

# Constructing an Informed Financial Plan



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# PRODAIRY

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# Financial Analysis for Business Planning

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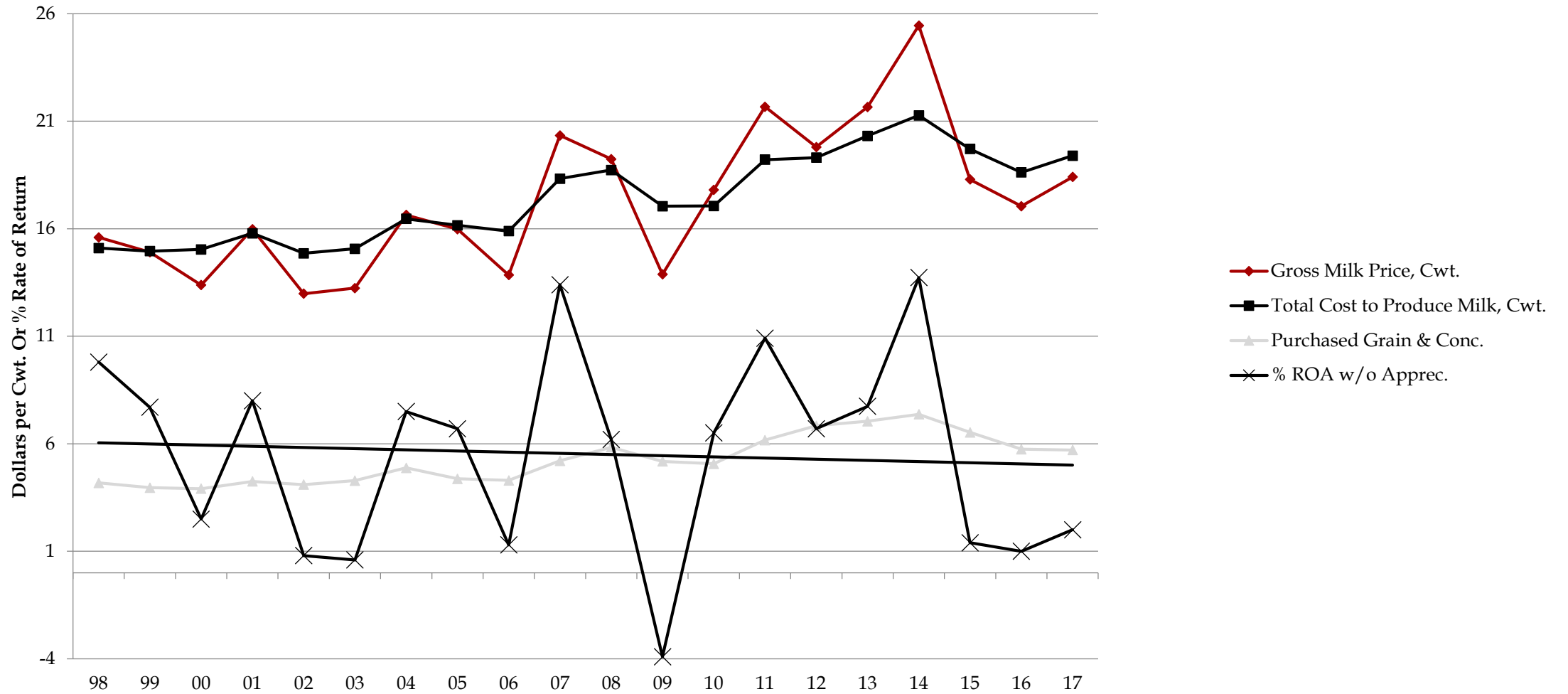


