



# Using Financial Records

*In this module we present resources to learn how to use financial information to fuel farm growth and understand financial health throughout time, compared to similar farms.*

## TEACHING OBJECTIVES: WHY DO THIS?

- Analyzing cost of production and break-even points help inform decisions of which crops to plant and what prices to set.
- Having financial documents completed and up to date allows farmers to communicate with banks, funding agencies and for grant proposals.
- Farmers can gain more confidence and knowledge for managing their finances.

## BEST LOCATION

Clean, quiet space, with paper, pen, a calculator and a computer

## BEST TIME OF YEAR

Off- production season and working with full past-year records, sometime after Dec. 31

## LEARNING OBJECTIVES: WHAT CAN PARTICIPANTS LEARN?

- How to set up their recordkeeping system to be able to analyze the farm by enterprise.
- How to write an enterprise budget.
- How to calculate break-even points.
- Understanding a Balance Sheet, its purpose, and how to develop it.
- How to analyze their business using an income statement, statement of owner's equity, and financial ratios.



## FARM FINANCES USING FINANCIAL RECORDS

### IMPORTANCE FOR BEGINNING FARMERS

Records are critical for calculating the cost of producing different crops. Records help us to know our break-even points- how much money we need per pound (or other unit) to cover our costs.

Farmers also need records so they can effectively work with lenders to get loans (banks, credit unions), grant funders, and accountants.

Paper records and spreadsheets are a good way to get started in early years. However, inexpensive software such as PC Mars can be used indefinitely by both beginning and advanced farmers alike.

### UNIQUE ASPECTS OF THE CURRICULUM

The focus of this curriculum is on the economics (expenses and income) of all the activities of farming to grow for markets. Its purpose is to help beginning farmers understand, track and manage finances toward a successful business. This curriculum is designed to be both approachable by beginning record keepers and useful for farmers with record keeping experience.

## Facilitator Planning & Preparation

Activity	Est. Instructional Time
Creating a balance sheet for a sample farm	3 Hrs
Creating an enterprise budget for a sample farm	3 Hrs
Interpreting financial information	3 Hrs



## Technical Content

### KEY WORDS:

#### Cost vs Market values

Assets are valuable resources, such as cash, equipment, or a known brand. Cost value is the total purchase cost less depreciation (more on this later). Market value is an estimation of the price it could be sold for on the market.

#### Farm income

**Net cash income** is simply cash revenues minus cash expenses. **Net farm income**, however, takes into consideration inventory changes between the beginning and the end of the year, and hence it is a better reflection of the financial result of a year's activities.

#### Profit

Takes into consideration opportunity cost. Opportunity Cost is the amount you gain or miss out on when you commit to one investment choice over another. For example, using your land rather than renting it out, or spending time farming rather than in other activities.

#### Breakeven point

How much money you need to charge per pound (or other unit) of produce to cover costs. Or, the yield needed at a certain price, to cover costs including labor.

#### Financial Ratios

Financial ratios help describe a farm's financial health and compare it to other farms.

### FACILITATOR BACKGROUND INFORMATION:

This module will focus on generating reports, and analyzing those reports to make management decisions. If the facilitator is not already familiar with these activities, they will need to study the materials in this curriculum as they are necessary before meeting with the group. **Search engines are your friend, use them to learn basics about the different topics and terms.**

It is helpful if the facilitator has:

- Prepared income tax returns for a farm business, or has worked with a tax preparer to do so.
- Worked with a lender to apply for a loan or line of credit.

Additionally, the following experiences would be good for helping learners to apply the concepts:

- Have developed a business plan for an agriculture business.
- Gone through the process of calculating production costs for one or more crops or products.
- Kept track of inventories: inputs, tools, harvested crops.



## **KWL Process**

*Know, Want to Know, Learn*

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### **Suggested prompting questions for farmers to share from their experiences:**

- On a scale of 1 to 5, how comfortable are you with your farm's business financial records? 1 being very uncomfortable, 5 being very comfortable
- Have you ever created a balance sheet for your farm?
- Have you ever created an enterprise budget for your farm?



### **Suggested prompting questions to find out what participants want to learn:**

- What do you hope to learn today?  
Possible ideas:
  - How to write a balance sheet?
  - Figuring out which crops are most profitable for you?
  - Understanding your farm's financial health?
- Do you have any other goals for record keeping?
  - Get a loan?
  - Get a grant?
  - Financial analysis/ business planning?
  - Deciding when an enterprise is too big or too small?



