# WELCOME TO EVALUATING PROFITABLE AGRICULTURAL ENTERPRISES

A PROFESSIONAL DEVELOPMENT WEBINAR SERIES





Extension
UtahStateUniversity



1

### WEBINAR SCHEDULE

Date	Session Title					
Wednesday December 1	Introduction to Economic Feasibility Assessment					
Wednesday December 15	Market Feasibility Assessment					
Wednesday January 12	Financial Feasibility Assessment – Budget and Profit Basics					
Wednesday January 26	Financial Feasibility Assessment – Budgets and Financial Statement					
Wednesday February 9	Financial Feasibility Assessment – Financial Analysis					
Wednesday February 23	Enterprise Financing: Federal Grant and Loan Programs					
Wednesday March 30	Enterprise Assessment Example – Drought Management					
Wednesday April 13	Conducting Client Needs Assessments					
Wednesday April 27	Evaluating Extension Programming					

-

### **TODAY**

- Budgets and Financial Statements Dr. Ryan Larsen
- Resources
- Guest speaker
- Thanks to WSARE for funding this webinar series Western Sustainable Agriculture Research and Education

3

# FINANCIAL FEASIBILITY ASSESSMENT: BUDGETS AND FINANCIAL STATEMENTS

DR. RYAN LARSEN, RYAN.LARSEN@USU.EDU



This material is based upon work that is supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under award number 2020-38640-31523 through the Western Sustainable Agriculture Research and Education program under project number WPDP21-102. USDA is an equal opportunity employer and service provider. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Denartment of Agriculture.



Extension
UtahStateUniversity



### **WHAT IS PROFIT?**

Profit = Gross Revenue - Total Costs

### **WHAT IS PROFIT?**

Profit = Gross Revenue - Total Costs

Gross Revenue = Price per Unit x Total Units

### **WHAT IS PROFIT?**

Profit = Gross Revenue - Total Costs

 $Total\ Costs = Variable\ Costs + Fixed\ Costs$ 

7

### **DEFINING COSTS**

 $Total\ Costs = Variable\ Costs + Fixed\ Costs$ 

Variable Costs: expenses that vary with output within a production period and result from the use of purchased inputs and owned assets

	Quantity per Acre 35 1 45 1 1 0.75	Unit bushels acre units pt acre	\$15.00 \$0.56 \$3.38 \$4.50	\$25.18 \$3.38	\$162.05	Total Acres 1,000	\$162,050 \$15,000 \$25,179
HRW Wheat (12% Protein)  Subtotal Receipts  Inputs and Services Insurance  Crop Insurance  Fertilizer  Anhydrous Ammonia In-Serve Application  Herbicides Ally Application	1 45 1	acre units pt	\$4.63 \$15.00 \$0.56 \$3.38	\$162.05 \$15.00 \$25.18 \$3.38			\$162,050 \$162,050 \$15,000 \$25,179
subtotal Receipts Inputs and Services Insurance Crop Insurance Crop Insurance Anhydrous Ammonia In-Serve Application Iterbicides Ally Application	1 45 1 1	acre units pt	\$15.00 \$0.56 \$3.38	\$15.00 \$25.18 \$3.38	\$162.05	1,000	\$162,050 \$15,000 \$25,179
nputs and Services nsurance Crop Insurance fertilizer Anhydrous Ammonia N-Serve Application derbicides Ally Application	45 1 1	units pt	\$0.56 \$3.38	\$25.18 \$3.38	<b>VIOZ.03</b>		\$15,000 \$25,179
nsurance  Crop Insurance  Cretilizer  Anhydrous Ammonia  N-Serve  Application  terbicides  Ally  Application	45 1 1	units pt	\$0.56 \$3.38	\$25.18 \$3.38			\$25,179
Crop Insurance  iertilizer  Anhydrous Ammonia  N-Serve  Application  terbicides  Ally  Application	45 1 1	units pt	\$0.56 \$3.38	\$25.18 \$3.38			\$25,179
Anhydrous Ammonia N-Serve Application  derbicides Ally Application	45 1 1	units pt	\$0.56 \$3.38	\$25.18 \$3.38			\$25,179
Anhydrous Ammonia N-Serve Application Herbicides Ally Application	1	pt	\$3.38	\$3.38			
Application  terbicides  Ally  Application	1			_			60.075
Ally Application		acre	\$4.50	\$4.50			\$3,375
Ally Application	0.75			Ş4.3U			\$4,500
Application	0.75						
		oz	\$7.08	\$5.31			\$5,310
Seed	1	acre	\$4.50	\$4.50			\$4,500
	65	pounds	\$0.18	\$11.70			\$11,700
Seasonal Employees	1	acre	\$8.17	\$8.17			\$8,170
nterest on Operating Capital	Rate '15	Term	Principle				
	5.0%	0.50/yr	\$28.36	\$0.71			\$709
Subtotal Inputs and Services					\$78.44		\$78,443
ield Operations	Times	Unit	per Unit	Acre			
Fall Chisel Plow	1	acre	\$11.34	-			\$11,340
Spring Chisel Plow	1	acre	\$11.34			I	\$11,340
Weeding	2	acre	\$7.56				\$15,120
Planting	1	acre	\$9.45				\$9,450
Harvest	1	acre	\$21.55	-			\$21,546
Storage	35	bushels	\$0.20			-	\$7,000
Hauling	35	bushels	\$0.40	\$14.00			\$14,000
Subtotal Field Operations Costs  Total Input, Services and Field Operation					\$89.80		\$89,796 \$168,239

