

Basic Accounting: Guidance for Beginning Farmers

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 Published
 December 2012
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 IP 443

Good bookkeeping is critical to financial well-being for any business. It allows the business owner (the farmer) to see whether the business is profitable, set and monitor progress toward goals, and, above all, plan for the financial stability of the farm. The purpose of this publication is to make basic accounting approachable for people with little or no accounting experience and encourage new farmers to develop good recordkeeping habits at the outset.

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Photo: Tammy Hinman, NCAT

Introduction

In addition to growing great food and fiber products and taking care of the land, farmers need to be good financial stewards of their business and household. This requires being organized, keeping track of all income and expenses, and having a grasp of basic principles of accounting.

For instance, if you can predict the months when your major expenses will occur, you'll be better able to ensure that you have the cash on hand to pay for them. This is especially important for farmers, who tend to have high costs in the spring and don't necessarily get paid until later in the year. You can better manage your cash by creating an

annual cash-flow budget. Or if you've spent a few years building your farm business without paying yourself for your labor, you may be wondering just what you have to show (financially) for all those hours of "sweat equity." You can answer that question by looking at a few years of annual balance sheets for your farm placed side by side. Finally, if you have a goal for how much household income you'd like to draw from your farm operation, you need a clear picture — in the form of an income statement — of your farm's annual expenses in relation to annual sales. This can help you determine how much more you need to sell, increase your prices, and/or reduce your expenses in order to make your desired amount of take-home pay.

Financing Your Farm: Guidance for Beginning Farmers

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Evaluating a Farming Enterprise

Farm Finances: Organizing and Understanding Your Numbers Webinar

Furthermore, if you are comfortable answering these questions about your financial situation *for yourself*, you will be able to answer the same questions for a lender. The bank will want to know that you have a realistic understanding of your financial situation, of where you're headed, and of what it will take to pay back your expenses, including the loan, in a timely manner. While good financial management won't make your business succeed on its own, it will help you avoid unnecessary costs, expand your business predictably, and ensure a financial cushion against unexpected events.

Annual Cash Flow Operating Budget

A complete picture of cash flow involves all sources and uses of cash for a farm household. We will examine this complete view later.

First, let's look at cash-flow budgeting, which allows farmers to track or project cash flow by month over the course a year in order to see when cash-flow is

negative and to plan for those times. The table below shows cash flow for a hypothetical farm, which we will call Big Beet Farm. These numbers are based on an actual farm — a small, start-up operation just outside of Bozeman, Montana.

As you can see, this is a monthly breakdown of the cash into and out of the Big Beet Farm bank account on a particular year. If they owned farmland and had a mortgage on it, they would add lines here for real estate tax payments and debt repayment (principal and interest). If they had sold a piece of equipment (or any other capital asset) during the year or received a new loan, they would add lines for those items under cash receipts in the cash-inflow section.

The most valuable information in this sheet is the cash-balance line at the bottom. Note that while the cumulative cash balance at year's end is positive, some months show a negative amount of cash. In March, May, and July, Big Beet expects to spend more money than it takes in. The question for the farmers to ask themselves: Where

Table 1. Big Beet Farm 2012 Cash Flow

2012 Cash flow budget	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Operating receipts and cash inflows													
CSA				3,000		375							3,375
Farmers market							60	160	160	150	300	105	935
Eggs				60	60	60	60	60	36	36	36	36	444
Flower CSA					50								150
Total cash inflows				3,060	210	435	120	220	196	186	336	141	4,904
Operating expenses and cash outflows													
Fertility costs				547				34					581
Fuel and oil					100								100
Farm insurance				200									200
Market fees									144				144
Livestock expense				30	40	49	86	115	40	40	30		430
Labor													
Pest/weed management					50								50
Rent paid				275									275
Repairs/maintenance						45							45
Seeds/plants			560										560
Supplies				700	30		60	20					810
Utilities: farm share			10	20	20	20	20	20	10				120
Capital purchases					400								400
Total cash outflows			570	1,497	840	114	166	189	194	115	30		3,715
Cash balance			-570	1,563	-630	321	-46	31	2	71	306	141	1,189

will they come up with the money to pay those bills? Maybe they can get a line of credit from the bank or tap into their off-farm income. Perhaps they have a large enough cash balance from savings in the farm checking account to cover the season's early expenses. If not, maybe they'll consider requesting CSA payments in March instead of April. The point is to anticipate and plan for these potential cash-flow constraints.