## **Primary Activities**

*Overview of the main activities in this module*

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### **Activity 1**

#### **Creating a balance sheet for an example farm**

The goal of this activity is for students to gain the confidence and skills to put together a complete balance sheet for their own farm. A balance sheet opens the door to funding opportunities such as grants and loans. We do this by creating a balance sheet for an example farm, while providing templates, examples and explanations.

### **Activity 2**

#### **Creating an enterprise budget for an example farm**

The goal of this activity is for students to be able to write a basic enterprise budget for their farm. An enterprise budget calculates profitability and break-even points by crop or type of livestock. We do this by reviewing concepts and examples, and then co-writing an enterprise budget for an example farm.

### **Activity 3**

#### **Interpreting financial information**

The goal of this activity is for students to be able to interpret financial reports. While beginning farmers are not expected to be able to create these reports, they should be able to read and understand information provided by a consultant or Extension specialist. We do this together by walking through an example farm's results.



# 1. Creating a balance sheet for an example farm

## OVERVIEW

The goal of this activity is that students gain the skills and confidence to put together a complete balance sheet for their own farm. A balance sheet opens the door to funding opportunities such as grants and loans. We do this by creating a balance sheet for an sample farm, while providing templates, examples and explanations.

## MATERIALS NEEDED

- Paper and pens
- Computer with spreadsheet software (Excel, Google Sheets)
- Projector or second computer screen if possible

## FACILITATOR BACKGROUND INFORMATION

This activity will go over the balance sheet, including concepts and definitions, its layout, and practical methods and examples. To facilitate this activity, it would be helpful to have experience creating a balance sheet. If you don't have the experience, please review the material in advance of the lesson. **Search engines are your friend, for learning basics about the different topics and terms of art.**

Specifically look at:

- The types of accounts that are entered on the balance sheet
- How often to create a balance sheet
- The fundamental accounting equation
- Useful information we can get from the balance sheet
- Balance sheet layout
- How to value assets: cost value, market value, etc.
- Depreciation



# **1. Creating a balance sheet for an example farm**

## **PROCEDURE**

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After assessing participants' prior knowledge/experience and interests, walk students through the content, either as outlined or by using any form or parts that you consider useful. We provide PowerPoint slides for showing people information on the different topics, and handouts for hands-on work.

After reviewing the materials, prompt students to complete a hypothetical balance sheet for the example farm used in Module 1, or any other example farm that suits the group. Alternatively, one or a few students may want to volunteer to show everyone a draft of their balance sheet and have the group go over it and suggest improvements.

The goal of this activity is that students gain the confidence to put together a complete balance sheet for their own farm.



# 1. Creating a balance sheet for an example farm

## PROCEDURE

### Review:

In this section/activity we will learn more about a balance sheet and how values are created for the balance sheet. We will look at some examples.

- **Introduction to the balance sheet** -- See PowerPoint **Slides 3 to 31**

Describe the various parts of the balance sheet and some basic balance sheet-related terms definitions. Go over that there are different asset valuation methods and explain why.

- **Methods for valuing assets** -- see PowerPoint Slides **32 to 43**

Describe the different methods for valuing assets: cost value, cost value less accumulated depreciation, and market value. Suggest students to gain a general understanding, but encourage them to focus on the basics and leave the complicated stuff to others.

- **Example balance sheets** -- see PowerPoint Slide **44 and Handout #1**

Go over an example balance sheet. **Handout #1** below shows one example of a farm balance sheet. Note that the balance sheet shows assets on the left, liabilities on the right, and net worth balanced at the bottom (example from FINPACK, U of MN).

For more details, see MSU's video on building balance sheets:

<https://www.youtube.com/watch?v=bKh4sHL6B5o>

### Suggested discussion questions:

- What is the example farm's beginning and ending net worth, at cost and market values?
- Which net worth total would you present to a lender? Which one would you use to track profitability?



## Example Balance Sheet

**FINPACK®**

*Slim Jim Sample*  
1/1/2017 - Cost & Market Balance Sheet

[illegible]



# 1. Creating a balance sheet for an example farm

## DIVE DEEPER

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## VARIATIONS

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We provide handouts that can also be used in a presentation format, related videos as resources and background information. Feel free to use as-is, or use these to develop presentations and handouts specific to your group.

## CONNECTIONS TO OTHER MODULES

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See the Markets and Land Ownership Modules for information related to farm financial management. **LINK?**



## 2. Creating an enterprise budget for an example farm

### OVERVIEW

The goal of this activity is for students to be able to write a basic enterprise budget for their farm. An enterprise budget calculates profitability and break-even points by crop or type of livestock. We do this by reviewing concepts and examples, and then co-writing an enterprise budget for an example farm.

### MATERIALS NEEDED

- Paper and pens, or computer with spreadsheet software (Excel, Google Sheets)
- Projector or second screen if possible

### FACILITATOR BACKGROUND INFORMATION

This activity will go over enterprise analysis/enterprise budget. A budget looks forward (what is planned as an expense). An analysis implies looking backward (listing items purchased or that cost (repairs)). Some of the specific concepts that will be reviewed are:

- Value of enterprise analysis
- Layout of the enterprise budget and definitions
- How to calculate breakeven points, and what they are
- What costs to include, and how which costs we choose to include changes the results
- What other information we need from our record keeping system to be able to make this analysis

To facilitate this activity, it would be helpful to have experience creating an enterprise budget. If you don't have the experience, **please review the material** in advance of the lesson. **Search engines are your friend, for learning basics about the different topics and terms of art.**



## 2. Creating an enterprise budget for an example farm

### PROCEDURE

The goal of this activity is for students to be able to write a basic enterprise budget for their farm. After assessing participants' prior knowledge/experience and interests, walk students through the content. We provide PowerPoint slides with information for students, and handouts for hands-on work.

After reviewing the materials, prompt students to complete a hypothetical enterprise budget for the example farm used in Module 1, or any other example farm that suits the group. Alternatively, one or a few students may want to volunteer to show everyone a draft of their enterprise budget and have the group go over it and suggest improvements.

#### Review:

- **Introduction to the enterprise budgeting and analysis** -- See PowerPoint **Slides 45 to 56**  
Describe the goals of enterprising. What type of information can you get from this? Provide general concepts and explain what information we need from our record keeping system to be able to make this analysis.

- **Example enterprise budget and analysis** -- See PowerPoint **Slide 56 and Handout #2 below**

Create an enterprise budget example and describe the general layout. Show how to **calculate profit and breakeven points**. Highlight the importance of forecasting their individual farm's numbers to get the most accurate enterprise budget possible.

- **Revenue, variable, and fixed costs** -- See PowerPoint Slides 57 to 63
- **The concept of economic profit** -- See PowerPoint Slides 64 to 69
- **Profitability and breakevens** -- See PowerPoint Slides 70 to 77



## Enterprise Budget Template

This template can be used to develop an enterprise budget for a crop. Use the numbers in (parentheses) to calculate each step as described. For example, (3 - 4) means subtract the line 4 number from the line 3 number. (5 / 1) means divide line 5's number by line 1's number.

Enterprise name: \_\_\_\_\_

(1) Quantity produced: \_\_\_\_\_

(2) Price received: \_\_\_\_\_

(3) Operating income for this enterprise only: \_\_\_\_\_  
(use the annual summary of income and expenses to estimate)

(4) Operating expenses for this enterprise only: \_\_\_\_\_  
(use the annual summary of income and expenses to estimate)

(5) Income above variable (aka operating) costs (3 - 4): \_\_\_\_\_  
(this number can be thought of as the return to securing machinery, equipment, vehicles, land and buildings, labor and management – i.e. all costs excluded from 4)

(6) Income above variable costs per unit (5 / 1): \_\_\_\_\_

(7) Breakeven price for covering operating costs (4 / 1): \_\_\_\_\_

(8) Breakeven yield for covering operating costs (4 / 2): \_\_\_\_\_

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(9) Machinery, equipment and vehicle ownership expenses for this enterprise: \_\_\_\_\_  
(this is a portion of the whole farm's depreciation, taxes, insurance and interest expenses)

(10) Land charge for this enterprise: \_\_\_\_\_  
(cost for the land used in this enterprise, estimated if you own it or real if you rent it)

(11) Return to labor and management (5 - 9 - 10): \_\_\_\_\_  
(this number represents the portion of this crop's income that is actually available to you as a worker and manager at the farm)

(12) Return to labor and management per unit (11 / 1): \_\_\_\_\_

(13) Labor and management costs: \_\_\_\_\_  
(the value of your time spent on this enterprise)

(14) Profit (11 - 13): \_\_\_\_\_

(15) Profit per unit (13 / 1): \_\_\_\_\_

(16) Sum of all costs (4 + 9 + 10 + 13): \_\_\_\_\_

(17) Breakeven price for covering all costs (16 / 1): \_\_\_\_\_

(18) Breakeven yield for covering all costs (16 / 2): \_\_\_\_\_



## 2. Creating an enterprise budget for an example farm

### DIVE DEEPER

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### VARIATIONS

We provide handouts that can be used in a presentation format, related videos as resources and background information. Feel free to reuse as-is, or use these to develop presentations and handouts specific to your group.