## **DEFINING COSTS**

 $Total\ Costs = Variable\ Costs + Fixed\ Costs$ 

Fixed Costs: expenses that do not vary with output and result from ownership of assets.

### **FIXED COSTS**

- Depreciation
- Taxes
- Interest on investment
- Land
- Insurance
- Management fee

11

### **FIXED COSTS EXAMPLE**

Contribution Margin	(\$6.19)	-\$6,189
Overhead		
Accounting, liability insurance, vehicle cost, office expense	\$10.00	\$10,000
Cash lease/opportunity cost for land	\$30.00	\$30,000
Total Overhead	\$40.00	\$40,000
Total Costs	\$208.24	208,239
Net Returns to Owner (for unpaid management and risk)	(\$46.19)	\$46,189

### **COST OF PRODUCTION**

$$\textit{Cost of Production} = \frac{\textit{total cost}}{\textit{yield}}$$

$$Cost of \ Production = \frac{208.24}{35}$$

 $Cost\ of\ Production = \$5.95/bushel$ 

13

### **BREAK-EVEN YIELD**

$$Break - even\ yield = \frac{total\ cost}{output\ price}$$

$$Break - even\ yield = \frac{208.24}{5.00}$$

 $Break - even\ yield = 41.6\ bushels\ per\ acre$ 

### **BREAK-EVEN YIELD**

Price			Total Costs		
per Bushel	\$108	\$158	\$208	\$258	\$308
\$5.63	19 bu	28 bu	37 bu	46 bu	55 bu
\$5.13	21 bu	31 bu	41 bu	50 bu	60 bu
\$4.63	23 bu	34 bu	45 bu	56 bu	67 bu
\$4.13	26 bu	38 bu	50 bu	63 bu	75 bu
\$3.63	30 bu	44 bu	57 bu	71 bu	85 bu

