



## Record Keeping in Farm Management

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### Introduction

The purpose of this document is to discuss the importance of farm record keeping and provide producers with methods to start record keeping practices or improve their current procedures.

Today's complex world economy and the rapid pace of the farming industry makes it impossible for producers to manage a farm enterprise the way their parents did 30 years ago. Without a proper understanding of record keeping and its current and future implications, the farm operator will not make it very far in today's business environment.

Many farm operations are facing significant financial distress due to drought conditions across the state of South Dakota. This, coupled with a poor understanding of financial performance, generates serious problems for many producers, who may be facing farm business bankruptcy. Producers can do little about the drought, except taking precautionary measures and implementing water management techniques, but they can do a lot with respect to financial performance.

The first and most important step in taking control of your farm operation's financial well-being is to keep good and accurate financial records. Do you want to know where your business is going? Do you want to avoid jeopardizing your borrowing capacity? If you answered YES to these questions, this publication is for YOU.

### The importance of farm record keeping

There are three main reasons farm operators should keep good financial records:

1) *Income tax reporting:* A good set of records is required for the preparation of complete and accurate tax documents. Poor records often lead to preparing income tax returns that result in either underpayment or overpayment of taxes. This might get the tax reporter into trouble if there is an unexpected IRS audit of records.

2) *Obtaining credit:* If you decide to borrow money for your farm business operation, the loan officer or bank will ask to see your financial records including a balance sheet, an income statement and a cash flow statement. The creditor will require these statements in order to determine your repayment capacity.

3) *Management tool:* Accurate financial records, along with production data, will help the farm business operator analyze the information and make the necessary adjustments to operate more efficiently, thus increasing profitability. Such analysis will help you plan for the future, and it will pinpoint the weaknesses of your farm business and allow you to act accordingly.

### Characteristics of record keeping systems

Keep the following guidelines in mind when implementing or reviewing your financial record keeping system.

- Keep it simple! If the record keeping system is unnecessarily complicated, you are more likely to make mistakes.
- Maintain financial records that have the appropriate level of detail depending upon the complexity of your business. A more complex farm operation requires a more detailed system.
- Make sure that your records provide essential information on a timely basis.
- A record keeping system should include the following:
  - A business checking account to handle business transactions.
  - An income ledger by calendar month.
  - An expense ledger by calendar month.
  - An inventory ledger for physical counting and valuation.
  - A depreciation schedule for pro-rating original costs of assets.
  - A balance sheet to determine net worth.
  - An income statement to determine net profit or loss.
  - A cash flow statement to measure flow of funds.

## Record Keeping Methods

Basically, there are two primary methods for record keeping:

1) *Cash method*: All items received during the year are included in the gross income and expenses are deducted in the tax year they are paid.

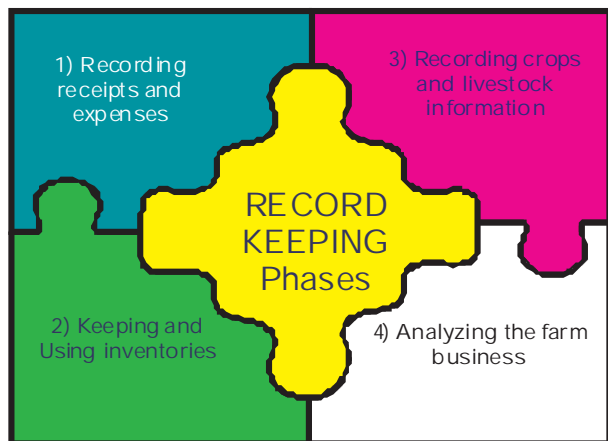
2) *Accrual method*: Income is generally reported in the year it is produced or earned, and expenses are deducted or capitalized in the year they were incurred, not necessarily in the year received or paid.

The accrual method is recommended, because it provides inventory reconciliation and computation for “actual” net income; thus it is helpful in making managerial decisions.

## Phases of Record Keeping

Like a puzzle, there are several pieces that need to be put together in order to see the complete record keeping picture. The four basic phases or “puzzle pieces” for record keeping are:

- 1) Recording receipts and expenses.
- 2) Keeping and using inventories.
- 3) Recording crops and livestock information.
- 4) Analyzing the farm business.



Record keeping phases or “puzzle”

1) *Recording receipts and expenses*: Record all receipts, including payments from crop or livestock sales, ag program payments, crop insurance proceeds, custom hire work, etc., as well as expenses, such as cost of feed, chemicals, breeding fees, seeds, fuel, interest, etc. Recording this information is basic for income tax reporting purposes. With each entry, include date, customer’s or vendor’s full name and address, description of the transaction, method of payment, check number, etc. Use the income and expenses ledgers for this purpose.

2) *Keeping and using inventories*: Progress in the farm business operation cannot be determined from year to year without an annual inventory. Using the cash method for record keeping — that is, keeping a record of receipts, expenses, and purchase cost of feeder livestock sold during the year, plus depreciation schedules — will suffice to arrive at net income for tax purposes. However, this procedure does not reflect any changes in inventory in the farm business operation. When these changes are recorded, net income can be calculated using the accrual method.

What should you inventory? Almost everything: Money (receivables and payables), livestock, crops, supplies, and property. The main problem in dealing with inventories is arriving at a value for different farm products and property. There are six methods approved by the IRS:

- a) Market cost: assets are valued at their purchase price. (Especially assets that are going to be used on a short-term basis). This is used for tax purposes.
- b) Net market price: this is the net price after deducting transportation and marketing charges. Used mainly with livestock and crops.
- c) Cost or market, the lowest: use the actual cost of producing (or purchasing) the inventory item and compare it with the current market value of the item.
- d) Farm production costs: this is determined by the cost of producing a commodity on the farm, e.g., farm-raised hay for livestock. In this case, the hay produced would not include a profit or interest on investment.
- e) Cost less depreciation: this applies to assets that have a useful life longer than a year, such as machinery, buildings, and breeding livestock. These assets decrease in value over time and the change in value becomes a business expense called depreciation.
- f) Cost plus appreciation: periodically, land values need to be adjusted. This should be done every 4 to 5 years. Examine this option carefully and cautiously.

3) *Recording crops and livestock information*: The most important elements of this phase are method and organization. The farm business operation should have a complete, but simple, filing system that includes, through field records, all the relevant information pertaining to the different farm enterprises. When this information is recorded annually, the producer will be able to use it to make crucial production decisions and set goals for the future.

4) *Analyzing the farm business*: Until the puzzle is finished, the complete picture is difficult to perceive. Without this last piece of the puzzle, the main purpose of keeping good farm records will not be achieved. The previous three phases will give the producer some indication of business performance but this last phase will help you understand:

- Where the income was produced.
- Strengths and/or weaknesses of the farm business.
- Returns for labor and management.
- Trends in net worth.
- The operation's production efficiency.

This last phase or "piece" is what completes the puzzle, and it will allow the producer to see the complete picture of the farm business operation. Records that are properly kept, organized, and analyzed can provide answers that lead to better management decisions.

### Record Keeping: Financial Statements

Producers should maintain the following financial statements: a balance sheet, a statement of owner equity, an income statement, and a cash flow statement.

**Balance sheet:** This is a statement of the financial condition of a business. It shows the status of the farm business assets, liabilities and owners' equity at a specific time. It is a snapshot, not a motion picture, and must be analyzed with reference to comparative prior balance sheets. In summary, it shows what is OWNED (assets) and what is OWED (liabilities), and the difference between them, which is called NET WORTH. The term "balance" comes from the requirement that the ledger be in balance through the basic accounting equation of:

Assets = liabilities + owner equity

All farm operations balance sheets follow a similar format. In the sample below, assets are shown on the left and liabilities and owners' equity on the right of the balance sheet.

Sample balance sheet

Assets		Liabilities	
<b>Current</b>		<b>Current</b>	
Cash, checking account,	\$5,100	Accounts payable	\$853
savings account		Bank note	\$4,500
Accounts receivable	\$4,000	Note due in 1 year	\$6,400
Marketable securities	\$5,000	Accrued taxes, interest	\$2,693
Cash value of life insurance	\$4,000	<b>Total Current</b>	<b>\$14,446</b>
Supplies	\$500		
<b>Total Current</b>	<b>\$18,600</b>	<b>Intermediate</b>	
<b>Intermediate</b>		Machinery (3-year note)	\$10,234
Poultry - 200 birds @ \$3.00	\$600	Pick-up (3-year note, 10%)	\$3,714
Machinery, equipment, vehicles	\$41,800	Equipment (6-year note, 9%)	\$3,479
Personal vehicles	\$15,000	<b>Total Intermediate</b>	<b>\$17,427</b>
Household & personal effects	\$10,000	<b>Long-term</b>	
IRA	\$30,000	Farm (30-year note, 7%)	\$57,600
<b>Total Intermediate</b>	<b>\$97,400</b>	Building (10-year note, 8%)	\$14,000
<b>Non-Current</b>		<b>Total long-term</b>	<b>\$71,600</b>
Farmland (30 acres @ \$5,000)	\$150,000	<b>Total liabilities</b>	<b>\$103,473</b>
Buildings and improvements	\$82,000	<b>Net worth</b>	<b>\$269,527</b>
Non-farm real estate	\$25,000	<b>Total liabilities &amp; Net worth</b>	<b>\$373,000</b>
<b>Total Non-Current</b>	<b>\$257,000</b>		
<b>Total Assets</b>	<b>\$373,000</b>		

Measuring the financial position of a business at a point in time is done primarily through the use of two concepts:

**1) Solvency:** measures the liabilities of the business relative to the amount of owners' equity invested in the business. It also provides an indication of the ability to pay off all financial obligations if all assets were sold.

**2) Liquidity:** measures the ability to meet financial obligations as they come due without disrupting the normal operations of the farm business.

Once the results of the balance sheet are in place, the analysis of the financial condition of the business is done through financial ratios.

There are three main ratios to analyze solvency:

$$1. \text{Debt to Assets} = \frac{\text{Total liabilities}}{\text{Total assets}}$$

This ratio measures what part of total assets is owed to lenders. This ratio should have values less than one and even smaller values are preferred.

$$2. \text{Equity to Assets} = \frac{\text{Total equity}}{\text{Total assets}}$$

This ratio measures what part of total assets is financed by the owners' equity. Here, higher values are preferred, but this ratio cannot exceed 1.0.

$$3. \text{Debt to Equity} = \frac{\text{Total liabilities}}{\text{Total equity}}$$

This ratio measures what part of the financing is provided by lenders in relation to what is provided by the business owner. Smaller values are preferred and this ratio will approach zero as liabilities approach zero.

Two computations are used to analyze liquidity:

$$1. \text{Current Ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

Ratio values larger than 1.0 are preferred. A value close to 1.0 indicates that although there are enough assets to cover current liabilities, there is no margin for error. Therefore, the higher the ratio value, the better. However, a very high value for this ratio might indicate too much cash on hand, which could be invested elsewhere, thus providing some interest. A good balance is preferable.

$$2. \text{Working Capital} = \text{Current assets} - \text{Current liabilities}$$

Although working capital is not a ratio, it measures the dollars that would remain after selling and paying all current liabilities. Negative working capital values, or values close to zero, generally indicate some sort of financial distress. In any case, it is important to relate the amount of working capital to the size of the business.

**Statement of Owner Equity:** The balance sheet shows the amount of owner equity at a point in time, but not what caused the changes in this value over time. The statement of owner equity shows the sources of changes and the amount that came from each source.

The table below shows an example of a statement of owner equity, where the beginning owners' equity of \$598,566 is increased to \$668,412 at the end of the year. Where did this increase of \$69,846 come from? It came from adjusting taxes paid, increases in the current portion of deferred taxes, net withdrawals from the farm, increase in the market value of farm assets, and the subtraction of additional income taxes.

### Sample owner equity statement

<b>Owner Equity, January 1, 20XX</b>		<b>\$598,566</b>
Net farm income for 20XX	\$89,544	
Less adjustment for income taxes paid and payable	(\$12,034)	
Net after-tax income		\$77,510
Less increase in current portion-deferred income taxes		(\$3,164)
Owner withdrawals from farm business	(\$45,000)	
Non-farm income contributed to the farm business	\$12,000	
Net owner withdrawals from farm business		(\$33,000)
Other capital contributions to farm business		\$0
Other capital distributions from farm business		\$0
Increase in market value of farm assets	\$38,000	
Less increase in non-current portion of deferred income taxes	(\$9,500)	
Net increase in valuation equity		\$28,500
<b>Owner Equity, December 31, 20XX</b>		<b>\$668,412</b>

A statement of owners' equity pulls together accounting information from a number of sources to document and reconcile the reasons behind any change in owners' equity. Any failure to completely explain the changes indicates a poor accounting system. It's just like balancing a checkbook.

**Income Statement:** This is a summary of revenues and expenses for a given accounting period. The difference between the revenues and expenses is called net farm income. A positive difference indicates a profit and a negative value indicates a loss. Under cash accounting, the above explanation would suffice for tax reporting purposes. However, the cash method as a way of measuring net farm income can be misleading and result in poor decisions when used for management purposes.

If accrual accounting is used, the necessary adjustments to reflect beginning and ending accounting period differences, such as variations in inventories, accounts payables and receivables, accrued expenses, etc., are included in the net farm income evaluation. A practical way to account for such adjustments is to use schedules for the different accounts. Producers who report net farm income on a cash basis should also compute their net income by the accrual method in order to determine the true income of their farm business operation for each year.

Once the net farm income is determined, the next step consists of assessing profitability through ratios. The most important of these is the profit margin (PM) ratio.

A simple way to calculate it is as follows:

$$\text{Profit Margin} = \frac{\text{Net farm income}}{\text{Total revenue}}$$

Other profitability ratios include: rate of return on assets (ROA) and rate of return on equity (ROE).

### Example of net farm income under the accrual method

NET FARM INCOME STATEMENT				
Income		Income Adjustments	Ending	Beginning
Sale of livestock, other bought for resale		Crops held for sale or feed (Sched. A)		
Sales of market livestock, grain, produce		Market livestock (Sched. E)		
Cooperative distributions paid		Accounts receivable (Sched. G)		
Ag program payments		Unpaid coop. distributions (Sched. H)		
Crop insurance proceeds		Breeding livestock (Sched. I)		
Custom hire income				
Other cash income		<b>Subtotal of Adjustments</b>	<b>b.</b>	<b>c.</b>
Sales of breeding stock		<b>d. Value of Home used production</b>		
<b>a. Total Cash Income</b>		<b>e. Gross Farm Revenue (a+b+c+d)</b>		
Expenses				
Cash expenses		Expense Adjustments	Ending	Beginning
Car and truck		Investment in growing crops (Sched. B)		
Chemicals		Commercial feed on hand (Sched. C)		
Conservation expenses		Prepaid expenses (Sched. D)		
Custom hire		Supplies on hand (Sched. F)		
Employee benefits				
Feed purchased		Accounts payable (Sched. N)		
Fertilizer and lime		Farm taxes due (Sched. O)		
Freight, trucking		Accrued interest (Sched. P, Q)		
Gasoline, fuel, oil		<b>Subtotal of Adjustments</b>	<b>g.</b>	<b>h.</b>
Insurance				
Interest paid		<b>i. Depreciation (Sched. J, K)</b>		
Labor hired				
Pension and profit-share plans		<b>j. Gross Farm Expenses (f+g+h+i)</b>		
Rent or lease payments				
Repairs, maintenance				
Seed, plants		<b>k. Net Farm Income from Operations (e-j)</b>		
Storage, warehousing				
Supplies purchased				
Taxes (farm)		<b>l. Sales of Farm Capital Assets</b>		
Utilities		<b>m. Cost value of Items Sold (Sched. J, K, L)</b>		
Veterinary fees, medicine, breeding		<b>n. Capital Gains or Losses (l-m)</b>		
Other cash expenses				
Livestock purchased				
<b>f. Total Cash Expenses</b>		<b>o. Net Farm Income (k+n)</b>		

**Cash Flow Statement:** A sound balance sheet and/or a high net farm income does not necessarily mean that the operation can meet financial obligations. You must know the flow of income and expenses during the accounting period to determine your ability to pay bills and creditors. A cash flow statement can be defined as the SOURCES (cash inflow, receipts) and USES (cash outflow, expenses) of funds. Sources would also include loans received, non-farm income, etc. Uses would include family living expense and loan repayments. Monthly comparison of the sources and uses of funds will allow you to determine the months where funds are needed (deficits) and the months where funds are in excess (surpluses).

### Choosing a record keeping system

There are numerous kinds of farm record keeping systems available on the market. For example, QUICKEN® computer software is widely used to keep financial records. Research the different options before deciding on the right system for your operation. Look for one that fits your specific farm operation. It should provide all the resources you need, not only financially but also managerially.

In addition to any record keeping system chosen by the producer, the South Dakota Cooperative Extension Service offers assistance with the use of FINPACK®, a financial and enterprise management software package, developed by the University of Minnesota. FINPACK® allows the user to track financial progress and to analyze the overall farm profitability by farm enterprise.

## Conclusion

Good record keeping is important, not only for tax purposes but also for efficient farm management. Using financial records and methodology will help you understand how and where your business is going. Record keeping and sound data interpretation will help you define the weakest links of your farm business operation and enable you to start corrective action plans. If you feel overwhelmed by the task at hand, or do not know how and where to start the record keeping, contact your local cooperative Extension office for assistance.

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- US Small Business Administration.
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