

This presentation is part of an educational modular program designed to provide new and beginning farmers and ranchers with relevant information to initiate, improve and run their agricultural operations



United States Department of Agriculture
National Institute of Food and Agriculture

**This program is funded by the
Beginning Farmer and Rancher
Development Program (BFRDP)**

USDA-NIFA-BFRDP 2010-03143



The balance sheet and statement of cash flows

In this presentation we will
talk about some basic
definitions associated with
accounting



"Agriculture is a business. Farming without a financial motive is gardening."



- When you start planning your farm, you need to make sure to keep your goals very clear:
 - **Why do you want to keep a farm?**
 - Personal reasons?
 - Economic reasons?
 - Environmental reasons?
 - Community reasons?
- Unless your main goal is just to enjoy being outdoors and have unlimited resources to do that, you need to keep track of the balance sheet and the cash flow of your farm

In this presentation we will talk about some basic definitions associated with accounting



1. Balance sheet

1. Read and interpret the balance sheet
2. Be able to create and use your own balance sheet
3. Identify the uses and limitations of the balance sheet
4. Identify the major classifications of the balance sheet

2. Statement of cash flows

1. Indicate the purpose of the statement of cash flows
2. Identify the content of the statement of cash flows
3. Prepare a statement of cash flows
4. Understand the usefulness of the statement of cash flows

Financial statements are essential

- Whether you are the owner of a business, the manager, a customer, the bank or any other internal group, you will want to know 2 very important things



A balance sheet is:



The first thing we will talk about is the balance sheet:

- It is like a snapshot of the financial status of a business at a point in time
- It gives you a summary of what is owned vs. what is owed at a given point in time
- It gives you an estimation of the net worth of the business at that point
- The figures on a balance sheet can change daily, but it is usually calculated and filed yearly or quarterly

Balance sheet

- This is an example of the balance sheet:

- It includes:

- Farm assets
(what you have)

(this will be represented in this presentation with this money bag)



- Farm liabilities
(what you owe)

This will be represented in this presentation with a caution sign



Farm Assets

Feeding livestock	\$133,024
Corn	131,887
Soybeans	83,985
Other feed	10,357
Supplies, prepaid expenses	<u>115,992</u>
Total short-term assets	\$475,245
Breeding livestock	19,632
Machinery, equipment	<u>270,745</u>
Total intermediate assets	\$290,377
Land and improvements	<u>870,183</u>
Total assets	\$1,635,804

Farm Liabilities

Operating notes, accounts payable	110,536
Intermediate and long-term due	4,978
CCC Loans	<u>6,329</u>
Total short-term debt	121,843
Intermediate-term debts	62,877
Long-term debts	<u>198,973</u>
Total liabilities	\$383,693
Working capital	\$353,402
Farm Net Worth	\$1,252,112

Source: 2000 IFBA Data.

FARM BALANCE SHEET

As of _____ Date _____ Year _____

List only the assets and liabilities associated or supported by your farming business. Numbers in parentheses refer to page numbers for asset lists.

FARM ASSETS		Market Value	Cost Value	FARM LIABILITIES AND EQUITY		Market Value	Cost Value
CURRENT ASSETS:				CURRENT LIABILITIES:			
1. Cash & Checking (A-11a)				23. Accounts and Notes Payable (A-12a)			
2. Accounts Receivable (A-11a)				24. Line of Credit and Operating Notes (A-12a & b)			
3. Prepaid Expenses (A-11a)				25. Current Portion of Term Debt (A-12c & d)			
4. Cash Investment in Growing Crops (A-11a)				26. Accrued Interest (A-12a to A-12d)			
5. Inventory: Marketable Livestock (A-11b)				27. Taxes Payable: Ad Valorem (A-12b)			
6. Raised Crops and Feed (A-11b)				28. Taxes Payable: Employee Withholding (A-12b)			
7. Purchased Feed (A-11b)				29. Taxes Payable: Income Taxes (A-12b)			
8. Supplies (A-11b)				30. Taxes Payable: Deferred Taxes (A-12b)			
9. Other Current Assets (A-11c)				31. Other Accrued Expenses (A-12b)			
10. Total Current Farm Assets (Sum Lines 1 thru 9)				32. Other Current Liabilities (A-12c)			
				33. Total Current Farm Liabilities (Sum Lines 23 thru 32)		Same	
NON-CURRENT ASSETS:				NON-CURRENT LIABILITIES:			
11. Breeding Livestock: Purchased (A-11c)				34. Non-Current Portion of Term Debt (A-12c & d)			
12. Raised (A-11c)				35. Deferred Taxes			
13. Machinery and Equipment (A-11d)				36. Other Non-Current Liabilities (A-12d)			
14. Vehicles (A-11e)				37. Total Non-Current Farm Liabilities (Sum Lines 34 thru 36)		Same	
15. Investment in Capital Leases (A-11e)							
16. Contracts and Notes Receivable (A-11f)				38. Total Farm Liabilities (Line 33 + Line 37)			
17. Investment in Cooperatives (A-11f)							
18. Real Estate (A-11g)				39. Contributed Capital			
19. Buildings & Improvements (A-11g)				40. Retained Earnings			
20. Other Non-Current Assets (A-11h)				41. Total Valuation Equity			
21. Total Non-Current Farm Assets (Sum Lines 11 thru 20)				42. Farm Equity (Line 22 - Line 38)			
22. Total Farm Assets (Line 10 + Line 21)				43. Total Farm Liabilities and Equity (Line 38 + Line 42)			