15

### **BREAK-EVEN PRICE**

 $Break - even \ price = \frac{total \ cost}{expected \ yield}$ 

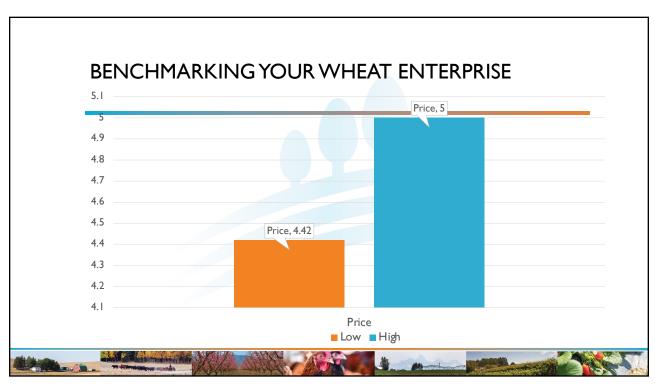
 $Break - even\ price = \frac{208.24}{45}$ 

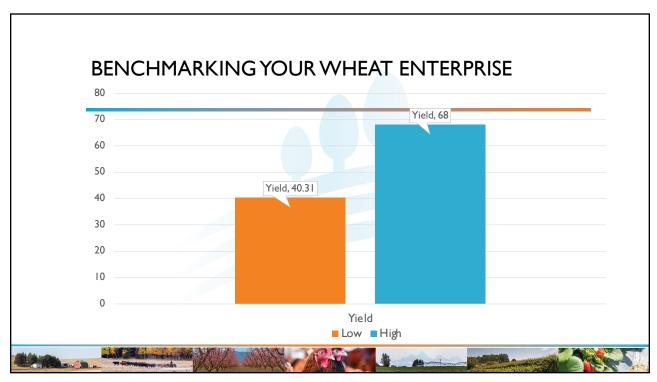
 $Break - even\ price = \$4.63/bushel$ 

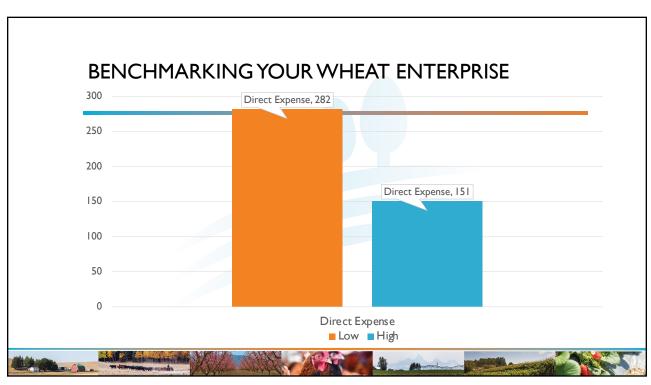
# BREAK-EVEN PRICE

Yield			Total Costs		
per Acre	\$108	\$158	\$208	\$258	\$258
45 bu	\$2.41/bu	\$3.52/bu	\$4.63/bu	\$5.74/bu	\$5.74/bu
40 bu	\$2.71/bu	\$3.96/bu	\$5.21/bu	\$6.46/bu	\$6.46/bu
35 bu	\$3.09/bu	\$4.52/bu	\$5.95/bu	\$7.38/bu	\$7.38/bu
30 bu	\$3.61/bu	\$5.27/bu	\$6.94/bu	\$8.61/bu	\$8.61/bu
25 bu	\$4.33/bu	\$6.33/bu	\$8.33/bu	\$10.33/bu	\$10.33/bu

17







### **INTRODUCTION**

- · Why do we need consistent financial statements?
- Balance Sheet
- Income Statement
- Statement of Owner Equity
- Statement of Cash Flows
- Statement Linkages



21

### WHY FINANCIAL STATEMENTS?

- From a Lender's perspective
- From a Manager's perspective
- Past performance
- Future performance
- Decision Making
- Financial statements organize the data needed to analyze the risk, profitability, liquidity, efficiency, and other criteria



### **BALANCE SHEET**

- Definition
  - Systematic listing of all that the business owns and all that it owes at a specific moment in time
- Also called
  - Net worth statement
  - · Statement of financial condition
  - Statement of financial position
- Static Picture

23

# BASIC STRUCTURE OF THE BALANCE SHEET

Assets:

Current assets

Current liabilities

plus Intermediate assets

plus Intermediate liabilities

plus Long term assets

plus long term liabilities

plus Net worth

equals Total assets

equals Total liabilities and net

worth

Current assets:	
Cash	
Savings and time deposits	
Marketable securities	
Accounts receivable	
Short term notes receivable	
Unsold production inventories	
Unsold livestock inventories	
Supplies	
Prepaid expenses	
Other	
Total current assets Implications for liquidity	

Intermediate assets:	_
Intermediate notes receivable	
Machinery and motor vehicles	
Breeding livestock	
Retirement accounts	
Cash value of life insurance	
Non-marketable securities	
Personal vehicles	
Household goods	
Other	
Total intermediate assets	

LONGTE	RM ASSET	SEGMEN	IT	
Long term asset	ts:			
Long term contracts a receivable	nd notes			
Land				
Buildings				
Residence				
Non farm real estate				
Other				
Total long term assets				
A STATE OF THE STA				

'	Current liabilities:
	Accounts payable
	Short term notes payable
	Current payment on term loans
	Accrued interest
	Accrued taxes
	Accrued rents and leases ————
	Contingent tax on current assets
	Total current liabilities Implications for liquidity

## INTERMEDIATE LIABILITIES SEGMENT

### **Intermediate liabilities:**

Intermediate notes less current payment

Sales contract less current payment

Life insurance loan less current payment

Contingent tax on intermediate assets

Other

**Total intermediate liabilities** 

29

### LONG TERM LIABILITIES SEGMENT

### Long term liabilities:

Farm mortgages less current payment

Land contracts less current payment

Nonfarm mortgages less current payment

Contingent tax on long term assets

Other

**Total long term liabilities** 

### **BALANCE SHEET CONT.**

- Classic accounting identity
  - Assets = Liabilities + Net Worth
- Liabilities
  - · Claims on the firm's assets by lenders and other creditors
- Net worth
  - Represents the claims of owners on those assets



31

### TYPES OF ASSETS

- Assets are classified according to liquidity
- Liquidity
  - Firm's capacity to generate cash quickly and efficiently to meet its financial commitments as they fall due
  - In other words, how fast can I convert it to cash.



### **CURRENT ASSETS**

- Be converted to cash with little or no delay or loss in net value
  - Cash
  - Savings accounts, CD's
  - Notes and accounts receivable
  - Hedging accounts
  - Prepaid expenses
  - Market livestock
  - Crops on hand
  - Marketable stocks, bonds, and cash value of Life Insurance
  - Inventories of supplies



33

### **NON-CURRENT ASSETS**

- Yield services to a business over several years
- · Usually are fully depreciated and replaced
  - Machinery and equipment
  - Breeding livestock
  - · Buildings and other real estate
  - Notes receivable with maturities greater than one year
  - Retirement accounts
  - Non marketable equities
  - Water handling facilities
  - Mineral and hunting rights



### **HOW TO VALUE ASSETS**

- Two methods
  - Current market valuation
    - Current fair market value
  - Cost-basis valuation
    - · Assets are valued at original cost less accumulated depreciation
- Many institutions use both methods on financial statements



35

### **CLASSIFICATION OF LIABILITIES**

- Current and Noncurrent liabilities
- Current Liabilities
  - · Due with the year
    - Accounts payable to merchants and suppliers
    - Accrued expenses
      - Expenses that have been incurred but have not been paid
        - Interest
        - Taxes
        - · Rent and lease payments
    - Notes payable to lending institutions
    - Current portions of noncurrent liabilities



### **CLASSIFICATION OF LIABILITIES CONT**

- Noncurrent liabilities
  - · Obligations having a maturity greater than one year
    - Noncurrent portion of notes payable
      - · Both for non-real estate and real estate notes



37

### **NET WORTH**

- Calculated as
  - Total Assets Total Liabilities
- Net worth contains two components
  - Valuation component
    - Represents the difference between the cost value of the assets and the current market value
  - Retained earnings/contributed capital component
    - Represents the capital contributed by owners plus all the accumulated retained earnings