To create this table, the farmers sat down at the end of 2012 with all their receipts and sales-log information and entered the totals month by month according to the type of expense or market venue. They will use this information to create their 2013 cash-flow budget. Looking at cash flow from 2012 helped to establish a baseline for cash inflows and outflows for the 2013 season, with adjustments to be made for planned changes, such as expanding both the vegetable and flower CSAs.

For a farm just starting its first year, putting together an operating budget is likely to be a time-consuming yet invaluable task. It calls on a beginning farmer to set an income goal and to figure out what prices to set and markets to pursue to achieve that goal. It also requires the farmer to be specific about the equipment, supplies, and other expenses needed to produce and market a particular variety and volume of the farm's products. For guidance on this planning process, refer to the ATTRA publication *Evaluating a Farming Enterprise*.

Statement of Cash Flows

The statement of cash flows, which is a required component of a loan application, helps to answer whether and how all expenses will be covered over the course of a year. It shows total annual cash into and out of the farm *household* from operations, financing, investing, and nonfarm activities.

A cash-flow statement considers inflows from farm sales, bank loans (financing), off-farm income (financing), and selling capital assets (investments), as well as outflows from family living expenses, paying down a loan, and buying a new capital asset (such as a tractor or walk-in cooler). The bank needs this information to be assured that cash will be coming in from *somewhere* (if not from the farm operation itself) to pay bills, including servicing the loan. In evaluating a small, nontraditional, and/or beginning farm, a banker may insist that the farm household have off-farm income as a safety net in case the operation doesn't generate as much cash as planned.

Table 2. Statement of Cash Flows Template

Statement of cash flows	2011	2012	2013
Beginning cash balance			
Operating activities			
Total cash income			
Total cash expenses			
Net cash from operating			
Nonfarm activities			
Off-farm income			
Nonfarm (living) expenses			
Net cash from nonfarm			
Cash from investing			
Capital sales			
Capital purchases			
Net cash from investing			
Cash from financing			
New loans received			
Farmland loan payment (principal and interest)			
Equipment loan payment (principal and interest)			
Net cash from financing			
Net change in cash (total inflows – total outflows)			
Ending cash balance (beginning cash – net change)			

Income Statement

The income statement has the same income and expense categories as the annual cash operating budget — minus the capital-purchases line and with the addition of depreciation expense and interest. Also, instead of a monthly breakdown, the income statement shows total sales (or gross revenue) for a year of operating your farm, along with all the expenses and what's left over in net farm income.

Expense Categories

The expense categories listed down the left side of the income statement are based on the IRS Schedule F form "Profit and Loss from Farming," and adapted to better fit this particular operation. Also known as a "chart of accounts," the list of operating expenses that you use for your income statement also can be used for your cash-flow budget and statement.

IRS Schedule F Lines include the following:

PART I Farm Income

1. Sales of livestock and other items you bought for resale
2. Cost of other basis of livestock or other items reported on line 1
3. Subtract line 2 from line 1
4. Sale of livestock, produce, grains, and other products you raised
- 5a. Cooperative distributions
- 5b. Agricultural program payments
7. Commodity Credit Corporation (CCC) Loans
8. Crop insurance proceeds and federal crop disaster payments
9. Custom hire (machine work) income
10. Other income, including federal and state gasoline or fuel tax credit or refund
11. Gross income

Part II Farm Expenses

12. Car and truck expenses
13. Chemicals
14. Conservation expenses
15. Custom hire (machine work)
16. Depreciation and Section 179 expense deduction not claimed elsewhere
17. Employee benefit programs
18. Feed
19. Fertilizers and lime
20. Freight and trucking
21. Gasoline, fuel, and oil
22. Insurance (other than health)
23. Interest a mortgage (paid to banks)
24. Labor hired
25. Pension and profit-sharing plans
26. Rent or lease (see instructions) a. vehicles, machinery, or equipment;
b. land, animals, etc.
27. Repairs and maintenance
28. Seeds and plants
29. Storage and warehousing
30. Supplies
31. Taxes
32. Utilities
33. Veterinary, breeding, and medicine
34. Other expenses (specify):

Table 3.
Big Beet Farm 2012 Income Statement

Income Statement 2012	
Income	
CSA	3,375
Farmers market	935
Eggs	444
Flower CSA	150
Total sales	4,904
Expenses	
Fertilizer	581
Fuel and oil	100
Farm insurance	200
Market fees	144
Livestock expense	430
Labor	
Pest management	50
Rent paid	275
Repairs and maintenance	45
Seeds, plants	560
Supplies	810
Utilities: farm share	120
Interest on loans	
Depreciation	80
Total expenses	3,395
Net income (profit)	1,509

The income statement allows you to see whether the farming operation is making money and to examine the relationship between gross and net income. In this example, in order to make \$1,509 in take-home pay (or profit), Big Beet had to sell \$4,904 worth of flowers, vegetables, and poultry. This is a 30% income ratio (net income is 30% of gross income), which is a good rate. However, note that the farmers have not taken on any debt, which could increase their expenses, or hired workers or paid themselves an hourly rate for labor. These factors may ultimately limit their production capacity and how much income they can achieve through farming.

