THE BUSINESS OF INDIAN AGRICULTURE

# Module 2: Accounting

## Instructor Guide

First Nations Development Institute

# The Business of Indian Agriculture

## MODULE 2: Accounting

**Total time:** 7 hours, 30 minutes

**Lessons**

This module covers the following lessons:

- Basics of Agribusiness Accounting & Bookkeeping.
- Journals and Ledgers.
- Preparing Financial Statements.
- Analyzing Financial Statements.
- Preparing for Credit Applications.

**Room Setup:** Table rounds of 5-6 participants each. Each table with participant workbooks, pens and notepaper. Two flipcharts and easels with marker pens in front of room.

[Instructor Notes]: If this is the first lesson of the training, you will want to spend time with welcoming remarks, introductions, an overview of the agribusiness curriculum, and the agenda for the day. It may also be helpful to establish ground rules for communication and conduct during the training sessions.

# Module 2: Accounting

## LESSON 1: Basics of Agribusiness Accounting & Bookkeeping

Please turn to PAGE 71 of your participant guide.

## LESSON 1: Basics of Agribusiness Accounting & Bookkeeping

**Total time:** 1 hour, 45 minutes

### Lesson Topics

This lesson covers the following topics:

- What is agribusiness accounting and bookkeeping?
- Basic accounting concepts.
- The importance of recordkeeping.

### Learning Objectives

Upon completion of this lesson, participants will:

- Understand the basic definition of accounting and its importance to agribusiness, and will know the difference between accounting and bookkeeping.
- Understand basic accounting concepts, including assets and liabilities, equity, income and expenses, inventory and depreciation.
- Understand the importance and basic considerations of recordkeeping.

### Definitions

**Accounting:** the business function that involves the preparation, review and understanding of the financial situation of an agribusiness. It has two purposes: to provide an accurate picture of the financial situation of a business, and to develop a set of standard financial documents that others can use to assess the finances of the business.

**Accrual Accounting:** the type of accounting that records income when it is earned (not yet received) and expenses when they are incurred (not yet paid).

**Assets:** financial holdings that represent a company's net worth by accounting for the things of value in a business. Assets include cash on hand, cars and trucks, property and land, equipment, and outstanding claims. Some assets are more intangible, such as patents and trademark rights.

**Bookkeeping:** the business function that involves the actual recording of the business transactions into various record books, journals or ledgers.

**Cash Basis Accounting:** the type of accounting that records the cash that you receive as income when it is received, and records expenses when they are paid out.

**Cash Flow:** the accounting of cash receipts and payments over a period of time. Cash flow can be analyzed as a report that summarizes past cash flow, or as a planning budget that forecasts cash flows into the future.

**Cost of Sales:** the expenses and labor that are needed to produce the product or service to be sold. It is also referred to as the "cost of goods sold."

**Depreciation:** the deduction of value of a tangible asset over the useful lifetime of that item. Most businesses, including agribusinesses, can treat depreciation as a business expense.

**Expenses:** financial flows that represent money going out of the agribusiness.

Expenses can be categorized as recurring (or operating), such as monthly payments for utilities, salaries and wages, rentals and credit payments. Other expenses may be irregular (or incidental), such as repairs or one-time purchases.

**Income:** financial flows representing money coming into the agribusiness. Income can be generated from a number of sources, such as sales of various products or services, bank interest, or rental or leased property. It can also be from investments into owner equity, and loans and credit.

**Inventory:** this is the physical count of all the agribusiness's assets and their value.

**Liabilities:** financial holdings that represent a company's obligations to pay out value from the business. Liabilities are the opposite of assets, and are those things owed by a business, including accounts payable and debt.

**Owner's Equity:** the difference between the business' assets and liabilities. It is also sometimes referred to as the business's "net worth."

**Profit and Loss:** the agribusiness's revenue minus the cost of sales. It is also referred to as the "profit margin." It is often considered the agribusiness's bottom line - whether the agribusiness is making money or not.

**Recordkeeping:** the orderly recording and safe storage of all business documents and activities. Recordkeeping is a term that is often used interchangeably with bookkeeping, however, strictly speaking, bookkeeping is more specific to financial matters and accounting functions.

## TOPIC 1: What is agribusiness accounting and bookkeeping?

[Instructor Notes]: Highlight the title and learning objectives for this topic. This topic provides students with the basic definition of accounting and its importance to agribusiness. It also provides an appreciation of the difference between accounting and bookkeeping, and allows students to evaluate a case study.

**Time:** 30 minutes

**Materials:** Flipcharts, marker pens.

**Learning Outcome:** Students will understand the basic definition of accounting and its importance to agribusiness, and will know the difference between accounting and bookkeeping.

- Accounting is preparing, reviewing and understanding the financial situation of an agribusiness. It also includes developing ways to improve the agribusiness's financial condition.
    - Accounting has two main objectives:
        - to provide an accurate picture of the financial situation of an agribusiness; and
        - to create a set of standard financial documents that others can review to assess the finances of the agribusiness.
    - Accounting is a critical function in any agribusiness because it provides vital information on the current business operations, and is required for future planning.
    - Accounting systems require that accurate business records exist that provide the necessary financial data to perform basic accounting tasks and to make financial decisions.
- The difference between accounting and bookkeeping can be confusing, but each function performs an important role and they both depend upon each other to keep the agribusiness financially healthy.
    - As mentioned above, accounting involves the preparation, review, and understanding of the finances of an agribusiness.
        - It has two purposes: to provide an accurate picture of the financial situation of a business, and to develop a set of standard financial documents that others can use to assess the finances of the business.

- Bookkeeping, on the other hand, is the actual recording of the business transactions into various record books, journals or ledgers. This is often done with computers, but can also be done by hand.
  - Recordkeeping is a term that is often used interchangeably with bookkeeping. Strictly speaking, recordkeeping involves the orderly recording and safe storage of all business documents and activities while bookkeeping is more specific to financial matters and accounting functions.
- For example, bookkeeping would include the recording of transactions in journals and ledgers, and the storing of copies of the invoices (billing) of customers and of the payments received. Accounting would include analyzing the journal and ledger entries (and perhaps the stored copies) to determine the current cash flow of the business in order to prepare a Statement of Cash Flows.
- Both accounting and bookkeeping are necessary, not only to run a successful business, but also to successfully apply for credit, government assistance programs, or claims for discriminatory practices.
  - Good bookkeeping and accounting is also necessary for business ownership restructuring, crop and other insurance, land dealings and much more.

➢ The technical skills required for accounting and bookkeeping are not especially difficult. However, successful accounting and bookkeeping require someone who is good with details, is orderly in their work, has strong basic math skills, and above all, approaches the tasks with a good attitude. Knowing how to use a computer is a definite plus.

- Accounting and bookkeeping is not for everyone. Sometimes, the best decision you can make is to recognize that accounting and bookkeeping is not for you, and to hire someone to do that work.
- Finally, all financial business transactions and holdings should be separated from your personal and household finances. This means separate bank accounts, credit cards, accounting and bookkeeping.

Activity (20 minutes): In small groups of 2-3, have participants read the following case study and then answer the discussion questions. Then discuss as a large group.

**Case Study: Jeff, the Farm Equipment Repair business, and the retired dad.**

Jeff worked at his dad's farm equipment repair business for years, and learned to fix just about anything. He loved his work, and he had earned a reputation as someone who you could depend on to do the job right. His dad managed the parts supply and the money side of the business. Jeff was the main mechanic, and that left him free to do what he really loved: work on tractors and other farm equipment.

Last spring, Jeff's dad retired and Jeff took over the entire business. Before, when his dad ran the business side of things, Jeff would simply toss receipts or payments in the inbox on his dad's desk, and go on to his next chore. Now, with his dad retired, Jeff kept doing the same thing: tossing papers on his dad's desk. Except now it was his desk, and the inbox had turned into an in-pile. Also, Jeff now had to deal with the parts supply business and so there were order forms, invoices and receipts to handle. Checks had to be written, deposits had to be made, and someone had to go through all that mail that kept coming every day.

Jeff still loved to be a mechanic, so he spent as little time on paperwork as possible. In fact, he really disliked the paperwork, so he found lots of reasons to put off dealing with it. Things went along fine for a while, until one day in late March, when he got a call from the bank telling him that his checking account was over-drafted.

Jeff put the phone down, walked over to his desk, and looked at the mountain of papers. He had been thinking about applying for a loan to buy a new work truck. Now the bank was telling him his checking account was empty. He realized he didn't know what to do, or where to start.

**Questions:**

- **What basic accounting and bookkeeping issues does Jeff need to understand and appreciate?**
- **Besides the bank overdraft, what other problems do you see for Jeff's agribusiness?**
- **What do you think Jeff should do?**

[Instructor Notes]: As the groups discuss the case study questions, ensure that several key points are mentioned:

- That Jeff needs to understand that the accounting and bookkeeping functions are critical to the success of his business, and that these functions require systematic and conscientious attention.
- That other problems may include lack of cash flow to operate the business, lack of access to credit, lack of knowledge of the current status of the business, inability to file accurate tax reports, and lack of skills and experience within the business to do accounting and bookkeeping.
- That Jeff should think about hiring a bookkeeper and/or accountant (maybe even his dad), or taking bookkeeping and accounting courses.

# TOPIC 2: Basic Accounting Concepts

[Instructor Notes]: This topic provides students with knowledge of basic accounting concepts, including assets and liabilities, equity, income and expenses, inventory, and depreciation.

**Time:** 45 minutes

**Materials:** Flipcharts, marker pens, Crossword Puzzle.

**Learning Outcome:** Students will understand basic accounting concepts, including assets and liabilities, equity, income and expenses, inventory and depreciation.

Activity (30 minutes): There are nine major accounting concepts defined below. Divide the class into groups of 3-4, and assign each group a few of the concepts to read, discuss and present to the rest of the class. Encourage them to think of examples from their experiences with business. Give them about 15 minutes to read and prepare and 2-3 minutes to present, and then discuss the concepts with the entire class.

- There are a number of basic accounting concepts that need to be understood before accounting decisions can be made for a successful agribusiness. In this lesson, the following basic accounting terms will be introduced and discussed, which will lay a foundation for the next lessons in the Accounting module:
    - **Types of Accounting - Cash Basis or Accrual:** there are two main types of accounting, and you can choose the one that fits your agribusiness the best.
        - Cash Basis accounting records the cash that you receive as income when it is received, and records expenses when they are paid out.
            - Cash Basis accounting works well for businesses that do not have large inventories, or are service-orientated. It is the simpler type of accounting and is favored by small businesses.
            - Many farm operations use Cash Basis accounting because it is easy to shift income and expenses into different tax years by timing the transactions.
        - Accrual accounting records income when it is earned (not yet received) and expenses when they are incurred (not yet paid).
            - In this type of accounting, revenues are matched with their associated expenses, and are recorded when the business activity happens, not when money is exchanged.
            - It is a more complicated type of accounting, but provides a more accurate financial picture. For this reason, most large businesses use Accrual accounting.

- **Income and Expenses:** these financial concepts represent money coming into the agribusiness (as income) and money going out of the agribusiness (as expenses).
    - Income can be made from a variety of sources, such as sales of products or services, bank interest, or rental or leased property. It can also come from investments in owner's equity, and from loans and credit.
        - If an agribusiness has multiple product lines or service offerings, it may make sense to have separate income accounts so that you can track the income of each line of your agribusiness. However, too many income accounts can become difficult to manage.
        - The term revenue is often used interchangeably with income. Strictly speaking, revenue includes all sources of money coming into the company, while income is money coming in minus expenses (often called net income).
    - Expenses can be categorized as recurring (or operating), such as monthly payments for utilities, salaries and wages, rentals, and credit payments. Other expenses may be irregular (or incidental), such as repairs or one-time purchases.
        - Expense accounts can also be separated by different business lines if they are unique to particular products or services.
        - A reserve or emergency fund is often kept as an account for unexpected expenses.
- **Cost of Sales:** this is the expenses and labor that were needed to produce the product or service to be sold. It is also called the "cost of goods sold."
    - It can include packaging, storage and transportation costs.
    - In many service-related agribusinesses, there may be no cost of sales involved.
- **Profit and Loss:** this is the agribusiness's revenue minus the cost of sales. It is also referred to as the "profit margin." It is often considered the agribusiness's bottom line - a measure of whether the agribusiness is making money or not.
    - If revenue minus cost of sales is positive, then a profit is being made.
    - If revenue minus cost of sales is negative, then a loss is happening.

- **Cash Flow:** this is the level of cash receipts and payments over some period of time. Cash flow can be used as a report that summarizes past cash flow, or as a planning budget that forecasts future cash flows.
    - Cash flow, by itself, does not provide a full picture of the business's finances, but it is an important accounting measure for the operation of the business.
        - If cash flows become too low, you may run out of cash and short-term credit may be necessary. If cash flows are too high, then money is sitting and not being used and should be invested to make more income.
- **Assets and Liabilities:** these financial holdings together represent your company's net worth by accounting for the things of value owned by your business (assets) and the obligations that pay out value from the business (liabilities).
    - Assets are those things of value that are owned by your business, including cash on hand, cars and trucks, property and land, equipment, and outstanding claims. Some assets are more intangible, such as patents and trademark rights.
    - Liabilities are the opposite of assets, and are those things owed by your business, including accounts payable and debt.
- Usually, liabilities are categorized as short-term (which means to be paid within the accounting period - 12 months or less) or as long-term (to be paid beyond the accounting period). These categories provide a more accurate picture of your liabilities.
- **Owner's Equity:** this is the difference between the business's assets and liabilities, and it is hopefully a positive amount. It is also sometimes referred to as the business's "net worth."
    - Retained earnings (or accumulated profits), company stock, and partners' investments also count toward owner's equity.
    - A related accounting concept is owner's capital, which represents the investment by the owner in the business, and includes the start-up funding from the owner, as well as any equipment and buildings.
- **Inventory:** this is the physical count of all the agribusiness's assets and their value.
    - Inventories should be done at the same time each year so that accurate yearly comparisons can be made. Inventories are usually conducted during slow business periods, or they match the tax calendar.

- There are two main methods of determining inventory value: book value and market value.
    - Book value represents the original cost of an item minus depreciation. This is usually used for tax purposes and estate planning.
    - Market value represents the book value minus additional costs (such as transportation or marketing costs). This is typically used for insurance and credit purposes.
    - There are many variations of the two main inventory methods. Whichever method is chosen, it should be used consistently throughout the years.

○ **Depreciation:** this is the deduction of value of a tangible asset over the useful lifetime of that item.

- Most businesses, including agribusinesses, can treat depreciation as a business expense.
    - Depreciation of agricultural machinery, buildings, equipment and storage facilities represents a major agribusiness expense.
    - Capital improvements, such as a new roof, remodeling or building additions are also subject to the same depreciation principles.
- There are various ways to calculate depreciation. One popular and simple method is called straight-line depreciation. The depreciation per year is calculated by dividing the value of the asset over the expected life of the item.

Activity (15 minutes): In small groups of 2-3, have participants discuss and complete the Crossword Puzzle. Go through the answers as a large group and discuss any questions.

[Instructor Notes]: Recap the topics in the lesson and the learning objectives. Ask participants if the learning objectives were achieved.

## TOPIC 3: The Importance of Recordkeeping.

[Instructor Notes]: Highlight the title and learning objectives for this topic. This topic provides students with an understanding of the importance of good recordkeeping and the basic steps needed to develop and use a recordkeeping system.

Time: 30 minutes

Materials: Flipcharts, marker pens, Planting and Harvesting Worksheet.

Learning Outcome: Students will understand the importance and basic considerations of recordkeeping.

- Recordkeeping is the orderly recording and safe storage of all important business documents and activities. Recordkeeping is a term that is often used interchangeably with bookkeeping, however, strictly speaking, bookkeeping is more specific to financial matters and accounting functions.
    - Recordkeeping involves the documenting and storing of evidence of all the major functions, systems and processes associated with a business.
    - Recordkeeping is based on a basic principle that, "if it isn't in writing, then it didn't happen."
    - Recordkeeping is necessary for a variety of critical agribusiness needs, including:
        - Applying and securing capital loans and investments;
        - Tracking crop inputs and yields and/or herd management;
        - Making insurance claims for crop and/or livestock losses;
        - Applying for conservation programs;
        - Preparing financial statements and performing basic accounting;
        - Paying taxes;
        - Strategic and budget planning;
        - Managing employees;
        - Tracking customers and marketing;
        - Tracking inventory, equipment and machinery;
        - Managing product and/or service development and delivery;

- Storing official letters and correspondence, titles, deeds and other legal documents; and
- Even keeping track of weather data, which is becoming increasing important.

- There are many good ways to keep accurate and complete records of your agribusiness. They range from comprehensive computer applications or web-based online systems to simple hand-written logs and notes.
  - No matter what type of system you use, the fundamental processes remain the same.
  - You should choose the system that best fits with your skill set, and that best meets the needs for your business.
  - If recordkeeping is not something you want to do, then consider hiring someone who can, at the least, help set up a recordkeeping system that is easy for you to use.
  - Whatever system you use, you should have a back-up set of records in case your primary set is lost or damaged.
- There are several basic steps to developing a recordkeeping system for your agribusiness.
  - First, you should decide your goals and purposes for recordkeeping: what business functions do you need to track? These may include major functions such as finances (e.g., expenses and revenue), crop inputs and production, employee records and customer data.
  - Next, you should choose the type of system that best fits your needs and skills (e.g., computer system, hand-written or a combination of both). You may decide to hire some help at this point.
  - The next step is to create recording templates for each of the functions that you need to document. There are a variety of templates available on the web that can be copied and adapted for many uses. Most of these templates are computer-based, but they can be easily adapted for hand-written use.
  - Once you have created your templates, record your entries. Recordkeeping only works if you use your system on a regular, consistent and accurate basis. It also means writing legibly, so that it is readable to anyone who will need to review a document.
  - Finally, keep your records in a safe and accessible place.

- This includes making backup copies in case your primary copy is lost or damaged. Depending on the frequency of entries, you may want to make regular backup copies on a daily, weekly or monthly basis.
    - Backup copies should be kept in an entirely separate system and location. So, for example, if you have a system that resides on your office computer, then your backup should be on an external storage device outside your office (and perhaps building). Or, the data could be stored in a "cloud" (online storage) app.
    - For very important documents, people often use a bank's safe deposit box and/or fireproof safe storage boxes.
- Because your business information is sensitive, it should always be password protected.
- If you have field logs to record, consider using durable materials such as heavy stock paper and water-proof containers.

➢ Let's go through some selected examples of recordkeeping. In the tables below, review the record templates with the information given.

- To record harvest data, record the harvest date, crop, field and the quantity harvested. If your harvest will be stored or delivered in certain ways, you can add additional information such as a lot or other identifying number.
    - You can also add information about the harvesting equipment used and when it was cleaned, buyer's information or storage locations.

| CROP HARVEST RECORD | | | | |
|---|---|---|---|---|
| **Harvest Date** | **Crop or Product** | **Field #** | **Quantity Harvested** | **Lot #** |
| 08/27 | Sweet Corn | 2 | 25 bushels | 32 |
| 08/29 | Tomatoes | 4 | 59 lbs. | 13 |

- To record sales data, record the sales date, item, quantity sold, buyer and price. You can add additional information such as lot or other identifying number that would allow to you track the items to the harvest record.
    - Your buyer information could also link with a customer record template, which would contain more information about each customer and their purchasing history.

| SALES RECORD | | | | |
|---|---|---|---|---|
| **Sell Date** | **Item** | **Units** | **Buyer** | **Unit Price** |
| 08/30 | Sweet Corn | 150 ears | Lakeside Market | 4/$1 |
| 09/02 | Tomatoes | 30 cartons | CSA | $2/cnt. |

Activity (15 minutes): In small groups of 2-3, have participants discuss and complete the Planting and Harvesting Worksheet. Go through the answers as a large group and discuss any questions.

[Instructor Notes]: Recap the topics in the lesson and the learning objectives. Ask participants if the learning objectives were achieved.

## References

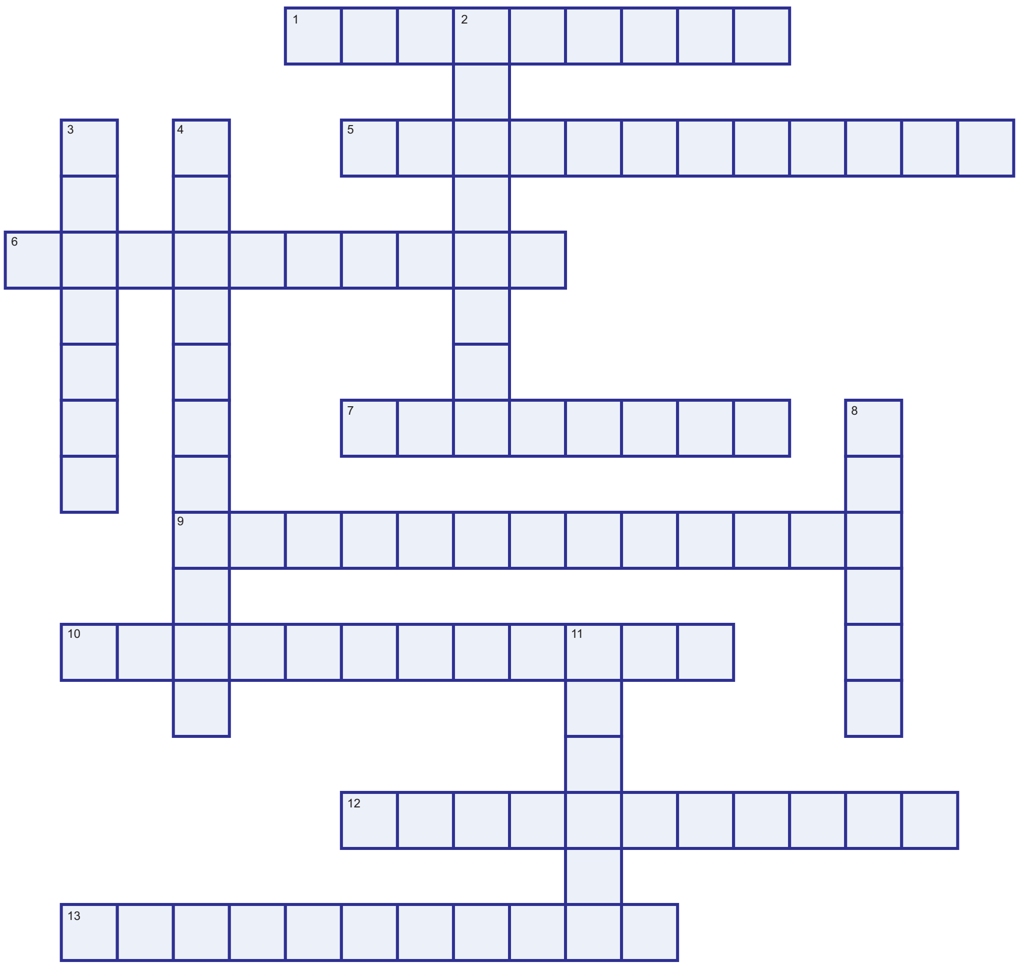
Farmers Legal Action Group (FLAG). nd. *Recordkeeping Instructions and Templates for Small-Scale Fruit and Vegetable Growers*. St. Paul, MN: FLAG.

Intertribal Agriculture Council. 2004. *A Guide to Financial Record Keeping for Farmers and Ranchers*. Billings, MT: Intertribal Agriculture Council.

Ricketts, Cliff and Kristina Ricketts. 2009. *Agribusiness: Fundamentals and Applications, 2nd Edition*. Clifton Park, NY: Delmar Cengage Learning.

# The Business of Indian Agriculture

## MODULE 2: Accounting
## LESSON 1: Basics of Agribusiness Accounting & Bookkeeping
## TOPIC 2: Basic Accounting Concepts
## Crossword Puzzle




### ACROSS

1 The physical count of all the agribusiness's assets and their value.
5 The deduction of value of a tangible asset over the useful lifetime of that item.
6 The preparation, review and understanding of the financial situation of an agribusiness.
7 The state of cash receipts and payments over a period of time.
9 The agribuisiness's revenue minus the cost of sales.
10 The difference between the business's assets and liabilities.
12 The expenses and labor needed to produce the product or service to be sold.
13 Financial holdings that represent a company's obligation to pay out value from the business.

### DOWN

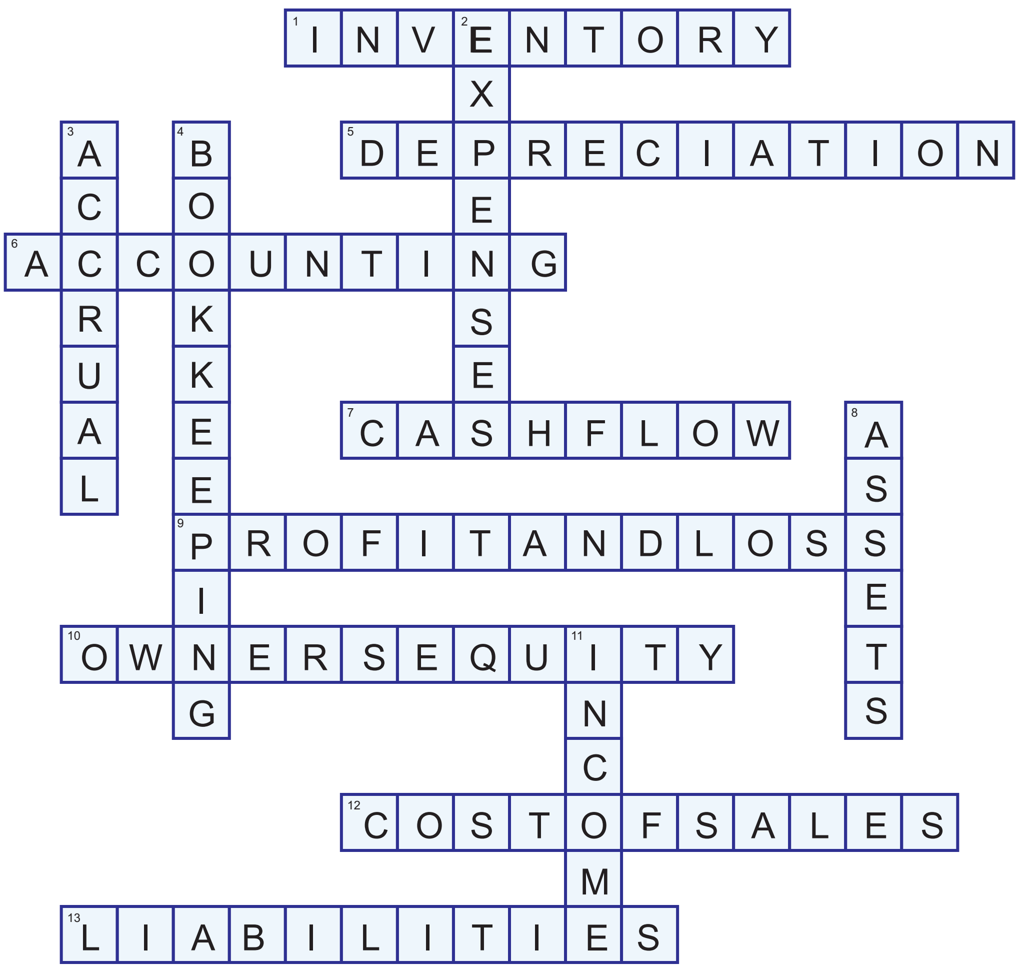
2 Financial flows representing money going out of the agribusiness.
3 The type of accounting that records income when earned and expenses when incurred.
4 The recording of business transactions into record books, journals and ledgers.
8 Financial holdings that represent things of value owned by the company.
11 Financial flows represented money coming into the agribusiness.

# The Business of Indian Agriculture

## MODULE 2: Accounting
## LESSON 1: Basics of Agribusiness Accounting & Bookkeeping
## TOPIC 2: Basic Accounting Concepts

## Crossword Puzzle

**Answers**

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# The Business of Indian Agriculture

## MODULE 2: Accounting

## LESSON 1: Basics of Agribusiness Accounting & Bookkeeping

## TOPIC 3: Importance of Recordkeeping

## Planting and Harvesting Record

Instructions: Complete the Planting and Harvesting Record below as follows:

**Crop:** name of the crop.

**Field:** where the seed or plant is planted on your farm.

**Planting Date:** date the crop seed was planted, or date the crop plant was transplanted to the land.

**Acres or # rows:** number of acres or number of rows planted for each crop.

**Harvest dates:** dates the crop is harvested.

**Harvest units:** amount of harvest in units appropriate for each crop.

**The information you are to record is as follows:**

- You planted five acres of sweet corn seed in field # 3 on May 17, and harvested 1,100 crates on August 4th.
- Ten rows of zucchini seed were planted in field # 1 on May 22, with 500 lbs. harvested on July 20.
- You planted 25 acres of alfalfa seed in field #5 on May 10, with the first cutting on July 10, which yielded 7 tons per acre.

| PLANTING AND HARVEST RECORD | | | | | |
|---|---|---|---|---|---|
| Crop | Field # | Planting Date | Acres or # rows | Harvest Date | Harvest Units |
| | | | | | |
| | | | | | |
| | | | | | |

# The Business of Indian Agriculture

## MODULE 2: Accounting

## LESSON 1: Basics of Agribusiness Accounting & Bookkeeping

## TOPIC 3: Importance of Recordkeeping

## Planting and Harvesting Record

**Answers**

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- You planted 25 acres of alfalfa seed in field #5 on May 10, with the first cutting on July 10, which yielded 7 tons per acre.

| PLANTING AND HARVEST RECORD | | | | | |
|---|---|---|---|---|---|
| Crop | Field # | Planting Date | Acres or # rows | Harvest Date | Harvest Units |
| Sweet Corn | 3 | May 17 | 5 acres | Aug. 4 | 1100 cts. |
| Zucchini | 1 | May 22 | 10 rows | July 20 | 500 lbs. |
| Alfalfa | 5 | May 10 | 25 acres | July 10 | 175 ton |

# Module 2: Accounting

## LESSON 2: Journals and Ledgers

Please turn to PAGE 87 of your participant guide.

# The Business of Indian Agriculture

## MODULE 2: Accounting

## LESSON 2: Journals and Ledgers

**Total time:** 1 hour, 45 minutes

### Lesson Topics

This lesson covers the following topics:

- What are journals and ledgers?
- How to use Journals.
- How to use Ledgers.

### Learning Objectives

Upon completion of this lesson, participants will:

- Understand the basic definition of journals and ledgers in accounting and bookkeeping, as well as the terms debit and credit.
- Understand journals and gain practical experience on how to use journals.
- Understand ledgers and gain practical experience on how to use ledgers.

### Definitions

**Credits:** the part of an accounting transaction that will increase liabilities and equity and decrease assets. Credits increase income accounts and decrease expense accounts. This term has a specific meaning to bookkeeping and accounting, and should not be confused with other uses of the word.

**Debits:** the part of an accounting transaction that will increase assets and decrease liabilities and equity. Debits decrease income accounts and increase expense accounts. This term has a specific meaning to bookkeeping and accounting, and should not be confused with other uses of the word.

**Double-entry bookkeeping system:** an accounting system that records every transaction in two places, with a matching credit and a debit entry. This system reduces the likelihood of errors, and provides a more accurate picture of the financial situation.

**Journals:** the chronological (time-based) record of business transactions. Information is recorded as it happens, and includes the date of the transaction, the amount and an explanation.

**Ledgers:** the records of business transactions categorized by separate accounts. Account groups include the business's assets and liabilities, such as cash, expense accounts and owner's equity.

**Posting:** the process where debits and credits are transferred from the journal to account ledgers.

**Single-entry bookkeeping system:** an accounting system that records every transaction only once (such as in a checkbook). It is simple and easy to use, but is more error prone and provides less information than a double-entry system.

## TOPIC 1: What are Journals and Ledgers?

[Instructor Notes]: Highlight the title and learning objectives for this topic. This topic provides students with the basic definition of journals and ledgers in accounting and bookkeeping, as well as the terms debit and credit.

**Time:** 20 minutes

**Materials:** Flipcharts, marker pens.

**Learning Outcome:** Students will understand the basic definition of journals and ledgers in accounting and bookkeeping, as well as the terms debit and credit.

- Journals and ledgers are two important tools used to keep accurate records of an agribusiness's finances.
    - Journals are the chronological (time-based) record of business transactions. Information is recorded as it happens, and includes the date of the transaction, the amount and an explanation.
    - Ledgers are the records of business transactions grouped by separate accounts. Account groups include the business's assets and liabilities, such as cash, expense accounts and owner's equity.
- Before we learn more about journals and ledgers, there are two important terms that need to be understood: debits and credits.
    - **Debits and Credits:** these two terms have a specific meaning to bookkeeping and accounting, and should not be confused with other uses of the words (such as credit or debit cards, or taking on debt, or using credit).
        - Debits and credits are the basic building blocks of the double-entry bookkeeping system (as opposed to the single-entry bookkeeping system).
            - A double-entry bookkeeping system records every transaction in two places, with a matching credit and a debit entry. This system reduces the likelihood of errors, and provides a more accurate picture of the financial situation.
            - A single-entry bookkeeping system records every transaction only once (such as in a checkbook). It is simple and easy to use, but is more error prone and provides less information than a double-entry system.

- Debit and credit represent the recording of the two sides of a transaction in an accounting system; for every debit transaction there must be a corresponding credit transaction and vice versa.
    - In strict accounting terms, debits are recorded on the left side of the ledger, credits on the right side. We will learn more about this in the following topics on journals and ledgers.
- Debits are the part of a transaction that will increase assets and decrease liabilities and equity. Credits are the part of a transaction that will increase liabilities and equity and decrease assets.
    - Credits increase income accounts and decrease expense accounts, while debits decrease income accounts and increase expense accounts.
- The table below shows how debit and credit transactions correspond to the five major types of ledger accounts.

| Ledger Accounts | Debits/Credits |
|---|---|
| Assets | An increase is a **debit.**<br>A decrease is a **credit.** |
| Liabilities | An increase is a **credit.**<br>A decrease is a **debit.** |
| Owner's Equity | An increase is a **credit.**<br>A decrease is a **debit.** |
| Income | An increase is a **credit.**<br>A decrease is a **debit.** |
| Expense | An increase is a **debit.**<br>A decrease is a **credit.** |

- Let's take several simple examples to help us understand the table.
    - You just took out a $20,000 loan and bought a truck. You have just increased value to your assets because you now have a truck. You have also increased the value of your liability because you now have a truck loan. In a double-entry bookkeeping system, you would debit (increase) your asset account by $20,000 and credit (increase) your liability account by $20,000. The transaction is recorded twice, in two matching parts.

- You paid the monthly phone bill for $135.72. You increased the value of the expense account (a debit) by $135.72, and you decreased the value of the cash asset account (a credit) by $135.72.
- You received a $250 payment from a customer for a service. You increased the value of your income account (a credit) by $250 and increased your cash asset account (a debit) by $250.
- You buy a computer for the business with $1,200 cash. You decreased your cash asset account (a credit) by $1,200 and increased your equipment asset account (a debit) by $1,200.

➢ Finally, there are many computer software products that provide relatively easy-to-use accounting systems.

  - They will help make your journal and ledger tasks (and preparation of financial documents) much easier and more error free. If you are comfortable using computers, you should shop around for the accounting system that best fits your needs.
  - There are also many computer accounting systems that are specifically tailored for farm and ranch businesses. You should contact a trusted accountant and experienced farmers or ranchers for references.

# TOPIC 2: How to Use Journals.

[Instructor Notes]: This topic provides students with an understanding of journals and practical experience on how to use journals.

**Time:** 35 minutes

**Materials:** Flipcharts, marker pens, Journal Worksheet.

**Learning Outcome:** Students will understand journals and gain practical experience on how to use journals.

- As mentioned in the last topic, journals are the chronological (time-based) record of business transactions. Information is recorded as it happens, and includes the date of the transaction, the amount and an explanation.
  - Journals are also called the "book of original entry."
  - Once the transaction is initially recorded in the journal, the debit and credit entries are then recorded in the account ledgers. So, the journal entries come first, before the ledger entries.
  - Before a journal entry is made, a decision needs to be made about which accounts will be affected by the transaction with both a credit and a debit entry.
  - The figure below shows an example of a journal with several entries. (These entry examples were introduced in the previous topic). Note that debits are in the left column and credits are in the right column.

**General Journal**

| Date | Accounts and Explanation | LP | Debit | Credit |
|---|---|---|---|---|
| Jan. 5 | Assets: Equipment<br>Liabilities: Truck loan<br>*Original loan to buy work truck* | | 20,000.00 | 20,000.00 |
| Jan. 28 | Expenses: Accounts Payable<br>Assets: Cash<br>*Paid monthly telephone bill* | | 135.72 | 135.72 |
| Feb. 3 | Assets: Cash<br>Income: Accounts Receivable<br>*Received payment from S. Jones* | | 250.00 | 250.00 |
| Feb. 16 | Assets: Equipment<br>Assets: Cash<br>*Bought computer for work* | | 1,200.00 | 1,200.00 |

- The General Journal above shows four transactions:
    - On January 5, you took out a $20,000 loan and bought a truck. You increased value to the equipment assets account because you now have a truck and you also increased value of the liability account because you now have a loan. You debit (increase) the equipment asset account by $20,000 and credit (increase) the liability account by $20,000.
    - On January 28, you paid the monthly phone bill for $135.72. You increased value of the expense account (a debit) by $135.72, and you decreased value of the cash asset account (a credit) by $135.72.
    - On February 3, you received a $250 payment from a customer. You increased the cash asset account (a debit) by $250 and increased the income account (a credit) by $250.
    - On February 15, you bought a computer for the business with $1,200 cash. You increased your equipment asset account (a debit) by $1,200 and decreased the cash asset account (a credit) by $1,200.

Activity (30 minutes): In small groups of 2-3, have participants discuss and complete the Journal Worksheet. Go through the answers as a large group and discuss any questions.

## TOPIC 3: How to Use Ledgers.

[Instructor Notes]: This topic provides students with an understanding of ledgers and practical experience on how to use ledgers.

**Time:** 50 minutes

**Materials:** Flipcharts, marker pens, Ledger Worksheet.

**Learning Outcome:** Students will understand ledgers and gain practical experience on how to use ledgers.

- As mentioned earlier in this lesson, ledgers are the records of business transactions grouped by separate accounts.
  - Each account (such as cash, inventory, equipment or owner's equity) has its own separate ledger record, and is sometimes called a "ledger account."
  - Collectively, all the ledger accounts are called the "ledger."
  - Typically, a ledger account page contains the title of the account, the date of the transaction, a place for explanations, a left side column for debits, a right side column for credits, and a balance column for a running total. See the figure below for an example.

| Account Ledger: Cash | | | | | |
|---|---|---|---|---|---|
| **Date** | **Explanation** | **LP** | **Debit** | **Credit** | **Balance** |
| Jan. 15 | *Original investment in business* | | 20,000.00 | | 20,000.00 |
| Jan. 28 | *Bought farm equipment (tractor)* | | | 12,000.00 | 8,000.00 |
| Feb. 2 | *Payment from S. Jones for services* | | 500.00 | | 8,500.00 |

  - In the example above, the Cash account ledger shows entries that recorded an initial investment of $20,000 in the business by the owner, a purchase of a tractor for $12,000, and receipt of a $500 payment.
  - Remember, for each debit or credit entry there needs to be a second matching entry somewhere in an account ledger. Can you identify those other matching ledger accounts and entries?
  - The $20,000 investment in the business, a debit (increase) to the cash account corresponds to a $20,000 credit (increase) in the owner's equity account ledger.

- The $12,000 payment for a tractor, a credit (decrease) to the cash account, corresponds to a $12,000 debit (increase) in the equipment assets account ledger.

- The $500 payment for services, a debit (increase) to the cash account, corresponds to a $500 credit (increase) in the accounts receivable income account ledger.

➢ Remember that a journal entry is made first, before entries are made into the account ledgers. Posting is the process where debits and credits are transferred from the journal to account ledgers.

  - Posting can take place at any time, but should be done regularly without too much time gap. There are different ways to post transactions from journals to ledgers, and people usually prefer to post the way that they feel is most comfortable.

  - One typical way to post is as follows:

    - Find the account ledger that matches with the first journal entry that needs posting.

    - In the debit column of the ledger account, enter the debit amount from the journal entry.

    - Enter the date from the journal entry into the ledger account, along with any explanation.

    - In the reference column (labeled "LP") of the ledger account, enter the journal page number where the entry is located.

    - In the reference column ("LP") of the journal, enter the ledger account page number of the corresponding entry. Now, both the journal and account ledger have reference page numbers showing that the posting has been completed.

    - Finally, repeat the process for the credit amount from the journal entry.

  - See the example on the next page that shows a posting from a journal entry to ledger accounts.

| General Journal<br>Page 5 | | | | |
|---|---|---|---|---|
| **Date** | **Accounts and Explanation** | **LP** | **Debit** | **Credit** |
| Jan. 5 | Assets: Equipment<br>Liabilities: Truck loan<br>*Original loan to buy work truck* | 4<br>9 | 20,000.00 | 20,000.00 |

| Account Ledger: Equipment<br>Page 4 | | | | | |
|---|---|---|---|---|---|
| **Date** | **Explanation** | **LP** | **Debit** | **Credit** | **Balance** |
| Jan. 5 | *Original loan to buy work truck* | 5 | 20,000.00 | | 20,000.00 |

| Account Ledger: Liabilities<br>Page 9 | | | | | |
|---|---|---|---|---|---|
| **Date** | **Explanation** | **LP** | **Debit** | **Credit** | **Balance** |
| Jan. 5 | *Original loan to buy work truck* | 5 | | 20,000.00 | 20,000.00 |

- In the example above, the January 5 journal entry shows a loan of $20,000 to purchase a work truck. The equipment assets account shows a debit (increase) of $20,000, and the liabilities account shows a credit (increase) of $20,000. The posting process would be as follows:

  - Find the equipment account ledger that matches with the first journal entry.
  - In the debit column of the equipment ledger account, enter the debit amount $20,000 from the journal entry.
  - Enter the date, Jan. 5, from the journal entry into the equipment ledger account, along with the explanation.
  - In the reference column (labeled "LP") of the ledger account, enter the journal page number 5 where the entry is located.
  - In the reference column ("LP") of the journal, enter the ledger account page number 4 of the corresponding entry. Now, both the journal and account ledger have reference page numbers showing that the posting has been completed.

- Repeat the process for the credit amount from the journal entry. Find the liabilities account ledger, enter a $20,000 credit, record the date Jan. 5 in the account ledger along with an explanation, enter the journal page number 5 in the account ledger reference column, and then enter the account ledger page number 9 in the journal reference column.

Activity (30 minutes): In small groups of 2-3, have participants discuss and complete the Ledger worksheet. Go through the answers as a large group and discuss any questions.

[Instructor Notes]: Recap the topics in the lesson and the learning objectives. Ask participants if the learning objectives were achieved.

## References

Baskerville, Peter. nd. Basic Accounting Concepts 2 - Debits and Credits. knoll: A unit of knowledge.

Ricketts, Cliff and Kristina Ricketts. 2009. *Agribusiness: Fundamentals and Applications, 2nd Edition*. Clifton Park, NY: Delmar Cengage Learning.

# The Business of Indian Agriculture

## MODULE 2: Accounting

## LESSON 2: Journals and Ledgers

## TOPIC 2: How to use journals

## Journal Worksheet

Use the following example transactions to create journal entries in the General Journal below. Remember to decide which account to debit and which account to credit before you make your entry. The first entry in the journal is done for you.

1. On March 29, you paid $239.11 cash for an office filing cabinet.
2. On April 1, you paid by check your monthly electricity bill of $175.96.
3. On May 3, you received a $500 payment from Sam Jones for a tractor part that you sold him.
4. On June 11, you took out a $5,000 short-term loan to buy hay for the winter.
5. On June 27, you took $2,500 of your company's profit out of cash reserves and invested it in a personal (non-business) retirement account.

| General Journal | | | | |
|---|---|---|---|---|
| **Date** | **Accounts and Explanation** | **LP** | **Debit** | **Credit** |
| Mar. 29 | Assets: Equipment<br>Assets: Cash<br>*Bought office filing cabinet.* | | 239.11 | 239.11 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## Journal Worksheet

## Answers

1. On March 29, you paid $239.11 cash for an office filing cabinet.
2. On April 1, you paid by check your monthly electricity bill of $175.96.
3. On May 3, you received a $500 payment from Sam Jones for a tractor part that you sold him.
4. On June 11, you took out a $5,000 short-term loan to buy hay for the winter.
5. On June 27, you took $2,500 of your company's profit out of cash reserves and invested it in a personal (non-business) retirement account.

**General Journal**

| Date | Accounts and Explanation | LP | Debit | Credit |
|---|---|---|---|---|
| Mar. 29 | Assets: Equipment<br>Assets: Cash<br>*Bought office filing cabinet.* | | 239.11 | <br>239.11 |
| Apr. 1 | Expenses: Accounts Payable<br>Assets: Cash<br>*Paid monthly electricity bill* | | 175.96 | <br>175.96 |
| May 3 | Assets: Cash<br>Income: Accounts Receivable<br>*Payment from S. Jones; tractor part* | | 500.00 | <br>500.00 |
| Jun. 11 | Assets: Inventory<br>Liabilities: 90-day loan<br>*Loan to buy winter hay* | | 5,000.00 | <br>5,000.00 |
| Jun. 27 | Owner's Equity: Cash reserves<br>Assets: Cash<br>*Took profit to retirement savings* | | 2,500.00 | <br>2,500.00 |

# The Business of Indian Agriculture

## MODULE 2: Accounting

## LESSON 2: Journals and Ledgers

## TOPIC 3: How to use ledgers

## Ledger Worksheet

In the previous topic's Journal Worksheet, you should have created journal entries similar to what is shown below.

| General Journal<br>Page 3 | | | | |
|---|---|---|---|---|
| **Date** | **Accounts and Explanation** | **LP** | **Debit** | **Credit** |
| Mar. 29 | Assets: Equipment<br>Assets: Cash<br>*Bought office filing cabinet.* | | 239.11 | 239.11 |
| Apr. 1 | Expenses: Accounts Payable<br>Assets: Cash<br>*Paid monthly electricity bill* | | 175.96 | 175.96 |
| May 3 | Assets: Cash<br>Income: Accounts Receivable<br>*Payment from S. Jones; tractor part* | | 500.00 | 500.00 |
| Jun. 11 | Assets: Inventory<br>Liabilities: 90-day loan<br>*Loan to buy winter hay* | | 5,000.00 | 5,000.00 |
| Jun. 27 | Owner's Equity: Cash reserves<br>Assets: Cash<br>*Took profit to retirement savings* | | 2,500.00 | 2,500.00 |

Now, post the journal entries shown above to the account ledgers on the following pages. Don't forget to fill out the reference column (LP) in the journal entries above. As a reminder, the basic steps to posting are located in Topic 3 in your workbook.

| Account Ledger: Equipment<br>Page 2 | | | | | |
|---|---|---|---|---|---|
| Date | Explanation | LP | Debit | Credit | Balance |
| | | | | | |
| | | | | | |
| | | | | | |

| Account Ledger: Cash<br>Page 4 | | | | | |
|---|---|---|---|---|---|
| Date | Explanation | LP | Debit | Credit | Balance |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| Account Ledger: Accounts Payable<br>Page 14 | | | | | |
|---|---|---|---|---|---|
| Date | Explanation | LP | Debit | Credit | Balance |
| | | | | | |
| | | | | | |
| | | | | | |

| Account Ledger: Accounts Receivable<br>Page 11 | | | | | |
|---|---|---|---|---|---|
| Date | Explanation | LP | Debit | Credit | Balance |
| | | | | | |
| | | | | | |
| | | | | | |

| Account Ledger: Inventory<br>Page 9 | | | | | |
|---|---|---|---|---|---|
| Date | Explanation | LP | Debit | Credit | Balance |
| | | | | | |
| | | | | | |

| Account Ledger: Liabilities<br>Page 1 | | | | | |
|---|---|---|---|---|---|
| Date | Explanation | LP | Debit | Credit | Balance |
| | | | | | |
| | | | | | |

| Account Ledger: Owner's Equity<br>Page 2 | | | | | |
|---|---|---|---|---|---|
| Date | Explanation | LP | Debit | Credit | Balance |
| | | | | | |
| | | | | | |
| | | | | | |

# Ledger Worksheet

## Answers

| General Journal<br>Page 3 | | | | |
|---|---|---|---|---|
| **Date** | **Accounts and Explanation** | **LP** | **Debit** | **Credit** |
| Mar. 29 | Assets: Equipment<br>Assets: Cash<br>*Bought office filing cabinet.* | 2<br>4 | 239.11 | <br>239.11 |
| Apr. 1 | Expenses: Accounts Payable<br>Assets: Cash<br>*Paid monthly electricity bill* | 14<br>4 | 175.96 | <br>175.96 |
| May 3 | Assets: Cash<br>Income: Accounts Receivable<br>*Payment from S. Jones; tractor part* | 4<br>11 | 500.00 | <br>500.00 |
| Jun. 11 | Assets: Inventory<br>Liabilities: 90-day loan<br>*Loan to buy winter hay* | 9<br>1 | 5,000.00 | <br>5,000.00 |
| Jun. 27 | Owner's Equity: Cash Reserves<br>Assets: Cash<br>*Took profit to retirement savings* | 2<br>4 | 2,500.00 | <br>2,500.00 |

| Account Ledger: Equipment<br>Page 2 | | | | | |
|---|---|---|---|---|---|
| **Date** | **Explanation** | **LP** | **Debit** | **Credit** | **Balance** |
| Mar. 29 | *Bought office filing cabinet.* | 3 | 239.11 | | 239.11 |
| | | | | | |
| | | | | | |

**Account Ledger: Cash**
**Page 4**

| Date | Explanation | LP | Debit | Credit | Balance |
|---|---|---|---|---|---|
| Mar. 29 | *Bought office filing cabinet.* | 3 | | 239.11 | -239.11 |
| Apr. 1 | *Paid monthly electricity bill* | 3 | | 175.96 | -415.07 |
| May 3 | *Payment from S. Jones; tractor part* | 3 | 500.00 | | 84.93 |
| Jun. 27 | *Took profit to retirement savings* | 3 | | 2,500.00 | -2,415.07 |
| | | | | | |

**Account Ledger: Accounts Payable**
**Page 14**

| Date | Explanation | LP | Debit | Credit | Balance |
|---|---|---|---|---|---|
| Apr. 1 | *Paid monthly electricity bill* | 3 | 175.96 | | 175.96 |
| | | | | | |
| | | | | | |

**Account Ledger: Accounts Receivable**
**Page 11**

| Date | Explanation | LP | Debit | Credit | Balance |
|---|---|---|---|---|---|
| May 3 | *Payment from S. Jones; tractor part* | 3 | | 500.00 | 500.00 |
| | | | | | |
| | | | | | |

**Account Ledger: Inventory**
**Page 9**

| Date | Explanation | LP | Debit | Credit | Balance |
|---|---|---|---|---|---|
| Jun. 11 | *Loan to buy winter hay* | 3 | 5,000.00 | | 5,000.00 |
| | | | | | |

| Account Ledger: Liabilities<br>Page 1 | | | | | |
|---|---|---|---|---|---|
| **Date** | **Explanation** | **LP** | **Debit** | **Credit** | **Balance** |
| Jun. 11 | *Loan to buy winter hay* | 3 | | 5,000.00 | 5,000.00 |
| | | | | | |

| Account Ledger: Owner's Equity<br>Page 2 | | | | | |
|---|---|---|---|---|---|
| **Date** | **Explanation** | **LP** | **Debit** | **Credit** | **Balance** |
| Jun. 27 | *Took profit to retirement savings* | 3 | 2,500.00 | | -2,500.00 |
| | | | | | |
| | | | | | |

# Module 2: Accounting

## LESSON 3: Preparing Financial Statements

Please turn to PAGE 103 of your participant guide.

# The Business of Indian Agriculture

## MODULE 2: Accounting

## LESSON 3: Preparing Financial Statements

**Total Time:** 2 hours

**Lesson Topics**

This lesson covers the following topics:

- The importance and Uses of Financial Statements.
- Preparing an Income Statement.
- Preparing a Balance Sheet.
- Preparing a Statement of Cash Flows.
- Preparing a Statement of Owner's Equity.

**Learning Objectives**

Upon completion of this lesson, participants will:

- Understand the importance and basic uses of the four major business financial statements.
- Understand and gain practical experience on how to prepare an Income Statement.
- Understand and gain practical experience on how to prepare a Balance Sheet.
- Understand and gain practical experience on how to prepare a Statement of Cash Flows.
- Understand and gain practical experience on how to prepare a Statement of Owner's Equity.

## Definitions

**Income Statement:** this financial document reports the profit earned (or loss incurred) by the agribusiness over a period of time. Typically, this report is produced annually, but can be produced quarterly or monthly.

**Balance Sheet:** this financial document reports the assets, liabilities and owner's equity of an agribusiness. The term balance means that total assets must balance or be equal with total liabilities and owner's equity.

**Statement of Cash Flows:** this financial document reports cash receipts and expenditures related to the agribusiness over a period of time.

**Statement of Owner's Equity:** this financial document reports the change in owner equity between the beginning and ending balance sheet periods.

# TOPIC 1: The Importance and Uses of Financial Statements.

[Instructor Notes]: Highlight the title and learning objectives for this topic. This topic provides students with an understanding of the importance and basic uses of the four major business financial statements.

**Time:** 10 minutes

**Materials:** Flipcharts, marker pens.

**Learning Outcome:** Students will understand the importance and basic uses of the four major business financial statements.

- Financial statements are the documents produced by an accounting system that serve the two main purposes of accounting - to provide an accurate financial picture of the agribusiness so that:
    1. sound business decisions can be made, and so that
    2. interested parties can accurately assess the financial standing of the agribusiness.
- They are critical tools that are needed to access credit, file taxes, solicit investment and change ownership structure.
    - Almost any serious business decision requires the information contained in these financial statements.
- Not only do they provide a snapshot of the current financial picture, they also provide information on how the agribusiness is doing financially over time.
- Financial statements are part of the generally accepted accounting principles (GAAP) developed by the Federal Accounting Standards Advisory Board, and as such, are an accounting requirement for businesses.
- Financial statements summarize the information contained in the agribusiness's ledgers, and they reflect the financial transactions (changes to the business's financial situation) since the last time financial statements were produced.
- There are four main financial statements of importance for most businesses:
    1. **Income Statement:** this financial document reports the profit earned (or loss incurred) by the agribusiness over a period of time. Typically, this report is produced annually, but can be produced quarterly or monthly. It is sometimes called the "Profit and Loss Statement."

2. **Balance Sheet:** this financial document reports the assets, liabilities, and owner's equity of an agribusiness. The term balance means that total assets must balance or be equal with total liabilities and owner's equity.

3. **Statement of Cash Flows:** this financial document reports cash receipts and expenditures related to the agribusiness over a period of time.

4. **Statement of Owner's Equity:** this financial document reports the change in owner equity between the beginning and ending balance sheet periods.

## TOPIC 2: Preparing an Income Statement.

[Instructor Notes]: This topic provides students with an understanding and practical experience on how to prepare an Income Statement.

**Time:** 30 minutes

**Materials:** Flipcharts, marker pens, Income Statement Worksheet.

**Learning Outcome:** Students will understand and gain practical experience on how to prepare an Income Statement.

- As mentioned in the last topic, an Income Statement reports the profit earned (or loss incurred) by the agribusiness over a period of time.
    - Typically, this report is produced annually, but can be produced quarterly or monthly.
    - It is sometimes called the "Profit and Loss Statement."
    - The four major components of the Income Statement are revenue, expenses, taxes, and "other."
        - Revenue can come from a variety of sources, such as services, various product and service lines, or interest and dividend income. Wages from off-farm jobs also count as revenue.
            - Remember (from Lesson 1: Basics of Agribusiness Accounting & Bookkeeping) that income is different than revenue. Income is money coming in (revenue) minus expenses (cost of goods sold).
        - Expenses include operating expenses, incidental or one-time expenses, depreciation, and interest payments.
        - Taxes include income and self-employment taxes, but not property taxes or employee taxes (they are treated as an expense).
        - The "other" category includes any unusual financial event, such as a crop insurance payout.
    - The Figure on the next page [or below] provides an example of a simplified Income Statement for Joe's Asparagus Farm. Note the four main categories on the statement.
        - Revenue comes from asparagus sales and farm accessories sales, and totals $83,000.

- The cost of goods sold are those costs needed to produce the products for sale. They include transplants and fertilizer and total $7,500.
- Total income is revenues minus any cost of goods sold, and is $75,500 in the example.
- Expenses include labor, office expenses and equipment depreciation, and they total $43,000.
- Total net income (total income minus total expenses) is $32,500 before tax.
- Tax expense is $10,725 and is subtracted from total net income for the final income total of $21,775.
- Note that there was no "other" category in this example.

| Joe's Asparagus Farm<br>**Income Statement**<br>For the Year Ended December 31, 20xx | | | |
|---|---|---|---|
| *Revenue* | | | |
| Asparagus sales | 80,000 | | |
| Farm accessories sales | 3,000 | | |
| *Total revenue* | | 83,000 | |
| *Cost of goods sold* | | | |
| Transplants | 5,000 | | |
| Fertilizer | 2,500 | | |
| *Total Cost of goods sold* | | 7,500 | |
| *Total Income* | | | 75,500 |
| | | | |
| *Expenses* | | | |
| Labor, salaries and wages | 40,000 | | |
| Office expense | 2,000 | | |
| Depreciation, equipment | 1,000 | | |
| *Total expenses* | | | 43,000 |
| | | | |
| *Total net income (before tax)* | | | 32,500 |
| Tax expense | | | 10,725 |
| | | | |
| *Net income* | | | 21,775 |

Activity (20 minutes): In small groups of 2-3, have participants discuss and complete the Income Statement Worksheet. Go through the answers in a large group and discuss any questions.

As a bonus question and to preview the next lesson, ask participants how they would evaluate the agribusiness described in the worksheet. Typical answers may include that the agribusiness is not making much money; has high costs and/or low revenues or is paying a lot for labor, but is doing okay if labor costs are being paid back to the working owner as a wage.

## TOPIC 3: Preparing a Balance Sheet.

[Instructor Notes]: This topic provides students with an understanding and practical experience on how to prepare a Balance Sheet.

**Time:** 30 minutes

**Materials:** Flipcharts, marker pens, Balance Sheet Worksheet.

**Learning Outcome:** Students will understand and gain practical experience on how to prepare a Balance Sheet.

- As mentioned in the introductory topic, a Balance Sheet reports the assets, liabilities and owner's equity of an agribusiness.
    - It shows the financial condition of the agribusiness at a certain point in time. It offers a financial snapshot on a given date, and so it can be very useful for lenders who are looking for current information.
    - The Balance Sheet is sometimes called the "Statement of Financial Position," or the "Profit and Loss Statement."
    - The Balance Sheet must follow the fundamental accounting rule that says that total assets must be equal with total liabilities and owner's equity.
    - The Balance Sheet usually has two columns: assets are listed on the left side, and liabilities and net worth are on the right side.
    - The three major components of the Balance Sheet are assets, liabilities and owner's equity.
        - Recall (from Lesson 1: Basics of Agribusiness Accounting & Bookkeeping) that assets are all the things of value that are owned by the business. Some Balance Sheets will place assets into different groups depending on their characteristics or timing (for example, long-term assets like buildings vs. short-term assets like cash).
        - Also remember that liabilities represent your company's obligations to pay out value from the business, such as debt.

- Finally, remember that owner's equity is the difference between assets and liabilities and represents the net worth of the business held by the owner. It can include retained earnings (accumulated profits), company stock and partner's investments.

- The figure on the next page provides an example of a simplified Balance Sheet for Joe's Asparagus Farm. Note the three main categories on the statement.
    - Assets (listed on the left side of the sheet) include cash, accounts receivable, inventory, supplies, land, buildings and machinery and equipment, and they all total $121,500.
    - Liabilities (top of the right side) include accounts payable, short- and long-term debt, and land mortgage, and total $62,000.
    - Owner's equity (down the right side) includes an original investment in the company, retained earnings (profit), and the current year's income, which totals $59,500.
    - Liabilities and owner's equity together (right side) total $121,500, which balances or equals with the assets total.

| Joe's Asparagus Farm<br>**Balance Sheet**<br>December 31, 20xx | | | |
|---|---|---|---|
| *Assets* | | *Liabilities* | |
| Cash | 20,000 | Accounts Payable | 2,000 |
| Accounts Receivable | 3,000 | Short-term Debt | 5,000 |
| Inventory | 16,000 | Long-term Debt | 15,000 |
| Supplies | 2,500 | Mortgage (land) | 40,000 |
| Land | 35,000 | | |
| Buildings | 25,000 | *Total Liabilities* | 62,000 |
| Machinery and Equipment | 20,000 | | |
| | | *Owner's Equity* | |
| *Total Assets* | 121,500 | Original Investment | 40,000 |
| | | Retained Earnings | 15,000 |
| | | Current Year Income | 4,500 |
| | | | |
| | | *Total Owner's Equity* | 59,500 |
| | | | |
| | | *Total Liabilities & Owner's Equity* | 121,500 |

Activity (15 minutes): In small groups of 2-3, have participants discuss and complete the Balance Sheet Worksheet. Go through the answers as a large group and discuss any questions.

As a bonus question and to preview the next lesson, ask participants how they would evaluate the agribusiness described in the worksheet. Typical answers may include that the agribusiness has too much debt, or has too little owner's equity. Ask them, if they were a lender, would they provide credit to this agribusiness. Why or why not?

## TOPIC 4: Preparing a Statement of Cash Flows.

[Instructor Notes]: This topic provides students with an understanding and practical experience on how to prepare a Statement of Cash Flows.

**Time:** 30 minutes

**Materials:** Flipcharts, marker pens, Statement of Cash Flows Worksheet.

**Learning Outcome:** Students will understand and gain practical experience on how to prepare a Statement of Cash Flows.

- As mentioned in the introductory topic, a Statement of Cash Flows is a financial document that reports cash receipts and expenditures related to the agribusiness over a period of time.
    - The Statement of Cash Flows answers basic questions about where your cash comes from, and how it was spent.
    - Only cash and cash-related entries are allowed in the Statement of Cash Flows. Cash-related entries include checking and savings accounts, certificates of deposit, government notes and so forth. These are liquid assets that are easily and immediately accessible.
    - Entries in the Statement of Cash Flows fall into three major activity categories: operating, investing and financing.
        - Operating cash income and expenses include entries related to the production of goods and services, sales, payments, inventory and taxes.
        - Investment cash entries include income or expenses associated with land, buildings, loans and retirement accounts.
        - Financing cash entries are mostly related to the servicing of debt.
    - The Statement of Cash Flows is an important analysis and planning document. A related document, the Cash Flow Statement, projects cash flows into the future and is a good forecasting tool.
    - The figure on the next page provides an example of a simplified Statement of Cash Flows for Joe's Asparagus Farm. Note the three main categories on the statement. Also note that cash outflows are indicated using parentheses, as in (1,000).
        - Operating income and expenses (listed first) include sales, payments from accounts receivable, inventory expenditures, operating expenses, and income tax paid, which all total $34,775 net cash flow.

- Investment entries include payments to a retirement account, mortgage payments, and dividends received, and total ($16,575) net cash flow.
- Financing entries include payments for short-term and long-term debt, and total ($4,500).
- The net change in cash for the year is $13,700, and is added to the cash at the beginning of the year, $16,000. The total cash at the end of year is $29,700.

| | | |
|---|---|---|
| Joe's Asparagus Farm | | |
| **Statement of Cash Flows** | | |
| For the Year Ended December 31 | | |
| *Cash flows from Operations:* | | |
| Sales | 83,000 | |
| Payments from Accounts Receivable | 13,000 | |
| Inventory | (5,000) | |
| Operating expenses | (45,500) | |
| Income taxes paid | (10,725) | |
| *Net cash from Operations* | | 34,775 |
| | | |
| *Cash flows from Investments:* | | |
| Retirement account | (5,000) | |
| Mortgage payments | (12,000) | |
| Dividends | 425 | |
| *Net cash from Investments* | | (16,575) |
| | | |
| *Cash flows from Financing:* | | |
| Payment of short-term debt | (1,500) | |
| Payments of long-term debt | (3,000) | |
| *Net cash from Financing* | | (4,500) |
| | | |
| *Net change in cash* | | 13,700 |
| *Cash at beginning of year* | | 16,000 |
| ***Cash at end of year*** | | 29,700 |
| | | |

Activity (20 minutes): In small groups of 2-3, have participants discuss and complete the Statement of Cash Flows Worksheet. Go through the answers as a large group and discuss any questions. As a bonus question and to preview the next lesson, ask participants how they would evaluate the agribusiness described in the worksheet. Typical answers may include that the agribusiness has too little cash, and is losing cash. Ask them, if they were a lender, would they provide credit to this agribusiness? Why or why not?

## TOPIC 5: Preparing a Statement of Owner's Equity.

[Instructor Notes]: This topic provides students with an understanding and practical experience on how to prepare a Statement of Owner's Equity.

**Time:** 20 minutes

**Materials:** Flipcharts, marker pens, Statement of Owner's Equity Worksheet.

**Learning Outcome:** Students will understand and gain practical experience on how to prepare a Statement of Owner's Equity.

- As mentioned in the introductory topic, a Statement of Owner's Equity is a financial document that reports the change in owner equity between the beginning and ending balance sheet periods.
    - The Statement of Owner's Equity provides a final check on the accuracy of the other three major financial documents. It relies upon information from those three documents to produce a picture of owner's equity, as follows:
        - Net income comes from the Income Statement.
        - Beginning and ending owner's equity amounts come from the Balance Sheet.
        - Other information comes from the Statement of Cash Flows.
    - Owner's equity is the most fundamental picture of the financial health of an agribusiness - it tells whether agribusiness is adding worth to the owner.
    - The figure on the next page provides an example of a simplified Statement of Owner's Equity for Joe's Asparagus Farm. Note that there are eight entries, as follows:
        1. Beginning owner's equity, which comes from the previous year's Balance Sheet, was $42,300.
        2. Net income, or profit, comes from the Income Statement, and is $21,755.
        3. There were no gifts and inheritances, which would be listed in the Statement of Cash Flows.
        4. Additions to capital include a $425 dividend contribution from a stock investment, from the Statement of Cash Flows.
        5. There were no distribution of dividends, capital or any gifts made, which would be listed in the Statement of Cash Flows.

6. Withdrawals include a $5,000 contribution to a retirement savings account, from the Statement of Cash Flows.

7. The total change in contributed capital and retained earnings is calculated as line 2 + line 3 + line 4 – line 5 – line 6 = line 7. In this case, the total change is $21,775 + $0 + $425 - $0 - $5,000 = $17,200.

8. The ending owner's equity, is calculated as line 1 + line 7, or $42,300 + $17,200 = $59,500. This should agree with this year's Balance Sheet owner's equity entry, $59,500.

| Joe's Asparagus Farm<br>**Statement of Owner's Equity**<br>For the Year Ended December 31 | | |
|---|---|---|
| | | |
| 1. Beginning owner's equity | | 42,300 |
| 2. Net income (profit) | 21,775 | |
| 3. Gifts and inheritances | 0 | |
| 4. Additions to capital (including personal investments into the business) | 425 | |
| 5. Distribution of dividends, capital or gifts made (cash or property) | 0 | |
| 6. Withdrawals for family living, gifts made and investments into personal assets | (5,000) | |
| 7. Total change in contributed capital and retained earnings (line 2 + line 3 + line 4 – line 5 – line 6 = line 7) | | 17,200 |
| 8. Ending owner's equity | | 59,500 |
| | | |

Activity (10 minutes): In small groups of 2-3, have participants discuss and complete the Statement of Owner's Equity Worksheet. Go through the answers as a large group and discuss any questions. As a bonus question and to preview the next lesson, ask participants how they would evaluate the agribusiness described in the worksheet. Typical answers may include that the agribusiness is growing and making the owner money now, and the business is now past the breakeven point. Ask them, if they were a lender, would they provide credit to this agribusiness. Why or why not?

[Instructor Notes]: Recap the topics in the lesson and the learning objectives. Ask participants if the learning objectives were achieved.

## Reference

Ricketts, Cliff and Kristina Ricketts. 2009. *Agribusiness: Fundamentals and Applications, 2nd Edition*. Clifton Park, NY: Delmar Cengage Learning.

# The Business of Indian Agriculture

## MODULE 2: Accounting

## LESSON 3: Preparing Financial Statements

## TOPIC 2: Preparing an Income Statement

## Income Statement Worksheet

On the next page, there is a blank template of a simplified Income Statement. Using only the information below, complete the Income Statement and be prepared to discuss your results.

- The company's name is Susan's Strawberry Patch Preserves.
- Revenue for the agribusiness comes from sales of strawberry jams and jellies ($42,500), and from locally produced arts and crafts that feature a strawberry theme ($10,000). Total revenue for the past year ending on December 31 was $52,500.
- The cost of goods sold necessary to produce the strawberry preserves included canning materials and supplies ($4,500), and fertilizer and other growing supplies ($5,000). Together, they totaled $9,500.
- Expenses for the agribusiness included labor ($25,000), store rental ($3,600) and advertising ($1,500), and they totaled $30,100.
- The tax expense was $3,800.
- There were no "other" financial events to report.

| | | | |
|---|---|---|---|
| **Income Statement**<br>For the Year Ended December 31, 20xx | | | |
| *Revenue* | | | |
| | | | |
| | | | |
| *Total revenue* | | | |
| *Cost of goods sold* | | | |
| | | | |
| | | | |
| *Total Cost of goods sold* | | | |
| *Total Income* | | | |
| | | | |
| *Expenses* | | | |
| | | | |
| | | | |
| | | | |
| *Total expenses* | | | |
| | | | |
| *Total net income (before tax)* | | | |
| Tax expense | | | |
| | | | |
| *Net income* | | | |

## Income Statement Worksheet

## Answers

| | | | |
|---|---|---|---|
| Susan's Strawberry Patch Preserves<br>**Income Statement**<br>For the Year Ended December 31, 2012 | | | |
| *Revenue* | | | |
| Jams and jellies sales | 42,500 | | |
| Arts and crafts sales | 10,000 | | |
| *Total revenue* | | 52,500 | |
| *Cost of goods sold* | | | |
| Canning materials and supplies | 4,500 | | |
| Fertilizer and growing supplies | 5,000 | | |
| *Total Cost of goods sold* | | 9,500 | |
| *Total Income* | | | 43,000 |
| | | | |
| *Expenses* | | | |
| Labor | 25,000 | | |
| Store rental | 3,600 | | |
| Advertising | 1,500 | | |
| *Total expenses* | | | 30,100 |
| | | | |
| *Total net income (before tax)* | | | 12,900 |
| Tax expense | | | 3,800 |
| | | | |
| *Net income* | | | 9,100 |

# The Business of Indian Agriculture

## MODULE 2: Accounting

## LESSON 3: Preparing Financial Statements

## TOPIC 3: Preparing a Balance Sheet

### Balance Sheet Worksheet

On the next page, there is a blank template of a simplified Balance Sheet. Using only the information below, complete the Balance Sheet and be prepared to discuss your results.

- The company's name is Susan's Strawberry Patch Preserves.
- The Balance Sheet represents the financial position of the company as of March 18, 2012.
- As of March 18, 2012, assets owned by the agribusiness included:
  - ✓ cash on hand ($3,400),
  - ✓ accounts receivable ($500),
  - ✓ canning supplies ($4,100),
  - ✓ canning equipment and machinery ($10,000),
  - ✓ inventory ($7,500),
  - ✓ land ($5,000), and
  - ✓ a storage shed ($1,500).
- As of March 18, 2012, the liabilities held by the agribusiness included:
  - ✓ short-term debt ($5,500),
  - ✓ long-term debt ($10,000),
  - ✓ accounts payable ($1,000), and
  - ✓ land mortgage ($10,000).
- As of March 18, 2012, the owner's equity in the agribusiness included:
  - ✓ an original investment ($5,000),
  - ✓ retained earnings ($450), and current year net income ($50).

| **Balance Sheet** | | | |
|---|---|---|---|
| *Assets* | | *Liabilities* | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | *Total Liabilities* | |
| | | | |
| | | *Owner's Equity* | |
| *Total Assets* | | | |
| | | | |
| | | | |
| | | | |
| | | *Total Owner's Equity* | |
| | | | |
| | | *Total Liabilities & Owner's Equity* | |

## Balance Sheet Worksheet

## Answers

Susan's Strawberry Patch Preserves

**Balance Sheet**

March 18, 2012

| | | | |
|---|---|---|---|
| *Assets* | | *Liabilities* | |
| Cash | 3,400 | Short-term Debt | 5,500 |
| Accounts Receivable | 500 | Long-term Debt | 10,000 |
| Canning Supplies | 4,100 | Accounts Payable | 1,000 |
| Equipment and Machinery | 10,000 | Mortgage (land) | 10,000 |
| Inventory | 7,500 | | |
| Land | 5,000 | *Total Liabilities* | 26,500 |
| Storage Shed | 1,500 | | |
| | | *Owner's Equity* | |
| *Total Assets* | 32,000 | Original Investment | 5,000 |
| | | Retained Earnings | 450 |
| | | Current Year Income | 50 |
| | | | |
| | | *Total Owner's Equity* | 5,500 |
| | | | |
| | | *Total Liabilities & Owner's Equity* | 32,000 |

# The Business of Indian Agriculture

## MODULE 2: Accounting

## LESSON 3: Preparing Financial Statements

## TOPIC 4: Preparing a Statement of Cash Flows

### Statement of Cash Flows Worksheet

On the next page, there is a blank template of a simplified Statement of Cash Flows. Using only the information below, complete the Statement of Cash Flows and be prepared to discuss your results.

- The company's name is Susan's Strawberry Patch Preserves.
- The Statement of Cash Flows represents the cash position of the company as of December 31, 2011.
- At the end of the year, the cash flows from operations included:
  - ✓ $52,500 received from sales,
  - ✓ ($9,500) in supply expenses,
  - ✓ ($30,100) in operating expenses, and
  - ✓ ($3,800) in tax expense.
- At the end of the year, the cash flows from investments included:
  - ✓ a ($2,500) payment to a retirement account, and
  - ✓ ($5,000) in land mortgage payments.
- At the end of the year, the cash flows from financing included:
  - ✓ a ($1,000) payment for short-term debt, and
  - ✓ a ($2,000) payment for long-term debt.
- Cash at the beginning of the year was $6,000.

| **Statement of Cash Flows**<br>For the Year Ended December 31 | | |
|---|---|---|
| *Cash flows from Operations:* | | |
| | | |
| | | |
| | | |
| | | |
| *Net cash from Operations* | | |
| | | |
| *Cash flows from Investments:* | | |
| | | |
| | | |
| *Net cash from Investments* | | |
| | | |
| *Cash flows from Financing:* | | |
| | | |
| | | |
| *Net cash from Financing* | | |
| | | |
| *Net change in cash* | | |
| *Cash at beginning of year* | | |
| ***Cash at end of year*** | | |
| | | |

## Statement of Cash Flows Worksheet

## Answers

| Susan's Strawberry Patch Preserves<br>**Statement of Cash Flows**<br>For the Year Ended December 31, 2012 | | |
|---|---|---|
| *Cash flows from Operations:* | | |
| Sales | 52,500 | |
| Supplies | (9,500) | |
| Operating expenses | (30,100) | |
| Income taxes paid | (3,800) | |
| *Net cash from Operations* | | 9,100 |
| | | |
| *Cash flows from Investments:* | | |
| Retirement account | (2,500) | |
| Mortgage payments | (5,000) | |
| *Net cash from Investments* | | (7,500) |
| | | |
| *Cash flows from Financing:* | | |
| Payment of short-term debt | (1,000) | |
| Payments of long-term debt | (2,000) | |
| *Net cash from Financing* | | (3,000) |
| | | |
| *Net change in cash* | | (1,400) |
| *Cash at beginning of year* | | 6,000 |
| ***Cash at end of year*** | | 4,600 |
| | | |

# The Business of Indian Agriculture

## MODULE 2: Accounting

## LESSON 3: Preparing Financial Statements

## TOPIC 5: Preparing a Statement of Owner's Equity

## Statement of Owner's Equity Worksheet

On the next page, there is a blank template of a simplified Statement of Cash Flow. Using only the information below, complete the Statement of Cash Flow and be prepared to discuss your results.

- ✓ The company's name is Susan's Strawberry Patch Preserves.
- ✓ The Statement of Owner's Equity represents the owner's position in the company as of December 31, 2011.
- ✓ At the end of the previous year, the owner's equity was ($1,100) - that's a negative amount. In other words, the owner had invested more into the company than she now had.
- ✓ Net income, or profit, for this year was $9,100.
- ✓ There were no gifts and inheritances to report.
- ✓ There were no additions to capital to report.
- ✓ There were no distributions of dividends, capital or gifts made.
- ✓ There was a $2,500 contribution to a retirement savings account.

| Statement of Owner's Equity<br>For the Year Ended December 31 | | |
|---|---|---|
| | | |
| 1. Beginning owner's equity | | |
| 2. Net income (profit) | | |
| 3. Gifts and inheritances | | |
| 4. Additions to capital (including personal investments into the business) | | |
| 5. Distribution of dividends, capital or gifts made (cash or property) | | |
| 6. Withdrawals for family living, gifts made and investments into personal assets | | |
| 7. Total change in contributed capital and retained earnings (line 2 + line 3 + line 4 – line 5 – line 6 = line 7) | | |
| 8. Ending owner's equity | | |

## Statement of Owner's Equity Worksheet

## Answers

| | | |
|---|---|---|
| Susan's Strawberry Patch Preserves<br>**Statement of Owner's Equity**<br>For the Year Ended December 31 | | |
| | | |
| 1. Beginning owner's equity | | (1,100) |
| 2. Net income (profit) | 9,100 | |
| 3. Gifts and inheritances | 0 | |
| 4. Additions to capital (including personal investments into the business) | 0 | |
| 5. Distribution of dividends, capital or gifts made (cash or property) | 0 | |
| 6. Withdrawals for family living, gifts made and investments into personal assets | (2,500) | |
| 7. Total change in contributed capital and retained earnings (line 2 + line 3 + line 4 – line 5 – line 6 = line 7) | | 6,600 |
| 8. Ending owner's equity | | 5,500 |

# Module 2: Accounting

## LESSON 4: Analyzing Financial Statements

Please turn to PAGE 123 of your participant guide.

# The Business of Indian Agriculture

## MODULE 2: Accounting

## LESSON 4: Analyzing Financial Statements

**Total time:** 1 hour, 45 minutes

**Lesson Topics**

This lesson covers the following topics:

- Using Financial Statements to Provide a Financial Picture of a Business.
- Using Ratio Analysis.
- A Case Study in Analyzing Financial Statements.

**Learning Objectives**

Upon completion of this lesson, participants will:

- Understand the objective and basic methods of analyzing financial statements.
- Understand and gain practical experience on how to use ratio analysis.
- Gain practical experience on analyzing financial statements through a case study.

**Definitions**

**Activity Ratio:** This measure represents how efficiently a company uses its assets. Also called a "turnover ratio," this ratio shows how quickly a company uses its investments in assets to benefit the company.

**Comparative analysis:** An analysis comparing financial statements of a company with similar businesses over the same time period.

**Debt Ratio:** This measure shows the amount of relative debt that a company holds. It is an important measure of financial health. Servicing too much debt can be a drain on operating resources. There are at least two important ways to calculate a debt ratio: debt-to-owner's equity, and debt-to-assets.

**Historical analysis:** An analysis comparing financial statements over years, so that a business's progress can be evaluated throughout some time period. This may also be called horizontal or trend analysis.

**Liquidity Ratio:** This measure shows the ability of a company to repay its short-term debt and pay other immediate obligations. The liquidity ratio is calculated by dividing a company's current assets by its current liabilities.

**Profitability Ratio:** This measure shows the ability of a company to make a profit, and is sometimes called the "performance ratio." Profitability ratios can be calculated as the relationship of income with sales, owner's equity, shares or other values. The profitability ratio is calculated by dividing a company's net income (from the Income Statement) by its sales, owner's equity, shares or other values.

**Ratio analysis:** Analyses that calculate important financial measurements that represent the company's financial health.

# TOPIC 1: Using Financial Statements to Provide a Financial Picture of a Business.

[Instructor Notes]: Highlight the title and learning objectives for this topic. This topic provides students with an understanding of the objective and basic methods of analyzing financial statements.

**Time:** 10 minutes

**Materials:** Flipcharts, marker pens.

**Learning Outcome:** Students will understand the objective and basic methods of analyzing financial statements.

- The major objective of analyzing financial statements is to understand the financial strengths or weaknesses of a business, and to be able to make some prediction of its financial performance into the future.
    - Analyzing financial statements involves carefully studying three of the major financial documents: the Income Statement, Balance Sheet and Statement of Cash Flows.
    - Analyzing financial statements is required when making a decision to invest in a company, assume ownership of a company, lend to a business and for many other reasons.
        - It is also an important skill for business owners who need to understand their business finances.
    - Although financial statements for large companies can look very complicated, the basic principles of analyzing financial statements are the same for any business, large or small, complex or simple.
- There are three major methods of analyzing financial statements. Ideally, you should use several methods when evaluating a business.
    - **Historical analysis:** comparing financial statements over years, so that a business' progress can be evaluated over some time period. This may also be called horizontal or trend analysis.
    - **Comparative analysis:** comparing the financial statements of a company with similar businesse's over the same time period.
    - **Ratio analysis:** calculating important financial measurements that represent the company's financial health.
- There are "red flags" that one should be looking for when analyzing a company's financial statements. For example, here are just a few "red flags" to watch out for:

- **The cash:** Analyzing the Statement of Cash Flows provides several important indicators.
  - First, because the Statement of Cash Flows can be reported at any given time, it can provide you with the most current snapshot of the company's health.
  - Second, look to see if the company has adequate cash flow to operate the business. If the company runs out of cash and can't access short-term credit, it may be in danger of failing.
  - Third, follow the cash inflows and outflows to make sure that there are no questionable entries that need more explanation.
- **The debt:** There are several debt ratios that can help determine if a company is carrying too much relative debt. Debt is a valid business tool, but servicing too much debt can be a drain on a company's operating finances. In the next topic, we will learn about various debt ratios.
- **Sudden and big changes:** Analyzing the Balance Sheet for at least the past three years can show the financial stability of the business. Any sudden and/or big changes in entries to the Balance Sheet should be questioned. Any dramatic changes in income from the Income Statement should also raise questions.
- **Over-reliance on a single service or product:** Generating income from a single product or service could potentially put the business in jeopardy if the market were to change.
  - Research the product or service generating the income (from the Income Statement) to see if the company is vulnerable to a shift in the market.
  - Study the business to see if there are contingency plans or plans to diversify.
  - Compare the business with similar businesses with similar product/service lines.

# TOPIC 2: Using Ratio Analysis.

[Instructor Notes]: This topic provides students with an understanding and practical experience on how to use ratio analysis.

**Time:** 45 minutes

**Materials:** Flipcharts, marker pens, Ratio Analysis Worksheet.

**Learning Outcome:** Students will understand and gain practical experience on how to use ratio analysis.

- A ratio is simply a mathematical relationship between one thing and another.
    - For example, if you have a personal savings plan to save $1 for every $10 you earn, you have a ratio relationship between savings and earnings of 1 to 10, or 10%.
    - Ratios can be expressed as a fraction such as 1/10, or as a percentage such as 10%, or as a number such as 0.10.
    - Financial ratios simply compare one financial value against another.
    - Financial ratio analysis calculates important financial measurements that represent the company's financial health.
- There are many different ratio calculations that can show various views of a company's financial health. The following represents a few of the more important ratios.
    - **Debt Ratio:** This measure represents the amount of relative debt that a company holds. It is an important measure of financial health. Servicing too much debt can be a drain on operating finances. There are at least three ways to calculate a debt ratio: debt-to-equity, debt-to-assets, and debt-to-income.
        - The debt-to-equity ratio is calculated by dividing a company's total liabilities (from the Balance Sheet) by the owner's equity (Balance Sheet).
        - The debt-to-assets ratio is calculated by dividing a company's total liabilities (Balance Sheet) by the total assets (Balance Sheet).

$$\textit{Debt ratio} = \frac{\textit{Total liabilities}}{\textit{Owner's equity <OR> Total assets}}$$

- For example, say a company has $100,000 in total liabilities and $250,000 in owner's equity. The debt-to-owner's equity ratio would be calculated
- as follows:

$$\textit{Debt-to-equity ratio} = \frac{\$100{,}000}{\$250{,}000} = 40.0\%$$

- A debt-to-equity ratio of 40% is an indication of low relative debt. Typically, a debt-to-equity ratio up to about 100 percent (1 to 1) is acceptable, but that rule varies across industries. A general farming/ranching standard is that a debt-to-assets ratio of about 60 percent or greater should raise concerns.
    - A ratio far above 100% would raise concerns, because that would mean that a company owed more in debt than it has equity.
    - A debt ratio too far below 100% might mean missed opportunities because debt can be a powerful business tool when used properly.
    - A historical analysis would let you track the debt ratio over the past years, and a comparative analysis of similar businesses would help determine an acceptable debt ratio for that particular industry.
- A debt-to-income ratio often helps a lender determine if you can make or service the necessary loan repayments. The debt-to-income ratio is calculated by dividing a company's liability or debt payments (Statement of Cash Flows) by the total income (Statement of Cash Flows). A lender interested in your cash flow may want to calculate a debt-to-income ratio based on monthly income and liabilities instead of annual, although longer periods provide a more stable and reliable ratio.
- For an example of a debt-to-income ratio, let's say a company has $50,000 in annual debt payments and $120,000 in annual income. The debt-to-income ratio would be calculated as follows:

$$\textit{Debt-to-income ratio} = \frac{\$50{,}000}{\$120{,}000} = 42\%$$

- A ratio of 42% is an indication of an acceptable level of debt. Lenders will typically only lend up to 43-50% of your monthly gross income, meaning that your combined monthly loan payments cannot exceed a maximum of 50% ratio. However, if you are currently at 42% but are requesting a loan that will raise your debt-to-income ratio beyond 50%, you may be denied because your debt-to-income ratio is now too high.

- **Liquidity Ratio:** This measure represents the ability of a company to repay its short-term debt and pay other immediate obligations. The liquidity ratio is calculated by dividing a company's current assets by its current liabilities.

    - Liquid assets are those things that can be quickly converted to cash, and are also called "current assets." They include cash, short-term investments, accounts receivable, inventory and prepaid expenses (from the Balance Sheet).

    - Current liabilities are due within one year and include short-term debt, accounts payable, and other debts.

$$\textit{Liquidity ratio} = \frac{\textit{Current assets}}{\textit{Current liabilities}}$$

    - For example, let's say a company has $75,000 in current assets and $50,000 in current liabilities. The liquidity ratio would be calculated as follows:

$$\textit{Liquidity ratio} = \frac{\$75{,}000}{\$50{,}000} = 1.5$$

    - The liquidity ratio of 1.5 indicates that this company has $1.50 of current assets for every $1 of current liabilities. Generally, the higher the liquidity ratio, the better, but that may not always be true.

        - A ratio far below 1.0 would raise questions because that would mean that a company has fewer current assets than current liabilities and might not be able to pay its immediate and short-term obligations.

        - A ratio far above 1.0 might raise questions about the productive use of current assets. If too many assets are being kept liquid and not used, it might mean that those assets are not benefiting the business.

- **Profitability Ratio:** This measure represents the ability of a company to make a profit, and is sometimes called the "performance ratio."

    - Profitability ratios can be calculated as the relationship of income with sales, owner's equity, shares or other values.

    - The profitability ratio used in the following example is calculated by dividing a company's net income (from the Income Statement) by its sales (Income Statement), and is often called a "net profit margin."

$$\textit{Profitability ratio} = \frac{\textit{Net income}}{\textit{Sales}}$$

    - For example, let's say a company has \$15,000 in net income and \$100,000 in sales. The profitability ratio would be calculated as follows:

$$\textit{Profitability ratio} = \frac{\$15{,}000}{\$100{,}000} = 15.0\%$$

    - The profitability ratio of 15% indicates that for every \$1 of sales, the business is generating 15 cents in profit.

        - A profitability ratio above 0 indicates that the company is making a profit. There are no general guidelines of what the profitability ratio should be for a given company or industry, although you could probably argue that more profit is always better than less.

        - Profit margins depend on the type of product/service, the kind of industry, the current economic conditions and the specific goals of the company.

        - When making comparisons using profitability ratios, remember that profits can rise and fall by cycles in the marketplace, so make sure that you are comparing similar time periods.

- **Activity Ratio:** This measure represents how efficiently a company uses its assets. Also called a "turnover ratio," this ratio shows how quickly a company uses its investments in assets to benefit the company.

    - The most common activity ratios are inventory turnover, accounts receivable turnover, total assets turnover and fixed assets turnover.

- The total asset turnover ratio used in the following example is calculated by dividing a company's total gross revenues (Income Statement) by its total assets (Balance Sheet).

$$\textit{Asset turnover ratio} = \frac{\textit{Total gross revenue}}{\textit{Total assets}}$$

- For example, let's say a company has $100,000 total gross revenue and $350,000 in total assets. The asset turnover ratio would be calculated as follows:

$$\textit{Asset turnover ratio} = \frac{\$100{,}000}{\$350{,}000} = 28.5\%$$

- The asset turnover ratio of 28.5% indicates that for every $1 of assets, the company generated about 28.5 cents in revenue.

- A desirable asset turnover ratio is specific to an industry. Using assets better means that the company can make more profit because fewer company resources are locked up in assets and more resources are being used productively.

    - High-volume/low profit margin businesses (like grocery stores) will have higher asset turnover than lower-volume/higher margin (like manufacturing).

- If a company uses assets inefficiently and has too many unproductive assets, then it will have a turnover rate that is lower than industry standards.

    - If a company does not keep enough assets on hand and then loses sales, it will have a turnover rate that is higher than the industry standards.

Activity (30 minutes): In small groups of 2-3, have participants discuss and complete the Ratio Analysis Worksheet. Go through the answers as a large group and discuss any questions. Have each group answer the final question: would you lend money to this agribusiness? Why or why not?

## TOPIC 3: A Case Study in Analyzing Financial Statements.

[Instructor Notes]: This topic provides students with an opportunity to gain practical experience on analyzing financial statements through a case study.

Time: 45 minutes

Materials: Flipcharts, marker pens.

Learning Outcome: Students will understand and gain practical experience on analyzing financial statements through a case study.

- Analyzing financial statements is a skill that is built through experience. Case studies are a good way to build your understanding of basic accounting principles and your skills in preparing and analyzing financial statements.
  - Analyze the financial statements in the following case study to help you decide whether to lend to this agribusiness or not. Remember to apply the tips for analyzing financial statements discussed earlier in the lesson.

Activity (40 minutes): Have participants read the case study individually, review the financial documents, and then answer the discussion questions. Then, ask them to discuss the case in groups of 2-3. Finally, discuss the case as a large group.

**Case Study: Joe's Cattle Company and the Bank: To Lend or Not to Lend.**

You are a loan officer for the local community bank, which has a good reputation in the community as a supporter of local businesses. Agriculture is the main economic activity in the area, with a mix of ranching and farming operations, and many related agribusiness service and supply companies. Your bank is in solid financial position, and is looking to lend money to local businesses with good credit histories and financial numbers. For a standard business loan, you require an application, a good credit score, and three years of past financial statements that show solid financial standing.

You have been working with Joe Turner, who is the principal operator of Joe's Cattle Company. Joe and his family have operated their business for generations, and are well-known and liked in the community. Recently, Joe approached your bank to discuss a long-term loan that would allow him to purchase more land and expand his operation so that his teenage children could begin to build up their own herds.

Joe has dropped off his paperwork. You review the loan application and see that Joe is asking for a $150,000, 15-year loan. Your bank is offering a 5.5% interest rate for people with good credit, which is historically a low rate. The monthly payment for the principal and interest would be about $1,125.00. You next turn to Joe's financial documents and begin to review them, paying particular attention to the most recent year…..

| Joe's Cattle Company<br>**Balance Sheet**<br>December 31, 20xx | | | |
|---|---|---|---|
| *Assets* | | *Liabilities* | |
| Cash | 5,000 | Short-term Debt | 25,500 |
| Equipment and machinery | 140,000 | Long-term Debt | 250,000 |
| Farm vehicles | 54,000 | Accounts Payable | 500 |
| Inventory (breeding livestock) | 250,000 | Buildings, improvements | 65,000 |
| Inventory (market livestock) | 157,500 | Mortgage (land) | 434,000 |
| Land | 495,000 | Farm vehicles | 100,000 |
| Buildings, improvements | 108,950 | | |
| | | *Total Liabilities* | 910,000 |
| *Total Assets* | 1,210,450 | | |
| | | *Owner's Equity* | |
| | | Original Investment | 50,000 |
| | | Retained Earnings | 350,450 |
| | | | |
| | | *Total Owner's Equity* | 400,450 |
| | | | |
| | | *Total Liabilities & Owner's Equity* | 1,210,450 |

| | | | |
|---|---|---|---|
| Joe's Cattle Company | | | |
| **Income Statement** | | | |
| For the Year Ended December 31, 20xx | | | |
| *Revenue* | | | |
| Livestock sales | 142,500 | | |
| *Total revenue* | | 142,500 | |
| *Cost of goods sold* | | | |
| Feed | 44,500 | | |
| Veterinary services | 15,000 | | |
| Transportation services | 3,000 | | |
| Breeding fees | 5,000 | | |
| *Total Cost of goods sold* | | 67,500 | |
| *Total Income* | | | 75,000 |
| | | | |
| *Expenses* | | | |
| Contract Labor | 25,000 | | |
| Fuel, vehicles and machinery | 3,600 | | |
| Utilities | 2,850 | | |
| Advertising | 1,500 | | |
| *Total expenses* | | | 32,950 |
| | | | |
| *Total net income (before tax)* | | | 42,050 |
| Tax expense | | | 13,800 |
| | | | |
| *Net income* | | | 28,250 |

| | | |
|---|---|---|
| Joe's Cattle Company | | |
| **Statement of Cash Flows** | | |
| For the Year Ended December 31, 20xx | | |
| *Cash flows from Operations:* | | |
| Sales | 142,500 | |
| Non-farm income | 34,000 | |
| Inventory (replacement livestock) | (19,500) | |
| Operating expenses | (100,450) | |
| Income taxes paid | (13,800) | |
| *Net cash from Operations* | | 42,750 |
| | | |
| *Cash flows from Investments:* | | |
| Retirement account | (5,000) | |
| Mortgage payments | (17,000) | |
| *Net cash from Investments* | | (22,000) |
| | | |
| *Cash flows from Financing:* | | |
| Payment of short-term debt | (1,000) | |
| Payments of long-term debt | (5,000) | |
| *Net cash from Financing* | | (6,000) |
| | | |
| *Net change in cash* | | 14,750 |
| *Cash at beginning of year* | | 16,000 |
| ***Cash at end of year*** | | 30,750 |

| Joe's Cattle Company<br>**Statement of Owner's Equity**<br>For the Year Ended December 31, 20xx | | |
|---|---|---|
| | | |
| 1. Beginning owner's equity | | 370,450 |
| 2. Net income (profit) | 75,000 | |
| 3. Gifts and inheritances | 0 | |
| 4. Additions to capital (including personal investments into the business) | 0 | |
| 5. Distribution of dividends, capital or gifts made (cash or property) | 0 | |
| 6. Withdrawals for family living, gifts made and investments into personal assets | (45,000) | |
| 7. Total change in contributed capital and retained earnings (line 2 + line 3 + line 4 – line 5 – line 6 = line 7) | | 30,000 |
| 8. Ending owner's equity | | 400,450 |

While you review the financial statements, you remind yourself that about a 5% profit margin is minimal for a ranching operation. A debt-to-equity ratio of about 100%, and a debt-to-assets ratio of less than 60% is acceptable. A 20% asset turnover rate is desired, but it is recognized that farming and ranching businesses will have low asset turnover because much of their assets are in livestock, machinery and land.

After reviewing the current year's financial documents, you compare them with earlier years and find nothing that indicates any sudden or unexplained changes. You write down some notes, and prepare for a meeting with Joe to discuss your decision to lend or not.

*Discussion questions:*

*What questions will you have for Joe?*

*Will you lend to Joe?*

*Why or why not?*

*If not, what recommendations do you have for Joe to strengthen his financial position?*

[Instructor Notes]: Participants should have noted the following:

- From a debt-to-equity perspective, the company is carrying a high debt load. The debt-to-equity ratio is $910,000 total liabilities divided by $400,450 owner's equity, equaling a 227% or 2.3 to 1 debt ratio. The debt-to-assets ratio of 75.2% also shows high debt relative to assets, and is calculated by dividing $910,000 total liabilities by $1,210,450 total assets. However, the debt-to-income ratio is modest at 13%, calculated by dividing debt payments of mortgage ($17,000) plus short and long-term debt ($1000 + 5,000) by gross income of $176,500. This indicates the ability to comfortably service any loan payments.
- The company has a safe liquidity ratio of 15.8%. Current assets include livestock inventory ($407,500) and cash ($5,000). Current liabilities include short-term debt ($25,500) and accounts payable ($500).
- The profitability ratio is strong at 19.8% compared to a minimum standard level of 8%-10%. The profitability ratio is calculated as $28,250 net income divided by $142,500 sales.
- The asset turnover ratio is 11.8% and is less than the desired industry standard, although it is recognized that farms and ranches typically have low asset turnover ratios. The asset turnover ratio is calculated as $142,500 total gross revenue by $1,210,450 in total assets. Most of the assets are tied up in land ($495,000) and livestock ($407,500). This may suggest that the company's herds are too large for the amount of sales generated (or market prices are too low), and efforts should be made to either increase sales or decrease herd size.

- There may be some questions regarding the Statement of Cash Flows. For example:
  - ✓ What is the source of the non-farm income and how stable is that source? Losing that non-farm income source would result in a negative cash flow.
  - ✓ Are the cash flows consistent throughout the year, or do they fluctuate by large amounts through the seasons? If sales are primarily from livestock, which occur during a short period during the year, how does cash flow look during the non-sales months?
- Is there an over-reliance on a single product or service? Should the company think about diversifying its business to lower its risk?

[Instructor Notes]: Recap the topics in the lesson and the learning objectives. Ask participants if the learning objectives were achieved.

## References

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# The Business of Indian Agriculture

## MODULE 2: Accounting

## LESSON 4: Analyzing Financial Statements

## Ratio Analysis Worksheet

Calculate and interpret the financial ratios below, using only the information from the Balance Sheet and Income Statement on the next page (from Lesson 3 Worksheets). Show your work, and be prepared to discuss your results.

- Calculate the *debt-to-equity* and *debt-to-assets* ratios for Susan's Strawberry Patch Preserves:

  *Debt-to-equity ratio* = ———————— =

  *Debt-to-assets ratio* = ———————— =

  What do these debt ratios mean for the agribusiness?

- Calculate the *debt-to-income* ratio for Susan's Strawberry Patch Preserves:

  *Debt-to-income ratio* = ———————— =

  What does this debt-to-income ratio mean for the agribusiness?

- Calculate the *liquidity* ratio for Susan's Strawberry Patch Preserves:

  *Liquidity ratio* = ———————— =

  What does this liquidity ratio mean for the agribusiness?

- Calculate the *profitability* ratio for Susan's Strawberry Patch Preserves:

  *Profitability ratio* = ———————— =

  The small specialty retail industry standard profitability ratio is 20%. What does Susan's Strawberry Patch Preserves's profitability ratio mean for the agribusiness?

- Calculate the *asset turnover* ratio for Susan's Strawberry Patch Preserves:

  *Asset turnover ratio* = ———————— =

  The specialty retail industry standard asset turnover ratio is 30%. What does Susan's Strawberry Patch Preserves's inventory turnover ratio mean for the agribusiness?

| | | | |
|---|---|---|---|
| Susan's Strawberry Patch Preserves | | | |
| **Income Statement** | | | |
| For the Year Ended December 31, 2012 | | | |
| *Revenue* | | | |
| Jams and jellies sales | 42,500 | | |
| Arts and crafts sales | 10,000 | | |
| *Total revenue* | | 52,500 | |
| *Cost of goods sold* | | | |
| Canning materials and supplies | 4,500 | | |
| Fertilizer and growing supplies | 5,000 | | |
| *Total Cost of goods sold* | | 9,500 | |
| *Total Income* | | | 43,000 |
| | | | |
| *Expenses* | | | |
| Labor | 25,000 | | |
| Store rental | 3,600 | | |
| Advertising | 1,500 | | |
| *Total expenses* | | | 30,100 |
| | | | |
| *Total net income (before tax)* | | | 12,900 |
| Tax expense | | | 3,800 |
| | | | |
| *Net income* | | | 9,100 |

| Susan's Strawberry Patch Preserves<br>**Balance Sheet**<br>December 31, 2012 | | | |
|---|---|---|---|
| *Assets* | | *Liabilities* | |
| Cash | 3,400 | Short-term Debt | 5,500 |
| Accounts Receivable | 500 | Long-term Debt | 10,000 |
| Canning Supplies | 4,100 | Accounts Payable | 1,000 |
| Equipment and Machinery | 10,000 | Mortgage (Land) | 10,000 |
| Inventory | 7,500 | | |
| Land | 5,000 | *Total Liabilities* | 26,500 |
| Storage shed | 1,500 | | |
| | | *Owner's Equity* | |
| *Total Assets* | 32,000 | Original Investment | 5,000 |
| | | Retained Earnings | 450 |
| | | Current Year Income | 50 |
| | | | |
| | | *Total Owner's Equity* | 5,500 |
| | | | |
| | | *Total Liabilities & Owner's Equity* | 32,000 |

| Susan's Strawberry Patch Preserves<br>**Statement of Cash Flows**<br>For the Year Ended December 31, 2012 | | |
|---|---|---|
| *Cash flows from Operations:* | | |
| Sales | 52,500 | |
| Supplies | (9,500) | |
| Operating expenses | (30,100) | |
| Income taxes paid | (3,800) | |
| *Net cash from Operations* | | 9,100 |
| | | |
| *Cash flows from Investments:* | | |
| Retirement account | (2,500) | |
| Mortgage payments | (5,000) | |
| *Net cash from Investments* | | (7,500) |
| | | |
| *Cash flows from Financing:* | | |
| Payment of short-term debt | (1,000) | |
| Payments of long-term debt | (2,000) | |
| *Net cash from Financing* | | (3,000) |
| | | |
| *Net change in cash* | | (1,400) |
| *Cash at beginning of year* | | 6,000 |
| ***Cash at end of year*** | | 4,600 |
| | | |

# Ratio Analysis Worksheet

## Answers

- Calculate the *debt-to-equity* and *debt-to-assets* ratios for Susan's Strawberry Patch Preserves:

$$\textit{Debt ratio} = \frac{\textit{Total liabilities}}{\textit{Owner's Equity}} = \frac{\$26{,}500}{\$5{,}500} = 480\% \text{ or } 4.8 \text{ to } 1$$

$$\textit{Debt ratio} = \frac{\textit{Total liabilities}}{\textit{Total assets}} = \frac{\$26{,}500}{\$32{,}000} = 82.8\% \text{ or } 0.8 \text{ to } 1$$

  What do these debt ratios mean for the agribusiness?

  From a debt-to-equity perspective, the company is heavily indebted. For every $1 of owner's equity, the company carries $4.80 in debt. This is a concern because it is expensive to service the debt and may be why cash flow is low and decreasing. It also indicates that very little value of the company is actually held by the owner.

  From a debt-to-assets perspective, the company has relatively low debt. For every $1 of assets, the company owes about 83 cents in debt. This may be a reflection that the company is carrying limited assets on its books relative to its debt, which is positive.

- Calculate the *debt-to-income* ratio for Susan's Strawberry Patch Preserves:

$$\textit{Debt-to-income ratio} = \frac{\textit{Liabilities payments}}{\textit{Total income}} = \frac{\$8{,}000}{\$52{,}000} = 15.3\%$$

  What does the debt-to-income ratio mean for the agribusiness?

  *From the Statement of Cash Flows, liabilities or debt payments are calculated by adding mortgage ($5,000), short- ($1,000) and long-term ($2,000) debt payments. The company has a low debt-to-income ratio at 15.3%. This indicates that the agribusiness could comfortably repay any loan service payments.*

- Calculate the *liquidity* ratio for Susan's Strawberry Patch Preserves:

$$\textit{Liquidity ratio} = \frac{\textit{Current assets}}{\textit{Current liabilities}} = \frac{\$11{,}400}{\$6{,}500} = 1.8$$

*Current assets are \$3,400 (cash) + \$500 (accounts receivable) + \$7,500 (inventory)*

*Current liabilities are \$5,500 (short-term debt) + \$1,000 (accounts payable)*

What does this liquidity ratio mean for the agribusiness?

*This is a desirable liquidity ratio and shows that the company can make its short-term and immediate obligations.*

- Calculate the *profitability* ratio for Susan's Strawberry Patch Preserves:

$$\textit{Profitability ratio} = \frac{\textit{Net income}}{\textit{Sales}} = \frac{\$9{,}100}{\$52{,}500} = 17.3\%$$

What does this profitability ratio mean for the agribusiness?

*This is a desirable profitability ratio, consistent with industry standards, and shows a good profit margin. Over time, if the profit margin can be sustained, the high debt load will be reduced.*

- Calculate the *asset turnover* ratio for Susan's Strawberry Patch Preserves:

$$\textit{Asset turnover ratio} = \frac{\textit{Total gross revenue}}{\textit{Total assets}} = \frac{\$52{,}500}{\$32{,}000} = 164.0\%$$

What does this inventory turnover ratio mean for the agribusiness?

*Asset turnover is exceptionally good, well above the industry standard. This means that for every \$1 in assets, the agribusiness is generating \$1.64 in sales. Using assets efficiently is a smart strategy for a small business, and also reflects the nature of a business that requires fewer assets.*

# Module 2: Accounting

## LESSON 5: Preparing for Credit and Assistance Applications

Please turn to PAGE 143 of your participant guide.

# The Business of Indian Agriculture

## MODULE 2: Accounting

## LESSON 5: Preparing for Credit and Assistance Applications

**Total Time:** 1 hour

**Lesson Topics**

This lesson covers the following topics:

- General Guidelines for Preparing for Credit and Assistance Applications.
- Preparing for USDA Farm Service Agency Program Applications.
- Where to Find Resources for More Assistance.

**Learning Objectives**

Upon completion of this lesson, participants will:

- Understand the general guidelines for preparing for credit and assistance applications.
- Understand the preparation guidelines for applying for USDA Farm Service Agency programs.
- Gain knowledge on other resources that are available to assist with credit and assistance applications.

**Definitions**

**Beginning Farmer and Rancher:** A USDA Farm Service Agency (FSA) designation that includes an individual or entity who (1) has not operated a farm or ranch for more than 10 years; (2) meets the loan eligibility requirements of the program to which he/she is applying; (3) substantially participates in the operation; and, (4) for Farm Operating loan purposes, does not own a farm greater than 30% of the median size farm in the county. If the applicant is an entity, all members must be related by blood or marriage, and all stockholders in a corporation must be eligible beginning farmers.

**Direct Loans:** Farm loans that are made by FSA with government funds. FSA also services these loans and provides Direct Loan customers with supervision and credit counseling.

**Guaranteed Loans:** Farm loans provided by lenders (e.g., banks, Farm Credit System institutions, credit unions) with a guarantee of up to 95% of the loss of principal and interest on a loan. Farmers and ranchers apply to an agricultural lender, which then arranges for the guarantee. The FSA guarantee permits lenders to make agricultural credit available to farmers who do not meet the lender's normal underwriting criteria.

**Socially Disadvantaged (SDA) Farmer and Rancher:** A USDA FSA designation that includes a farmer, rancher or agricultural producer as one of a group whose members have been subjected to racial, ethnic or gender prejudice because of their identity as a member of the group without regard to his or her individual qualities. SDA groups are women, African Americans, American Indians, Alaskan Natives, Hispanics, Asian Americans and Pacific Islanders.

## TOPIC 1: General Guidelines for preparing for Credit and Assistance Applications.

[Instructor Notes]: Highlight the title and learning objectives for this topic. This topic provides students with an understanding of the general guidelines for preparing for credit and assistance applications.

**Time:** 10 minutes

**Materials:** Flipcharts, marker pens.

**Learning Outcome:** Students will understand the general guidelines for preparing for credit and assistance applications.

- Applying for credit or assistance is much like taking a test: it pays to prepare. Good principles for preparing for credit or assistance for your agribusiness are, in many ways, similar to preparing for personal credit or assistance.
    - You should begin preparing well in advance of your application - at least six months before, and preferably more.
    - You should know your credit history and score, make sure that there are no errors, and resolve any outstanding issues.
    - You should have good records of your finances, including:
        - at least three years of any financial statements and tax filings,
        - at least three years of farm or ranch production records,
        - current bank account, deposit, and investment statements,
        - mortgage statements,
        - loan and lease agreements, and
        - proof of collateral assets.
    - You should not take on any new sizeable debts (including new credit cards) or purchases within at least six months prior to your application.
    - You should evaluate your debt ratios and make sure you are not too highly indebted. If you are, try to reduce your debt load first by paying down debt and/or increasing revenues or income, assets or equity.
    - You should make sure that you have a reserve fund that can sustain you and/or your business for at least six months should something bad happen.

- You should have your business plan updated and ready to present. Be prepared to explain specifically how the credit or assistance will be used, and how it will help the business.
- You should research exactly how much credit or assistance you will need. Asking for too much, or too little, can cause problems down the road.
- You should study the types of loans and assistance products and services that are available, and choose the ones that are right for you. Make sure that you work with reputable organizations with proven track records.
- Your personal and household finances affect your agribusiness's finances, and vice versa. So, make sure that your personal and household finances are in good standing. Establishing good financial habits and practices at home will reap benefits for your agribusiness too.
    - There are many good financial education programs that assist people in building financial health for themselves and their families. Ask your local college or extension agent for information. There are many important financial topics to understand, and some include:
        - Understanding credit
        - Managing savings and checking accounts
        - Budgeting
        - Planning for retirement
        - Owning a home
        - Tax assistance
    - Even though your personal and business's financial health depend on each other, remember to treat them separately in all your accounting and bookkeeping. This will greatly simplify your financial reporting.

- Remember, the main purpose of requiring information in applications is not to make your life difficult, but rather to help the lender or provider feel comfortable and confident in providing credit or assistance to you. Their bottom line to success relies on you succeeding.
- The first step in preparing to apply for a loan and assistance program is to get to know your local bank, Farm Credit System institution, or other agricultural lender. They can help prepare and guide you through their application process.

# TOPIC 2: Preparing for USDA Farm Service Agency Program Applications.

[Instructor Notes]: This topic provides students with an understanding of the preparation guidelines for applying for USDA Farm Service Agency programs. A local FSA representative would be an ideal guest instructor for this topic.

**Time:** 40 minutes

**Materials:** Flipcharts, marker pens, FSA Application Forms FSA-2001, FSA-2002, FSA-2003, FSA-2037 and FSA-2038.

**Learning Outcome:** Students will understand the preparation guidelines for applying for USDA Farm Service Agency programs.

- The USDA Farm Service Agency (FSA) provides direct and guaranteed farm ownership (FO) and operating loans (OL) to family-sized farmers and ranchers who cannot obtain commercial credit from a bank, Farm Credit System institution, or other lender.
    - Remember that FSA loans are for those who have been denied credit from traditional lenders. So, apply to those lenders first, and then if you are denied, consider applying for FSA loans.
    - Farm ownership (FO) loans can be used to purchase farmland, construct or repair buildings and other fixtures, and practice soil and water conservation.
    - Operating loans (OL) may be used to purchase items such as livestock, farm equipment, feed, seed, fuel, farm chemicals, insurance and other operating expenses. OLs can also be used to pay for minor improvements to buildings, costs associated with land and water development, family subsistence, and to refinance debts under certain conditions.
    - "Direct" farm loans are made by FSA with government funds. FSA also services these loans and provides direct loan customers with supervision and credit counseling.
    - "Guaranteed" farm loans provide lenders (for example: banks, Farm Credit System institutions, credit unions) with a guarantee of up to 95% of the loss of principal and interest on a loan. Farmers and ranchers apply to an agricultural lender, which then arranges for the guarantee. The FSA guarantee allows lenders to make agricultural credit available to farmers who do not meet the lender's normal underwriting criteria.

- FSA also provides direct and guaranteed loans to "beginning farmers and ranchers" who are unable to obtain financing from commercial credit sources. Each year, a portion of FSA's direct and guaranteed FO and OL funds are targeted to beginning farmers and ranchers.

- In a similar way, FSA provides direct and guaranteed loans to "socially disadvantaged farmers and ranchers" who are unable to obtain financing from commercial credit sources.

- There are many other types of FSA loan and assistance products and services, some of which include:

    - Emergency Farm Loans: help producers recover from production and physical losses due to drought, flooding, other natural disasters or quarantine.

    - Youth Loans: operating loans of up to $5,000 to eligible individual rural youths age 10 through 20 to finance income-producing, agriculture-related projects. The project must be of modest size, educational and initiated, developed and carried out by rural youths participating in 4-H clubs, FFA or a similar organization.

    - Disaster Assistance Programs: provide assistance for natural disaster losses, resulting from drought, flood, fire, freeze, tornadoes, pest infestation and other calamities.

    - Conservation Programs: provide assistance for protecting various types of farmland and environmentally sensitive lands.

- The first step in preparing to apply for FSA loan and assistance programs is to get to know your local FSA office representative. He or she can help prepare and guide you through the application process.

    - FSA provides local services through a network of State Offices and county Service Center Offices located throughout the U.S.

    - Your local FSA representative will know the agribusiness conditions in your area and will be in the best position to offer you guidance.

    - While most of FSA's processes are standard across the U.S., there may be some specific requirements for your area. This is another reason it is important to start the process by visiting with your local FSA office.

- Once you have established contact with the FSA office and determined that you want to apply for a FSA loan or service, you will be provided an application package for the particular product or service you desire.

- A typical FSA loan application package will include many forms, such as:
  - Request for Direct Loan Assistance (FSA-2001)
  - Three-Year Financial History (FSA-2002)
  - Three-Year Production History (FSA-2003)
  - Authorization to Release Information (FSA-2004)
  - Creditor List (FSA-2005)
  - Property Owned and Leased (FSA-2006)
  - Farm Business Plan Worksheet Balance Sheet (FSA-2037)
  - Farm Business Plan Worksheet Projected/Actual Income and Expense (FSA-2038)
  - Request for Verification of Employment (FSA-2014)
  - Verification of Debts and Assets (FSA-2015)
- Although the application package may appear overwhelming at first, it is simply asking for financial and business information that you should already have (as you have already applied to a traditional lender).
- Remember, the goal of the application process is to help the lender or provider of services feel confident in your ability to be successful.

Activity (30 minutes): In small groups of 2-3, have participants review the FSA-2001, FSA-2002, FSA-2003, FSA-2037 and FSA-2038. Ask each group to develop a list of steps that they would do, and when, to prepare to complete these applications. Go through the answers as a large group and discuss any questions. Have each group answer the final question: how prepared do you think most agribusinesses are to complete these applications?

## TOPIC 3: Where to Find Resources for More Assistance.

[Instructor Notes]: This topic provides students with an opportunity to gain knowledge on other resources that are available to assist with applications. Instructors should supplement this topic with local contact information of resources that can assist students in preparing for credit and assistance applications. Resources may include local agricultural lenders, the county USDA Farm Service Center office, state resources, and tribal resources. You may want to ask participants about the resources that they know and have used. Additionally, you will want to consider any technical assistance that you or your organization can provide and be prepared to discuss those services.

**Time:** 10 minutes

**Materials:** Flipcharts, marker pens.

**Learning Outcome:** Students will gain knowledge on other resources that are available to assist with applications.

- As mentioned earlier in this lesson, your first contact should be with your local agricultural lender or service provider.
    - The local USDA FSA Service Center office is another important local resource.
- State and Tribal resources that are available will depend on where your agribusiness is located.
    - Your state USDA Rural Development offices (often located alongside the FSA office) can provide assistance on their products and services, which may include Value-Added Producer Grants, Rural Energy For America Program Grants, and the Business and Industry Guaranteed Loan Program.
    - Your local tribal college or university may have extension specialists who can provide assistance. Additionally, tribal or county extension specialists may be able to assist.
    - The Intertribal Agriculture Council is a non-profit organization that works on behalf of individual Indian producers and tribal enterprises.
- There are other national organizations that provide excellent information on assistance programs, such as:
    - The USDA National Agricultural Library's Rural Information Center maintains a Business Resources for Rural Citizens website.
    - USDA's New Farmers website maintains a comprehensive clearinghouse on assistance programs for beginning farmers.

- Finally, there are a great number of resources that offer basic education for personal and household finances, such as:
    - Practical Money Skills for Life maintains a comprehensive website for all members of the family.
    - The Federal Deposit Insurance Corporation's (FDIC) Money Smart-A Financial Education Program is a widely used curriculum.
    - The First Nations Development Institute's Building Native Communities Financial Education Curriculum is also a great resource.

[Instructor Notes]: Recap the topics in the lesson and the learning objectives. Ask participants if the learning objectives were achieved.

## References


Farm Service Agency. nd. Farm Loan Programs. Washington, DC: USDA.

Bittermann, Vanessa. 2007. *Plain Language Guide to Applying for a Farm Service Agency (FSA) Loan*. Boston: New Entry Sustainable Farming Project.