### **INCOME STATEMENT**

- Summary of the revenue and expenditures of the business over a specified period of time
  - Annually
  - Monthly
  - Quarterly
- Also known as profit and loss statement
- Is not static like the balance sheet



39

### **INCOME STATEMENT**

- Four Parts
  - Farm Revenue
  - Farm Expenses
  - Nonfarm adjustments
  - Income taxes

### **FARM REVENUE**

- Sale of production items
- Government payments

41

### **FARM EXPENSES**

- Operating expenses
  - Inputs
  - Labor
    - Cash operating expenses
    - · Noncash adjustments
    - Changes in inventories
       Interest expenses
- Nonfarm adjustments
  - Depreciation
    - Accounting procedure by which the purchase cost of a depreciable asset is prorated over its projected economic life
    - Land?
    - Three methods
      - Straight-line
      - Declining balance
      - Sum-of-the-year's digits

### STATEMENT OF CASH FLOWS

- Cash is King
- Balance Sheet and Income Statement give limited information regarding the sources and uses of cash during the accounting period
- Statement of Cash Flows
  - Summary of the cash inflows and outflows over a specified period of time



43

### STATEMENT OF CASH FLOWS

- Separates cash inflows and outflows into three sections
  - Operating activities
    - Cash received from farm production, government payments
    - Cash paid for farm expenses, income taxes, family living withdrawals
  - Financing activities
    - Proceeds from loans
    - · Cash from capital contributions
    - Payments of debt, capital leases, dividends
  - Investment activities
    - · Capital sales, withdrawals from savings, sales of personal assets
    - · Capital purchases, deposits to savings accounts, purchases of personal assets



### **CASH FLOW BUDGET**

- Projection of all the cash transactions relating to the business that occur during the accounting period
- Usual format
  - Cash Available
  - Cash Required
  - New borrowings and savings withdrawals
  - · Repayment of operating loan and savings deposits



45

### STATEMENT LINKAGES

Cash flow statement to income

### statement:

- 1. Cash receipts for crops and livestock
- 2. Cash operating expenses
- 3. All other cash items (e.g., interest payments)



### STATEMENT LINKAGES

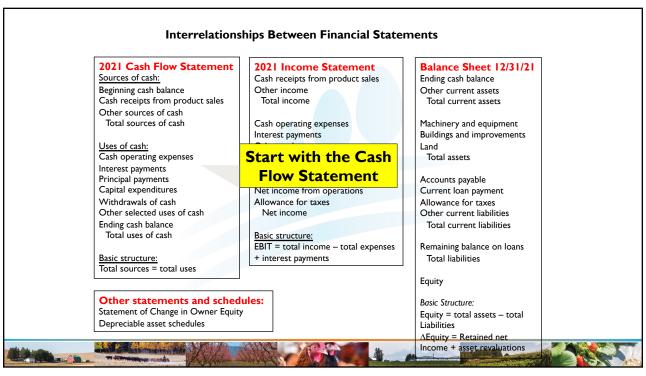
### Cash flow statement to balance sheet:

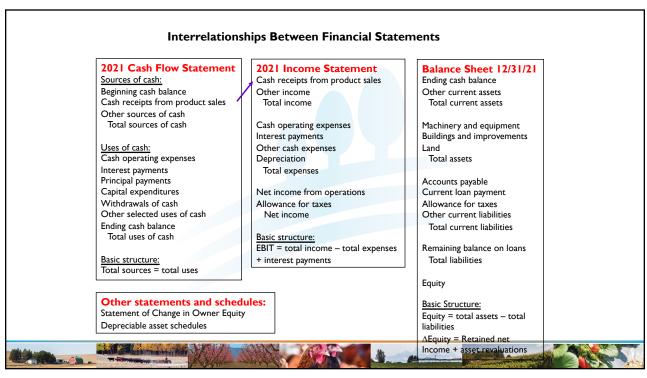
- I. Ending cash balance
- 2. Loan balances (current liability portion separate from intermediate and long term portion)
- 3. Asset adjustments if capital expenditures are made
- 4. Additions and withdrawals from savings