On the other hand, as they invest in the farm and figure out the production and marketing systems that work best for them, the farmers will become more efficient and will likely maintain or increase their ratio of net-to-gross income. A ballpark income ratio for farmers is 20% (net income is

20% of gross income), although this varies greatly according to the type of operation and how long it has been in business. Small, diversified, direct-market farms can achieve higher income ratios.

Depreciation

Depreciation is a way to express the everyday wear and tear on equipment. It spreads the cost of replacement over the useful life of the product. For example, if the Big Beet Farm owners purchase a tractor for \$10,000, the first step toward calculating its depreciation would be to subtract its residual value from that price. (The residual value is the amount you expect to be able to sell the used equipment — or scrap when you no longer need it.) Dividing the result by the number of years they expect to use the tractor would determine its depreciation. If the Big Beet Farm tractor's residual value were \$1,000 and the farmers expected to use it for 10 years, its depreciation would be \$900: One thousand dollars (residual value) subtracted from \$10,000 (purchase price) equals \$9,000. Nine thousand dollars divided by 10 (number of years) equals \$900.

The Big Beet farmers get to decide what to do with that \$1,509 profit. Some beginning farmers would decide to invest all of this money back into the farm right away (by buying needed equipment, say, or building a pack shed) rather than take it out as “owner’s draw” or household income. Beginning farmers also may choose to put the profit into a reserve account for a future capital investment such as buying land. Keeping a comfortable buffer of cash in the farm checking account can keep you prepared for unexpected events, like a tractor breaking down or someone getting sick.

Note that equipment, buildings, and land are not listed as expenses in the income statement. The values of these capital investments are shown as assets in the balance sheet and are not included in the income statement. For the income statement, the relevant expenses related to land, buildings, and equipment are the interest on the loan you received to purchase these items, the costs of repairing them, and their annual depreciation. Similarly, any principal payments made this year are not included in the income statement. That value will show up as equity in your balance sheet, just as the amount of principal still due is listed as a liability in the balance sheet.

Balance Sheet

A balance sheet is a summary of the total financial worth of the farm (assets). This includes your own

investment (equity), and what you owe (liabilities). It shows how much money you could keep if the farm were sold. The income statement covers a period of time (a quarter or a year), whereas a balance sheet is a snapshot of your financial position on one single day. It can be any day, but it is often created at the end of the year.

A balance sheet does exactly what its name implies: it displays a balanced equation in which assets (left side) = liabilities plus equity (right side). If you reflect on this for a minute, you'll see that the assets include all the items on your farm that have a dollar value. Chances are you borrowed money to buy some of these assets; liabilities are what you still owe your lenders on those assets. Equity is everything you've already paid off and/or money saved from prior years' net income. If the farm shown in the example below were sold today for \$86,075, the farmer could keep about \$23,075 depending on market prices.

As you can see, assets and liabilities are broken apart into current, intermediate, and long-term categories. Current assets include cash and other

liquid assets, while current liabilities are debts payable within a year (such as an operating-loan balance, a line of credit, and the portion of long-term loan principal that's due this year). Intermediate assets include vehicles and equipment, while intermediate liabilities are debts payable in less than 10 years. Finally, long-term assets include land and buildings, and long-term liabilities are debts payable in 10 or more years.

Equity is the amount of wealth you've built — your investment in the farm.

Some key information the balance sheet shows includes solvency, liquidity, and your financial progress over time. The latter is shown by comparing your equity (or net worth) from one year to the next. If you compare two or more annual balance sheets (always created at the same time of year), with luck you will see your equity increasing each year as you pay off your loans.

Solvency refers to your ability to pay off all debt if the farm were sold today. We hear a lot about homeowners who are “under water” since the

Table 4. Example of a Farm Balance Sheet

Assets		Liabilities	
Current Assets		Current Liabilities (due within 12 months)	
Farm checking	345	Operating loan balance	
Accounts receivable		Line of Credit balance	
Crop and feed inventory	40	Long-term loan principal due this year	1,800
Farm supplies on hand	270	Other:	
Other:			
Total Current Assets	655	Total Current Liabilities	1,800
Intermediate Assets		Intermediate Liabilities	
Farm machinery		Tractor loan balance	
Farm vehicles		Truck loan balance	
Livestock	120	Other:	
Perennial plants	300		
Total Intermediate Assets	420	Total Intermediate Liabilities	
Long-Term Assets		Long-Term Liabilities	
Farmland	85,000	Long-term loan 1 balance	61,200
Farm buildings		Long-term loan 2 balance	
Other:		Other:	
Total Long-Term Assets	85,000	Total Long-Term Liabilities	61,200
		Total Liabilities	\$63,000
		Equity	\$23,075
Total Assets	\$86,075	Liabilities + Equity	\$86,075

mortgage crisis. In other words, their liabilities are greater than their assets and they have a negative net worth (or equity). This would describe the condition of being *insolvent*.

Liquidity, which refers to your short-term financial well-being, also is extremely important. It tells you whether you have enough money coming in from your business over the next 12 months to pay all your bills due in the same time period. A common guideline is that you should have roughly twice as much in current assets as in current liabilities.

To create a balance sheet, start with the blank template in Appendix 4 of this publication. Put today's date at the top of the page. This is important because a balance sheet is meant to capture your financial position at a particular moment in time. Next, assemble your data. For the assets side, you'll need a current monthly statement from your farm checking account. You'll also need to take an inventory of the supplies you have on hand, such as seeds, tools, and livestock feed. You also will need to list the cost value minus depreciation (except for land, which doesn't depreciate) of such large, intermediate, and long-term assets as farm buildings, vehicles, and land.

For the liabilities side, you'll need statements showing your loan balances. In addition, you'll need to determine the amount of principal due this year. Subtract that amount from your long-term liabilities and put it into current liabilities. Also in current liabilities, include your accrued interest. The amount of principal and accrued interest included in current liabilities for each loan should be equal to the annual payment.

To determine your equity, subtract total liabilities from total assets.

Recordkeeping

Recordkeeping has two parts: collecting source data (receipts or bills) and entering the data into a paper journal or computer software program spreadsheet. An advantage of using computer software is that some programs will prepare income statements and balance sheets on demand. Whichever method you choose, both collecting and entering data are simple tasks, but they require diligence. Think of ways that you can capture receipts and keep them together so you don't accidentally throw them away — or have to go searching for them later.

Valuing Assets by Cost Versus Current Market Value

— By Craig Chase, Iowa State University Extension Farm Management – Food Systems and Alternative Enterprises

"I have always told the producers I work with to value machinery at cost less depreciation and land at cost. A major part of the financial problem in the 80s occurred when farm equity was rapidly increasing in the 70s and farmers were borrowing money against the rising equity. The problem was that farm equity was due to rapidly increasing land values and not from earned profits. When land prices suddenly fell, farm balance sheets were upside down in that they owed more than what their assets were worth. The same type of problem occurred recently in the housing market.

"You should construct balance sheets year after year and compare them. By valuing machinery and land this way [by cost], any growth in farm equity will be a result of earned profits within the farming business rather than from market fluctuations. Because current assets will be turned to cash within 12 months, I do put those in at market value.

"I know a lot of lenders recommend farmers and other business owners value all assets at market prices. A compromise would be to keep track of both."

In the picture on the front page of this publication, you see several envelopes labeled with different expense accounts, such as supplies, seeds, and car and truck maintenance — again based on expenses listed in the IRS Schedule F form. These envelopes are being used to store receipts. If you buy items in town, keep a bin in the car to collect receipts to take into the house periodically.

Be sure the date, vendor, and item are noted on the receipt before you put it in the folder for storage. You will need this information, along with the amount of the purchase, to make a journal entry. You can wait to the end of the year to add up and enter all this information directly into a cash-flow-from-operations table, or you can log it as frequently as every week or month when you sit down to pay bills.

On the revenue side, a convenient way to record your transaction is to use duplicate invoices. Simply drop off one of the two copies along with your delivery to a wholesale buyer such as a grocery store or restaurant. For direct-sales venues like a farmers market, where you don't use receipts, you can enter the total for the day directly into the sales log. (See Appendix 3.)

Conclusion

This publication is meant to get you started

on the path of good farm accounting. As you become more comfortable crunching numbers, you can begin to develop more sophisticated accounting systems that will provide you with more and better information about your business — which in turn supports good planning and decision-making. For instance, once you get the hang of using an income statement, start making accrual adjustments — not just for depreciation but also for inventory changes, changes in the value of growing crops, prepaid expenses, and accounts payable and receivable. These adjustments will provide a more accurate

picture of profit and loss for the year.