Balance sheet



- In general, assets are listed on the left and liabilities on the right
- They are listed in order of importance (biggest amount of money first)
- They are listed according to their due date

Assets

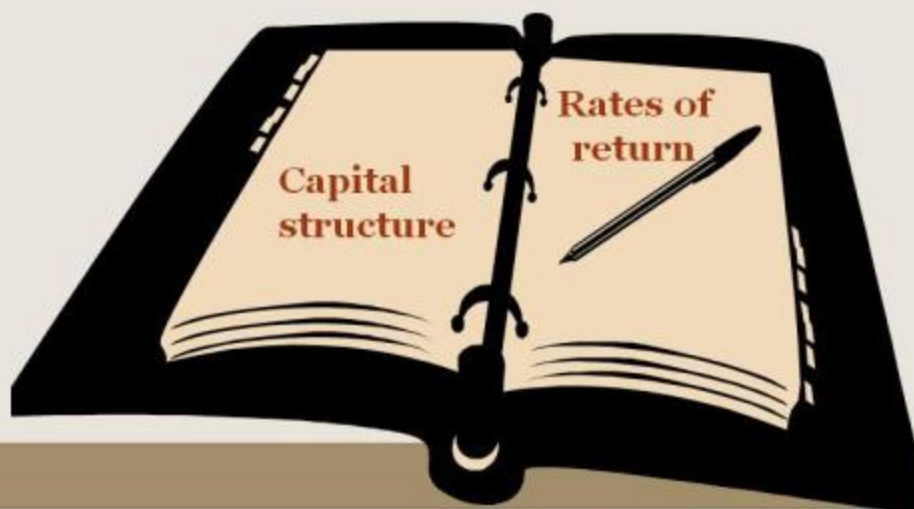
- Current assets
- Non-current assets

Liabilities and equity

- Current liabilities
- Non-current liabilities

Why do you need a Balance sheet?

- The balance sheet provides information to help you evaluate:
 - Capital structure tells you how are the finances of the farm doing, (value of the farm vs. debt)
 - Rates of return (also known as return of investment, or sometimes just return) is the ratio of money gained or lost on an investment relative to the money invested



Why do you need a Balance sheet?

- The information on the balance sheet will help you evaluate the farm in terms of:
 - **Liquidity:** ability to pay debts
 - **Solvency:** the money that you have after paying immediate debts and available to meet long term goals
 - **Financial flexibility:** that is the ability of your business to take advantage of unforeseen opportunities or deal with unexpected problems



Balance sheet

- Now that we know what a balance sheet does, we will talk about the components of this sheet:
 - Assets and Liabilities
 - And how to calculate the equity, solvency and debt of the farm,



Assets

- Asset

- It is anything that is being owned or controlled to produce value. That is anything that you can sell to generate cash or use to produce other goods
 - For example:
 - Fixed assets are land, building, equipment
 - Tangible assets are your crops, livestock, seeds, feed
 - Intangible assets are like crop shares, software, experience
- Assets take two forms:
 - Current: assets which are used or sold within one year
 - Non-current: usually those used to produce other goods; anything that is not a current asset



Assets

- A detailed map and description of your farm should be included in your farm assets



Current assets



- Current assets are expected to be consumed, sold or converted into cash in one year or one operating cycle (whichever is longer)
 - Ex: Livestock, crops, supplies, or cash
- Current assets should be listed in order of liquidity
 - That is, how fast can that asset be sold, converted to cash, and at a price that will give you the best gain
 - Cash and bank accounts are always the most liquid. Then accounts receivable, crops and livestock, supplies, etc.



Current Asset Valuation

- Your assets should be listed at the current market price
 - From that value you need to subtract the value of marketing, processing and delivery costs
 - Grains, livestock and other commodities
- From your business bank accounts (it is always important to keep a separate bank account for your personal expenses), you need to consider them at current balances
 - From that value you must subtract the value of any checks that have not cleared the account



Some examples on how to value some assets:



1. Growing crops

- Valued at the production costs incurred to date

2. Prepaid expenses

- Outstanding value left

3. Value of supplies on hand

- Such as fuel, feed, seed, chemicals, and medications

4. Accounts receivable, or money owed to the business

- Valued at the net value that is realizable from the account
- For example, if somebody owes you \$200 and you really believe that you will receive the \$200. Then, you should value that account receivable at \$200



Non-current assets

- Non-current assets are those that are used in production and are not intended to be sold or converted into cash directly
 - Ex: breeding livestock, tractors, tillage equipment, trucks
- You can also include business investments, such as unpaid cooperative distributions



Non-current asset valuation



For those non-current assets, they have to be valued as:

- Use current market value for:
 - Breeding & dairy livestock
 - Real estate
- Depreciated value
 - You can get this from your depreciation schedule from your taxes
 - Equipment & machinery
 - Vehicles
 - Buildings and improvements
- Farm investments in other entities
 - Less than 20% ownership in other entity use cost method
 - Over 20% ownership in other entity use net equity method



Liabilities

Liabilities:

- Any obligation or debt owed to another
 - Such as: bills, mortgages, loans, accounts payable, interest or principal payments

CAUTION

There are two forms of liabilities:

- Current: debts that become due within one year
 - E.g. Accounts at suppliers, farm store, loans, property and income taxes
- Non-current: any debt or payment that is not due within one year

Current liabilities



Current liabilities are liquidated:

- Through the use of current assets (using the money in your account to pay, or selling product to pay those debts)

OR

- By creation of other current liabilities (bank loans, buying more seeds to invest in next year's crop, etc.)

CAUTION

- Examples of current liabilities include:
 - Line of credit and operating loans
 - Accounts payable – for example, any account still payable with a supplier
 - Payments on non-current liabilities due in the next 12 months

Non-current liabilities



Non-current liabilities are those not expected to be paid within the current operating cycle

- Examples:
 - Loans for non-current assets
 - Real estate mortgages
 - Deferred taxes

CAUTION



Intermediate assets and liabilities

For farm businesses, non-current assets and liabilities can be divided into “intermediate” and “long-term”

- Intermediate - usable/payable life of 1-10 years, e.g. breeding livestock, trucks, short term loans
- Long-term - usable life of more than 10 years, e.g. buildings, land, mortgages



Owner equity





- Owner equity:
 - It is the amount of money that you would have left at the end if you sold all your assets and paid all your liabilities
 - synonymous with “net worth”
 - the current value of your investment in the business

Total Assets – Total Liabilities = Owner Equity or Net Worth

Net equity



Assets 		Liabilities 	
Current Assets	\$100	Current Liabilities	\$50
Non-Current Assets	\$150	Non-Current Liabilities	\$100
Total Assets	\$250	Total Liability and Equity	\$150

$$\text{\$250} - \text{\$150} = \text{\$100}$$

If you sold everything and paid all your debts
you would have \$100 in net worth or equity

Changes in owner equity

A change occurs if:

- A profit or loss occurs
- Capital is invested or withdrawn
- Values of assets change



A change does not occur if:

- Cash is used to purchase inputs
- Loans are taken out to purchase inputs

Equation of the balance sheet

$\text{Assets} = \text{liabilities} + \text{owner equity}$

OR

$\text{Owner equity} = \text{assets} - \text{liabilities}$



Liquidity

- Liquidity

- A short-run concept
- Liquidity is the ability to pay debts as they become due without disrupting day-to-day operations or the ability to generate cash as necessary
- Ratios that measure liquidity:
 - Current ratio
 - Working capital
 - Debt structure



Current ratio



$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

- This ratio is mainly used to give an idea of the company's ability to pay back its short-term liabilities as they come due
- It tells you how fast you can turn product into cash
- After you do this division, you should get a number that tell you about the liquidity of your business

Current ratio:

- 1 = sufficient assets to cover debt, but no safety margin
- <1 = business is not liquid
- >1 = business is liquid
- >2 = business is extremely liquid

Current ratio



1	You have exactly the same amount of money available to cover expenses, but your farm would not be able to face unforeseen problems or take advantage of unexpected opportunities
<1	In farming, many times you will fall in the non liquid ratio because you have invested a lot (seeds, just got animals, etc.) and are waiting to harvest those assets
>1	You are considered liquid when you have enough cash in your hands to pay
>2	You are very liquid when you have lots of money available for paying, investing or saving

Working capital



Working capital = current assets – current liabilities

It is not a ratio

- It is the **absolute value** of how much money is left, if all current assets were sold and all current liabilities are paid
- This is your safety margin!
- This is the amount that you could use to buy new inputs
- This is the money that will protect you in case of any unforeseen problems (e.g. drought, floods, disease of the crops or animals, disease in the family)

In farming unexpected problems can come everyday, so even if you have insurance, you should have enough money to recover from any of these events

Debt structure



$$\text{Debt Structure} = \frac{\text{current liabilities}}{\text{total liabilities}} \times 100$$

It is the percentage of liabilities that are due within one year



Solvency Ratios

- **Solvency**
 - It is the ability to meet all your long term expenses, if assets are sold
 - If your liabilities exceed the assets, the business is insolvent
 - If you have more in assets than in liabilities, the business is solvent
- **Solvency shown through use of three ratios:**
 1. Debt-to-asset ratio (D:A ratio)
 2. Equity-to-asset ratio (E:A ratio)
 3. Leverage ratio or debt-to-equity ratio (D:E ratio)



Equity-to-asset ratio

$$\text{E:A ratio} = \frac{\text{Owner equity}}{\text{Total assets}} = 1 - \text{D:A ratio}$$

- The E:A ratio is the portion of the business owned by the owner
 - $1 \geq \text{E/A} \geq 0$
 - $\text{E/A} < 0$: business is insolvent
 - $\text{E/A} = 1$: assets = owner equity = no debt
- The larger value is preferred

Debt:equity or Leverage ratio



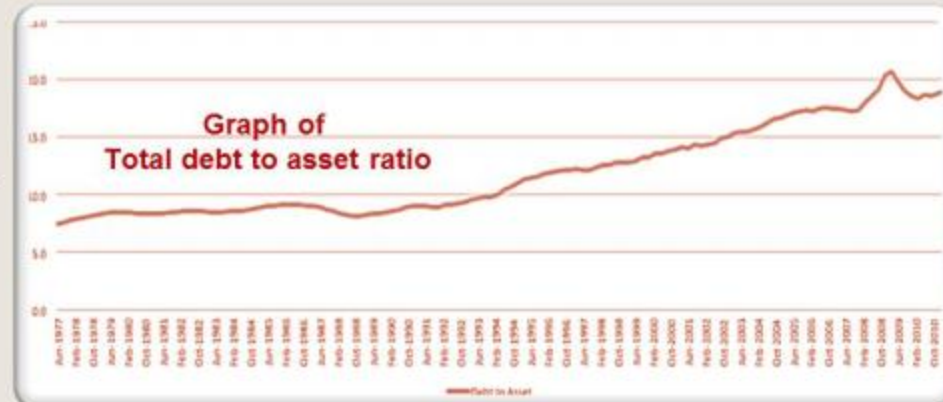
$$\text{D:E ratio} = \frac{\text{Total liabilities}}{\text{owner equity}}$$

- D:E ratio represents proportion of lenders to owner financing of the business
 - $D/E > 1$ business is insolvent
 - $D/E = 1$ equal investment of capital
 - $D/E < 1$ owner owns more than is owed
 - $D/E = 0$ assets = owner equity = no debt

Debt-to-asset ratio

$$\text{D:A ratio} = \frac{\text{Total liabilities}}{\text{Total assets}} = \text{D:E Ratio} * \text{E:A Ratio}$$

- The D:A ratio is the portion of the business owned by lenders
 - $\text{D:A} > 1$: business is insolvent
 - $\text{D:A} = 1$: owner equity is zero
 - $\text{D:A} < 1$: business is solvent
- The smallest value is preferred



Balance sheet: classification

- Guidelines for reporting assets and liabilities separately:
 - Type or expected function in the central operations
 - Implications for the enterprise's financial flexibility
 - Liquidity characteristics



Other types of ratios



Type	What is measured	Examples
Liquidity ratios	Short term ability to pay maturing obligations	Current ratio Quick assets ratio
Activity ratios	Effectiveness in using assets employed	Receivables turnover Inventory turnover
Profitability ratios	Degree of success or failure for a given period	Rate of return on assets Earnings per share
Coverage ratios	Degree of protection for long-term creditors and investors	Debt to total assets Times interest earned

Balance sheet: limitations



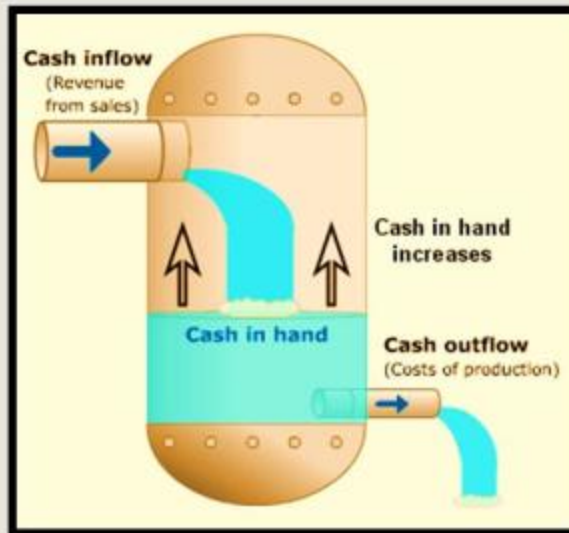
- Most assets and liabilities are stated at historical cost
- Judgments and estimates are used in determining many of the items
- The balance sheet does not report items that can not be objectively determined
- The balance sheet does not report information regarding off-balance sheet financing

What do these ratios mean?

- All these different ratios and calculations can help you figure out how your business is doing and help you identify where there is a problem to start to resolve it
- Especially in the beginning, these analyses should be run several times a year to understand how the business moves with the different seasons and stages of production
- If you are not a mathematical person, maybe getting an accountant to go over your books once in a while could be a good investment



The statement of cash flows



Cash Flow Statement



- Cash flow statement is a projection of the amount and timing cash inflows and outflows over a planning period
 - Typically for each month over the course of an accounting year
- Cash flow statement provides:
 - Established targets of income and expenses
 - Used to monitor progress towards goals
 - Can demonstrate when business may have problems meeting financial obligations
 - Indicates when business may be able to make new investments

Developing cash flow statement

- It is better to do it at the beginning of accounting year when other plans being developed
- You should use sources of data for cash flow projections
 - Previous year's actual records
 - Ex: Tax returns, receipts, previous year's cash flow statement
 - Prepared budgets for each operation in business
 - Any other helpful financial data farmer may have