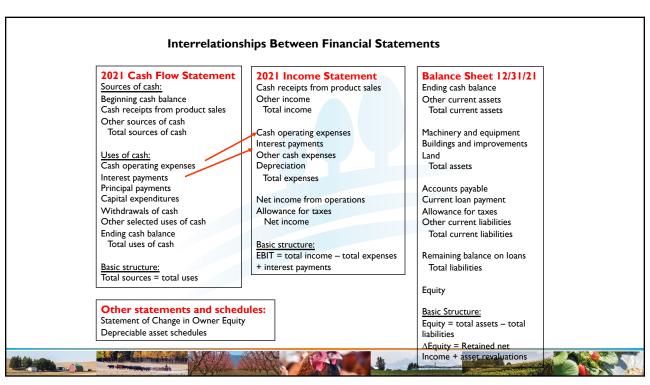
Cash flow Income statement

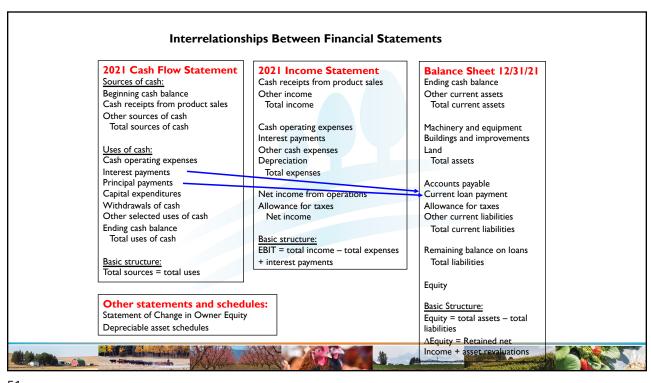
Balance Sheet

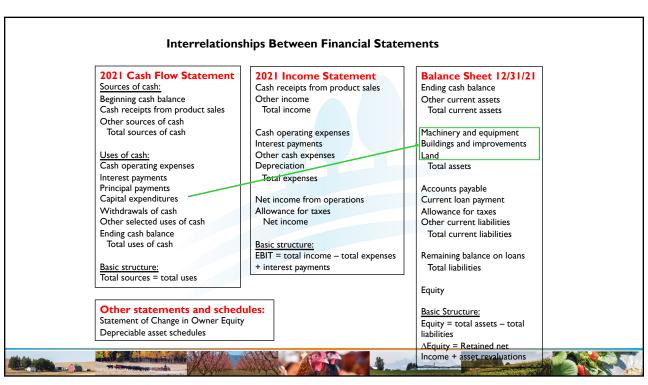
47

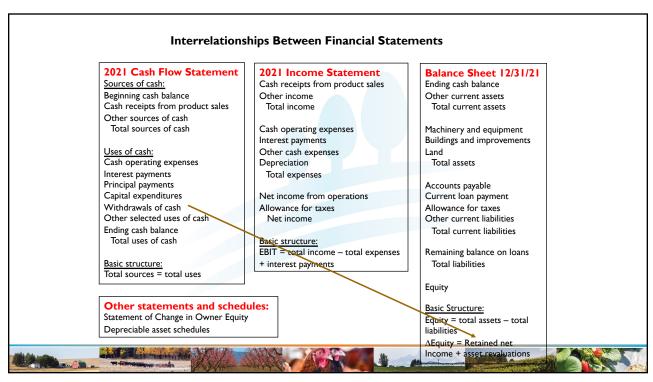


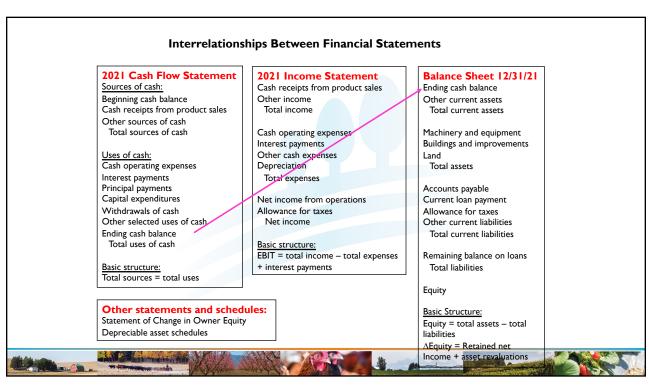


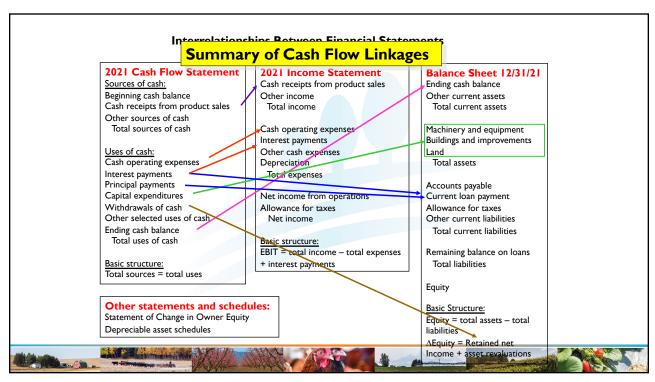


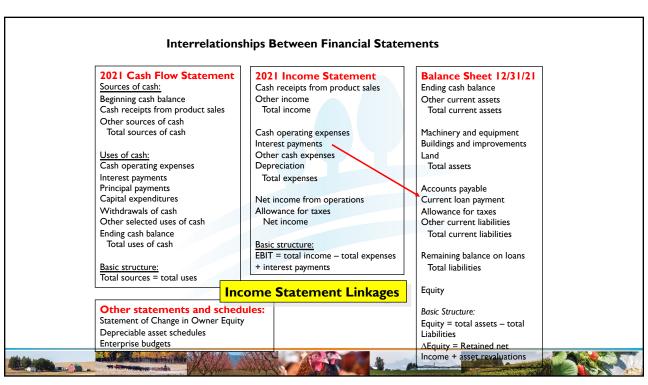


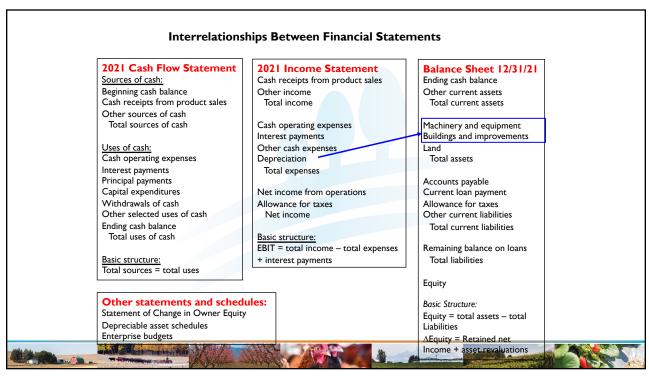


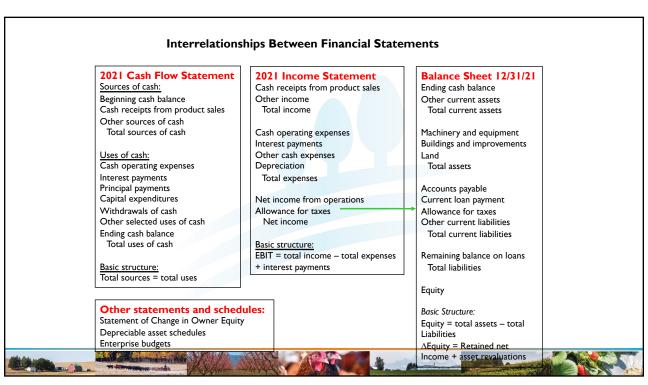


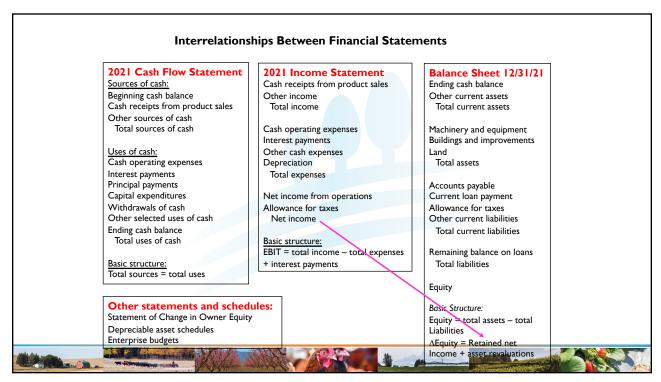


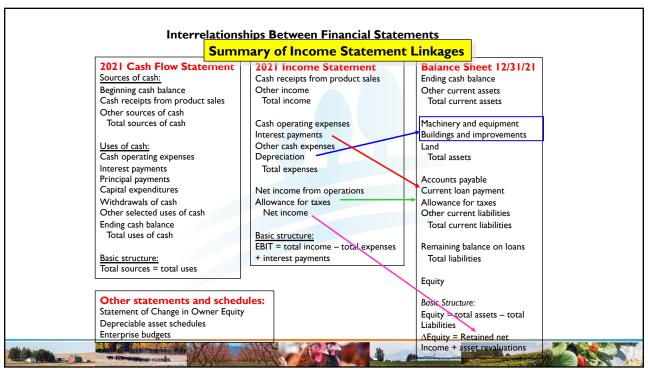












### **RESOURCES**

- Quick Books at: <a href="https://quickbooks.intuit.com">https://quickbooks.intuit.com</a>
- USU Extension Farm Analysis at: https://farmanalysis.usu.edu/
- The Farm Financial Management Database at: https://finbin.umn.edu/
- Center for Farm Financial Management at: https://www.cffm.umn.edu/

61