You also can keep track of sales and expenses for each enterprise (instead of just by market venue), including labor hours expended per crop. This will allow you to develop enterprise budgets and thereby get a clear sense of profitability by crop. Finally, by doing a few small calculations using numbers on your financial statements, you can measure your farm's financial health against established benchmarks. Resources to help you learn about these accounting practices and more are listed in the Further Resources section below.

Further Resources

Ag Decision Maker. An agricultural economics and business website create and maintained by Iowa State University Extension and Outreach.

www.extension.iastate.edu/agdm/homepage.html

The following are among its features that apply to accounting for farmers:

- **Farm Financial Statements.** 2008. William Edwards. 2008. File C3-56.
- **Selected Alternative Agricultural Financial Benchmarks.** Craig Chase. File C3-65.
- **Twelve Steps to Cash Flow Budgeting.** 2008. William Edwards. File C3-15.
- **Using Financial Records to Answer Questions.** 2012. Craig Chase. File C1-41.
- **Your Farm Income Statement.** 2008. William Edwards. File C3-25.

Building a Sustainable Business: A Guide to Developing a Business Plan for Farms and Rural Businesses. 2003.

Gigi DiGiacomo et al. Minnesota Institute for Sustainable Agriculture (MISA).

www.misa.umn.edu/Publications/BuildingaSustainableBusiness

Evaluating a Farming Enterprise. 2011. Tammy Hinman. ATTRA-National Sustainable Agriculture Information Service.

www.attra.ncat.org/attra-pub/summaries/summary.php?pub=277

Fearless Farm Finances. 2011. Jody Padgham et al. Midwest Organic and Sustainable Education Service (MOSES). www.mosesorganic.org/farmfinances.html

Field Guide to the New American Foodshed. A resource on business development for beginning farmers and ranchers as well as for technical, financial, and other advisors to these agricultural entrepreneurs.

www.foodshedguide.org

Financing Your Farm: Guidance for Beginning Farmers.

2011. Hannah Lewis. ATTRA-National Sustainable Agriculture Information Service.

www.attra.ncat.org/attra-pub/summaries/summary.php?pub=381

Organic Farmer's Business Handbook: A Complete Guide to Managing Finances, Crops, and Staff – and Making a Profit. 2009. Richard Wiswall. Chelsea Green Publishing,

White River Junction, Vermont.

www.chelseagreen.com/bookstore/item/the_organic_farmers_business_handbook:paperback%20with%20cd-rom

Planning for Profit in Sustainable Farming. 2011.

Jeff Schahczenski. ATTRA-National Sustainable Agriculture Information Service.

www.attra.ncat.org/attra-pub/summaries/summary.php?pub=382

Appendix 1: Cash Flow Budget

2012 Cash flow budget	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Operating receipts													
CSA													
Farmers market													
Other													
Total cash inflows													
Operating expenses and cash outflows													
Fertility costs													
Fuel and oil													
Farm insurance													
Market fees													
Livestock expense													
Labor													
Pest/weed management													
Rent paid (rototiller)													
Repairs and maintenance													
Seeds, plants													
Supplies													
Utilities: farm share													
Capital purchases													
Other													
Total cash outflows													
Cash balance													

Appendix 4: Balance Sheet

Assets		Liabilities	
Current Assets		Current Liabilities (due within 12 months)	
Farm checking		Operating loan balance	
Accounts receivable		Line of credit balance	
Crop and feed inventory		Long-term loan principle due this year	
Farm supplies on hand		Other:	
Other:			
Total Current Assets		Total Current Liabilities	
Intermediate Assets		Intermediate Liabilities	
Farm machinery		Tractor loan balance	
Farm vehicles		Truck loan balance	
Livestock		Other:	
Perennial plants			
Total Intermediate Assets		Total Intermediate Liabilities	
Long-Term Assets		Long-Term Liabilities	
Farmland		Long-term loan 1 balance	
Farm buildings		Long-term loan 2 balance	
Other:		Other:	
Total Long-Term Assets		Total Long-Term Liabilities	
		Total Liabilities	
		Equity	
Total Assets		Liabilities Plus Equity	

NOTES: Use back of sheet for inventory and other notes, if needed.

This balance sheet template was borrowed and adapted from Richard Wiswall and can be found in his book, Organic Farmer's Business Handbook.

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Published December 2012

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Cathy Svejkovsky, Editor

Amy Smith, Production

This publication is available on the Web at:

www.attra.ncat.org

IP443

Slot 448

Version 010213