Example of cash flow statement

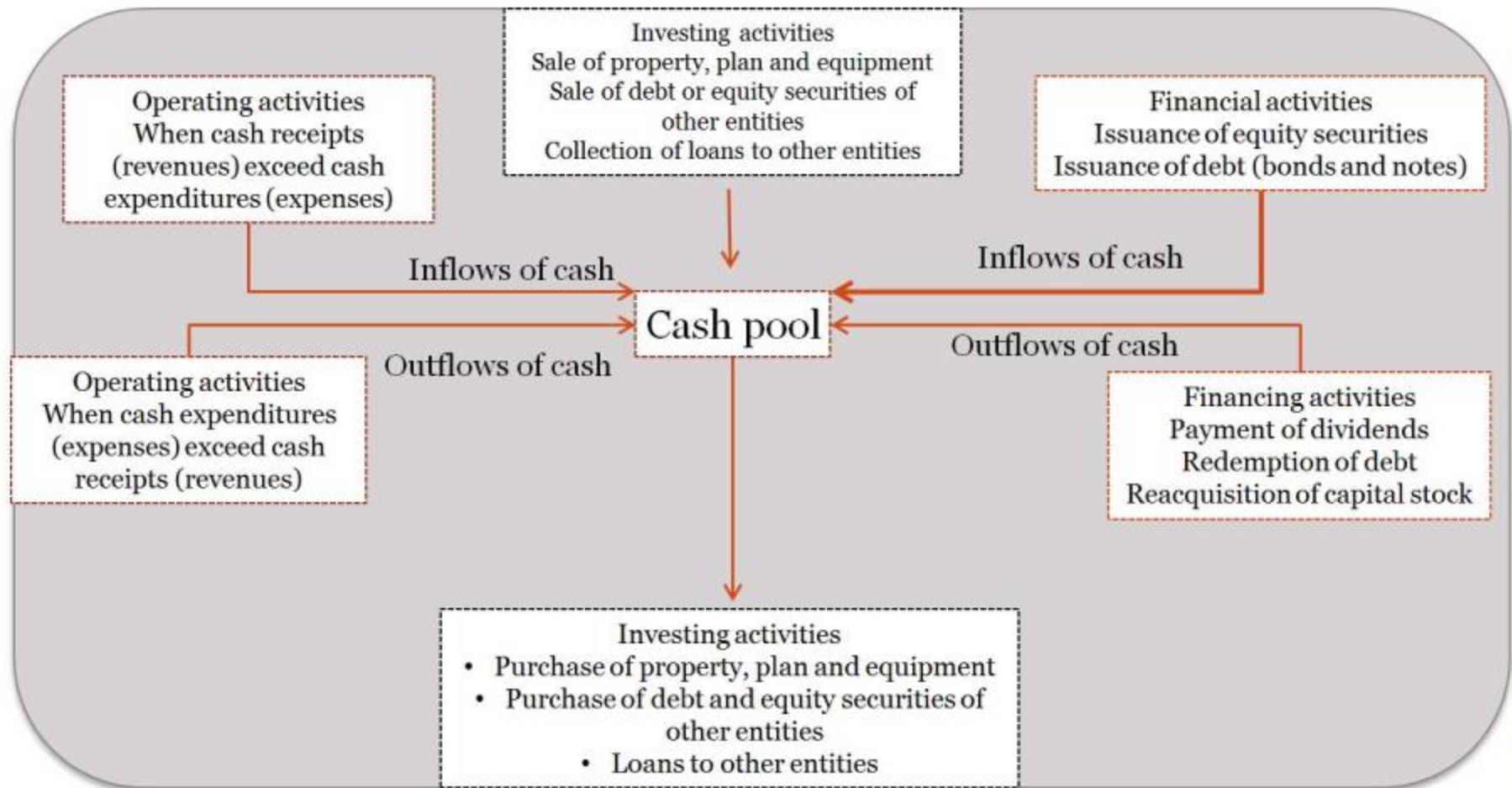
	<u>Month</u>	<u>YTD (6 mo.)</u>
<u>Sales</u>	\$10,000	\$60,000
■ Expenses:		
– Purchases	3,000	17,000
– Wages	2,500	14,000
– Rent	1,000	6,000
– Insurance	200	1,200
– Utilities	500	2,000
– Payroll Taxes	600	3,600
– Advertising	500	3,000
– Depreciation	500	3,000
– Accounting and Legal	200	1,200
– Other Expenses	<u>500</u>	<u>3,000</u>
■ Total Expenses	<u>9,500</u>	<u>54,000</u>
■ Profit (also called Earnings or net Income)	\$ 500	\$ 6,000

Developing cash flow statement



- Cash flow statement is divided among:
 - Cash inflows – cash coming into the business, such as revenues
 - Cash outflows – cash leaving the business, such as expenses
- Cash inflows and outflows will be projected for each month
 - Allows person looking at the statement to better understand when cash coming in, going out, and better understand the financial health of the farm

Cash inflow and outflows



Cash inflows

- Cash inflows are categorized as:
 - Cash received from operations
 - Cash received from capital sales
 - Other cash received
 - New borrowing



Cash inflows



Cash inflows are categorized as:

- Cash received from operations
 - List out projected revenues from crop, livestock, and other operations farm may have
 - Can use previous year's records and base estimates on those
- Cash received from capital sales
 - Projections of machinery, equipment, vehicle, and other capital asset sales over course of accounting year
 - Would also include in projected sales of breeding livestock under this classification

Cash inflows

Cash inflows are categorized as:

- Other cash received

- Includes all projected investment income, retirement income, gifts, and etc.

- New Borrowing

- Include in any projected borrowing that could be taken out over the next year



Cash outflows

- Cash outflows are categorized as:
 - Cash paid for operating expenses
 - Cash paid for purchase of resale items
 - Cash paid for purchase of capital assets
 - Other cash payments
 - Scheduled loan payments



Cash Outflows



Cash outflows are categorized as:

- Cash paid for operating expenses
 - These are expenses incurred for the upkeep of the business
 - Will include most of the period's input, labor, and service expenses
 - Ex. fuel, repairs, chemicals, feed, fertilizers, and etc.
- Cash paid for purchase of resale items
 - This would be for any projected purchases of livestock
- Cash paid for purchase of capital assets
 - Any projected purchases of capital assets would be included here
 - Ex. breeding livestock, machinery, equipment, and etc.

Cash Outflows

Cash outflows are categorized as:

- Other Cash Payments

- Catchall category for the farm
- Ex. Taxes and Social Security payments, withdrawals for family living, retirement contributions, and etc.

- Scheduled Loan Payments

- Projected scheduled principal and interest payments on all outstanding loans
- Would include any projected financing for new purchases



Importance of cash flow statement



- Making a cash flow statement will help you to:
 - Negotiate for certain repayment periods when operation will have necessary cash flows over period
 - When investments could be made in operation
 - Negotiate and explain to lenders when operating loans can be repaid and determine repayment capacity

Summary

- Both balance sheets and statement of cash flows are powerful tools that will help you to:
 - Understand the financial health of the operation
 - Understand the net worth of the operation
 - Understand the timing of projected cash inflows and outflows



Summary

- The balance sheet and cash flow statement will help you to have a better idea of the liquidity and solvency of the operation
- This information will help you plan into the future and avoid hurdles in the way



This presentation is part of an educational modular program designed to provide new and beginning farmers and ranchers with relevant information to initiate, improve and run their agricultural operations



United States Department of Agriculture
National Institute of Food and Agriculture

**This program is funded by the
Beginning Farmer and Rancher
Development Program (BFRDP)**

USDA-NIFA-BFRDP 2010-03143



This presentation was prepared by:



Dale Bumpers College of Agricultural, Food and Life Sciences and the
Division of Agriculture; University of Arkansas, Fayetteville

Dan Donoghue
Ixchel Reyes Herrera
H.L. Goodwin, Jr.
Nathan Kemper
Sandy Martini
L. Paul Goeringer



Poultry Production and Product Safety Research Unit, ARS, USDA
Annie Donoghue

**This presentation is part of an educational modular program designed to
provide new and beginning farmers and ranchers with relevant
information to initiate, improve and run their agricultural operations**

This program is funded by the
Beginning Farmer and Rancher Development Program
(USDA-NIFA-BFRDP)

USDA-NIFA-BFRDP 2010-03143



United States Department of Agriculture
National Institute of Food and Agriculture

This project is the result of the collaboration of these institutions:



USDA-NIFA-BFRDP 2010-03143



Want more information?



- **Developing a balance sheet**
 - Oklahoma Cooperative Extension Service
 - <http://osufacts.okstate.edu/docushare/dsweb/Get/Document-1805/AGEC-752.pdf>
- **Developing a cash flow plan**
 - Oklahoma Cooperative Extension Service
 - <http://osufacts.okstate.edu/docushare/dsweb/Get/Document-1782/AGEC-751web2010.pdf>
- **Developing a set of financial statements**
 - Small Business Notes
 - <http://www.smallbusinessnotes.com/operating/finmgmt/financialstmts/gettingstarted.html>
- **Basic rules for financials**
 - Business Owner's Toolkit
 - http://www.toolkit.com/small_business_guide/sbg.aspx?nid=P06_7025
- **Financial statements.**
 - Agricultural Marketing Resource Center
 - http://www.agmrc.org/business_development/operating_a_business/finance/financial_statements.cfm