# QUESTIONS SO FAR? Extension UtahStateUniversity

### GUEST SPEAKER - CINDY & MIKE RIDENOUR -RIDENOUR RANCH AND MEADOW MAID FOODS

- Ridenour Ranch is a family-owned and operated ranch in SE Wyoming. It produces the foods sold by Meadow Maid Foods. Mike and Cindy's products include dry aged grass-fed beef, and all-natural, chemical-free vegetables, which they sell at farmer's markets and deliver in the SE Wyoming and Northern Colorado Front Range. All of their fruits and vegetables are open pollinated or heirloom.
- Cindy began raising vegetables organically in 1984, and she and Mike started a backyard flock of chickens in 1991. Cindy eventually left her career as an applications chemist for a large scientific instrument company to pursue farming full time, finding solace in farm life. Mike left behind a marketing position with a scientific products company now managing a herd of around 200 beef cattle.



63

### CINDY & MIKE RIDENOUR - RIDENOUR RANCH AND **MEADOW MAID FOODS, YODER, WY**

- Producer of natural grass-fed beef sold in retail cuts
- Producer of natural market garden vegetables
- Products sold at farmer's markets and direct on the Front Range



### **NEXT WEBINAR: WEDNESDAY FEBRUARY 9**

- Financial Analysis Drs. Ryan Larsen and Ruby Ward
- Guest speaker

65

# THANK YOU! QUESTIONS? This material is based upon work that is supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under award number 2020-38640 31532 through the Western Sustainable Agriculture Research and Education program under project number WPDP21-012. USDA is an equal opportunity employer and service provider. Any opinions, friedinges, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture.