts for these items are gathered from the opening net worth statement, and the closing amounts from the closing net worth statement.

The adjustment for payables and accrued interest is minus the opening plus the closing amounts for these items. Again the opening amounts were generated in the previous accounting period, and the closing amounts were generated in the accounting period being reported. For the supplies inventory for production the adjustment is the opposite. We add the opening supply inventory and subtract the closing. The opening supply inventory was used in production in the accounting period being reported whereas the closing supply inventory will be used in the production of the next year's products.

There are two ways to calculate depreciation for accounting purposes. The first is based on allowable capital cost allowance for taxation purposes and called the "taxation" method. This amount is calculated based on the cost of the depreciable item, minus previously claimed depreciation, and times the percentage amount allowed by Canada Revenue Agency for that class of depreciable asset. The allowable depreciation amount is different for motorized and non-motorized equipment, and for buildings.

The second calculation for depreciation is called the "management depreciation" method. It is based on the current market value of a depreciable asset. The farm manager makes a decision on how often they would like to replace the piece of equipment or building and the depreciation rate is calculated accordingly. Usually for equipment a rate of 8-12 % is used which indicates that the farmer would like to completely replace his equipment line every ten years or so.

Income and Expense Statement				
January 1, 2012 to December 31, 2012				
Revenue				
Cash Revenue				250,000
Accrual Adjustments				
Opening (-)		Closing (+)		
Accounts Receivable	25,000	Accounts Receivable	35,000	
Inventory For Sale	250,000	Inventory For Sale	300,000	
Breed Livestock	150,000	Breeding Livestock	160,000	
Opening Adjustment	425,000	Closing Adjustment	495,000	70,000
Total Accrued Revenue:				320,000
Expenses				
Cash Expenses				230,000
Interest Expenses included in cash expenses				28,925
Accrual Adjustments				
Opening (-)		Closing (+)		
Accounts Payable	30,000	Accounts Payable	15,000	-15,000
Accrued Interest	15,000	Accrued Interest	17,500	2,500
Plus (+) Supply	50,000	Minus (-) Supplies	60,000	-10,000
Opening Adjustment	5,000	Closing Adjustment	-27,500	-22,500
Depreciation:				110,000
Total Accrued				317,500
Expenses:				317,500
Total Cash Net				20,000
Income:				20,000
Total Accrued Net				2,500
Income:				2,500

Figure A1-2 Accrued Income and Expense Statement

For buildings a depreciation rate of 4-5 % is commonly used, which would replace the buildings every 20 to 25 years. The method most commonly used in farm finance that we will use the management depreciation method.

Under both methods the depreciation paid is a non-cash amount. It is the amount of funds that should be taken out of the cash flow and invested each year to use to replace buildings and equipment as is required. However this investment is seldom made and the depreciation expense amount is usually used for other cash flow requirements. Living costs and debt servicing are usually the main uses for the depreciation funds. Because the funds are used for other purposes the farm business usually has to borrow to replace buildings and equipment.

In this example the cash expenses were \$230,000. \$20,000 of these cash expenses were for interest payments (the importance of separating out the interest expenses will be shown later in the debt servicing calculations and in some of the financial ratios that will be calculated later in this document). The overall accrual adjustments for accounts payable, accrued interest, and supply inventory totaled a

negative - \$ 22,500. Depreciation was calculated by the management depreciation method at 10% on equipment and 5% on buildings. This amounted to \$ 110,000 in depreciation expense for this example. The result was \$ 317,500 in total accrued expenses for the year.

Subtracting the accrued expenses of \$ 317,500 from the accrued income of \$ 320,000 results in accrued farm income for the year of \$ 2,500. This compares to \$ 20,000 on a cash basis in this example. In other examples, and in real business practice, the difference in the amounts can be significantly greater. Cash net income is usually calculated to be near zero or a loss for income tax purposes. This cash income amount does not provide for much profit, or as we will calculate later, much for debt servicing capacity. This is one of the main reasons to use the accrual method of accounting for debt servicing calculations. And sometimes the cash statement shows higher net income than was actually achieved if inventories carried into the accounting period had to be sold to meet cash flow requirements.

As can be seen from the description above, it is very important to use the accrual method of accounting to calculate profitability in a farming operation. It is very important to know how to make the accrual adjustments to the cash statements received from your accountant. A phrase to express to help you remember how to do the accrual adjustments is "Minus the beginning, plus the ending, except for supplies".

Interconnectivity of the Financial Statements - Income and Expense Statement

The income and expense statement is interconnected with all of the other financial statements in "A Set of Financial Statements". As was mentioned under the interconnectivity of the net worth statements the income and expense statement receives accrual adjustment information from both the opening and closing net worth statements for the fiscal accounting period being reported. The after tax accrued net income or loss from the income and expense statement is used by the closing net worth statement as the current earnings adjustment made to the opening retained earnings to calculate the closing retained earnings for the fiscal period being reported.

The income and expense statement provides information for the Cash Flow Statement, which is the third important financial statement in the "Set of Financial Statements". It provides the cash flow statement with information to calculate the cash generated from operations and the tax paid, which has cash flow implications.

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