### CONNECTIONS TO OTHER MODULES

See the Markets and Land Ownership curricula for information related to farm financial management ([LINK?](#)).



## 3. Interpreting financial information

### OVERVIEW

The goal of this activity is for students to be able to interpret financial reports. While beginning farmers are not expected to be able to create these reports, they should be able to interpret information provided by a consultant or Extension specialist. We do this by walking together through an example farm's results.

### MATERIALS NEEDED

- Paper and pens, or computer with spreadsheet software (Excel, Google Sheets)
- Projector or second screen if possible

### FACILITATOR BACKGROUND INFORMATION

This activity will go over financial ratios and benchmarking reports. **Search engines are your friend, for learning basics about the different topics and terms of art.**

With the information from beginning and ending balance sheets and an accrual adjusted income statement, ratios can be calculated.

Ratios are helpful because they allow comparisons across years and across different farms.

These comparisons (also called benchmarking) teach us about the evolution of our farm business.

Ultimately, understanding financial ratios helps us find points of improvement.



## 3. Interpreting financial information

### PROCEDURE

After assessing participants' prior knowledge/experience and interests, walk students through the content, either as outlined or by using any form or parts that you consider relevant to the learners. We provide PowerPoint slides with information for students, and handouts for hands-on work. Feel free to modify the slide deck as appropriate.

After reviewing the materials, prompt students to look at the example reports from the handouts and draw a few conclusions on the example farm's financial health.

The goal of this activity is for students to understand the importance of farm financial analysis and be able to interpret the results.

#### Review:

- **Introduction to an Income Statement** — See PowerPoint **Slides 79 to 87**

The income statement is a tool for decision making at the whole-farm level. It tells us our net profit. The accrual adjusted income statement is created from the cash income and expenses for the year and beginning and ending balance sheets. Describe the information needed for the income statement to be created and the general process.

- **Example Income Statements** -- See PowerPoint **Slides 88 to 95**

Look at the example farm income statements on Slides 88 to 95. Describe the layout and parts.





## 3. Interpreting financial information

### PROCEDURE

- **Introduction to the Statement of Owner's Equity** -- See PowerPoint **Slides 96 to 102**

Now that we have a balance sheet and income statement, we are able to answer several questions using the Statement of Owner's Equity. This shows how much of the net worth change came from earnings, and how much came from changes in the valuation of assets, including inflation. See the example on **Slides 100 to 102**.

While having an increase in net worth due to increases in the value of assets such as land, we strive to make sure that the greatest source of net worth growth is operating profits.

- **Introduction to financial ratios and benchmarking** --- See PowerPoint **Slides 103-111**

With the information from beginning and ending balance sheets and an accrual adjusted income statement, ratios can be calculated.

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This comparison (also called benchmarking) teaches us about the evolution of our farm business. Ultimately, understanding financial ratios helps us find points for improvement.



## 3. Interpreting financial information

### DIVE DEEPER

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### CONNECTIONS TO OTHER MODULES

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## **Review and Encouraging Further Learning**

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### **Module Review and Evaluation Questions:**

- What did you learn about farm financial analysis that will be useful for your business?
- What's a tool that you found useful for farm financial analysis?
- Are you more confident to talk with bankers, grantors, consultants or analysts now? Describe what you hope to do.
- What three things did you learn today that you will apply to your thinking about your farm business?

### **Activities for Review:**

- Quiz on terms (use glossary in Key Words section).
- Discuss the sections of the balance sheet as a group. Come up with examples from their farm.
- Discuss the sections of the enterprise budget as a group.
- Talk about the measures of farm financial health. Discuss whether it would be helpful to get those every year.



## **Review and Encouraging Further Learning (cont.)**

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### **Taking Your Knowledge Back to the Farm:**

- Develop a balance sheet for your farm. Show it to someone you trust who has experience with this and get their feedback. It can be a fellow farmer, other small business owner in your network, a consultant or accountant, an extension educator, SCORE volunteer, etc.
- Develop an enterprise budget for one or more of the enterprises at your farm. In addition to including obvious costs such as seed, inputs, and labor, think about what equipment is needed and what part (%) of your land or buildings it takes. Be sure to include a wage for yourself and other working family members too. Show it to someone you trust who has experience with this and get their feedback.
- Send your summary of income and expenses for the past year, and your beginning and ending balance sheets to an extension educator who works with farm finances. Ask them to analyze them for you. Try to interpret what they give you and ask them for help if there's something you don't understand.