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# 20 Years of Variability

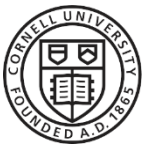
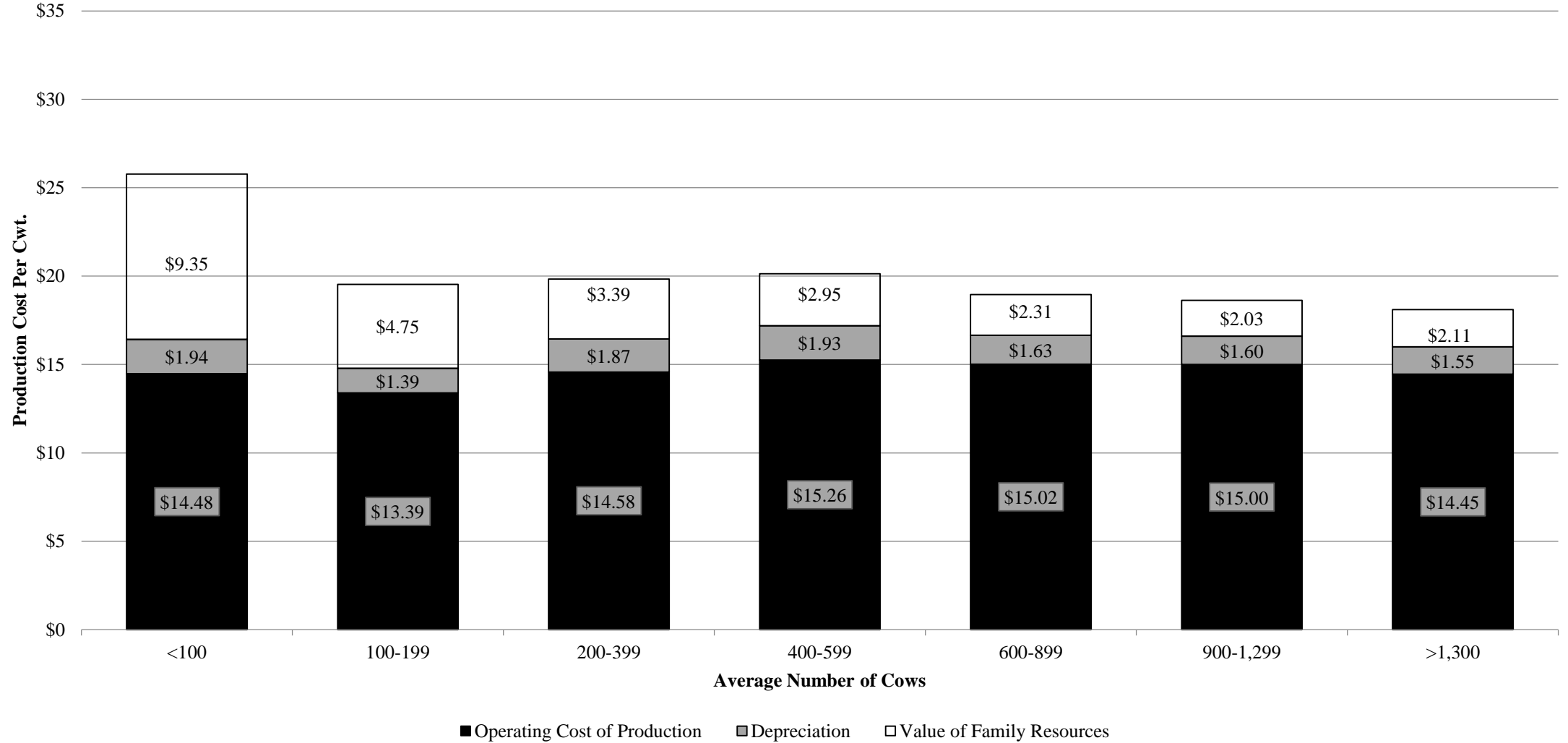
## DFBS Farms, New York State, 1998 - 2017\*



\* 2017 Preliminary Values, January 30, 2018



**PRODUCTION COST BY HERD SIZE**  
**167 New York Dairy Farms, 2016**



# Key Components for Business Planning

- Know Your Numbers
- Business Assessment
- Decision Making
- Business Plan
- Risk Management



# Know Your Numbers: Records for Management



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**FARM BUSINESS CHART FOR  
FARM MANAGEMENT COOPERATORS  
167 New York Dairy Farms, 2016**

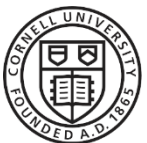
Milk Receipts Per Cow	Milk Receipts Per Cwt.	Operating Cost Milk Production Per Cow	Operating Cost Milk Production Per Cwt.	Total Cost Milk Production Per Cow	Total Cost Milk Production Per Cwt.
\$5,063	\$18.83	\$2,020	\$11.19	\$3,382	\$16.13
4,787	17.88	2,960	12.74	4,196	17.32
4,692	17.55	3,285	13.45	4,555	17.96
4,598	17.29	3,500	13.96	4,712	18.46
4,487	17.09	3,680	14.25	4,823	19.01
4,365	16.93	3,834	14.87	4,941	19.56
4,214	16.72	3,978	15.49	5,108	20.31
4,011	16.56	4,169	16.06	5,296	20.91
3,792	16.33	4,447	16.86	5,594	22.22
2,577	15.80	4,882	18.32	6,164	27.05





# What numbers are you managing from?

- Check book balance
- Accrual adjustments
- Consolidated financial statements
- Monthly or quarterly trends
- Multi-year trends



# Reasons for Record Keeping

- For income tax purposes
- Because they are required by the lender
- To keep other family members happy
- To determine farm profits
- To help in decision making
- To measure whether goals have been reached



# Quality Records

- Timely
- Accurate
- Complete
- Available



# Key Financial Statements

- Profit/Loss
  - Cash vs. Accrual
  - Gross Operating Revenue
  - Gross Operating Expenses
- Balance Sheet
  - Book vs. Fair Market Value
  - Total Assets
  - Total Liabilities
  - Short/Int/Long Term Assets & Liabilities



# Business Assessment

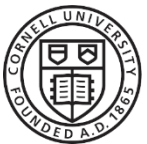


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# FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS 167 New York Dairy Farms, 2016

Net Farm Income Without Appreciation			Net Farm Income <u>With Appreciation</u>		Labor & Management Income	
Total	Per Cow	Operations Ratio	Total	Per Cow	Per Farm	Per Operator
\$1,268,337	\$1,001	0.20	\$1,594,887	\$1,261	\$550,363	\$289,623
616,950	626	0.12	932,739	960	121,455	51,193
348,263	479	0.10	593,992	745	17,580	7,004
200,462	388	0.08	371,275	593	-21,302	-11,173
103,505	275	0.06	216,800	442	-58,672	-31,984
49,571	159	0.03	115,091	290	-120,243	-61,679
4,265	11	0.00	54,741	168	-216,353	-103,332
-57,261	-138	-0.03	7,645	12	-356,245	-165,570
-226,253	-352	-0.08	-94,261	-254	-555,307	-297,613
-668,582	-735	-0.17	-505,981	-620	-1,190,743	-665,637



# Business Assessment- SWOT Analysis

- What are we doing well?
- Where are we leaving money on the table?
- Where are our opportunities?
- What could disrupt our business?



# Business Assessment

- Calculating Financial Ratios
  - Profitability
  - Liquidity
  - Solvency
  - Repayment Capacity
  - Financial Efficiency
- Benchmarking





# Profitability Equation

$$\text{Profitability} = \frac{\text{Volume} \times (\text{Price} - \text{Cost})}{\text{Investment}}$$

Where are the opportunities to improve the business?

Volume

Price

Cost

Investment



# Business Assessment

- Profitability
  - Maintain ability to meet family goals
  - To build retirement for senior/current generation
  - To reinvest in the business
- Are there earnings being left on the table?



# Profitability Analysis

- Rate of Return on Assets
  - $(\text{Net farm income} + \text{interest} - \text{value of operator}) / \text{average farm assets}$
  - What interest rate is being generated for all the money invested?

WEAK	STABLE	STRONG
< 4%	4% – 9%	> 9%



# Profitability Analysis

- Rate of Return on Equity
  - $(\text{Net farm income} - \text{value of operator}) / \text{average farm net worth}$
  - What interest rate is being earned on your money?

WEAK	STABLE	STRONG
< 5%	5% - 10%	> 10%



# Business Assessment

- Liquidity
  - What is the ability of the business to service debt in the short term – next 12 months?
  - Ability to handle shock to operating efficiency?
  - How are we positioned to handle a low milk price cycle?



# Liquidity Analysis

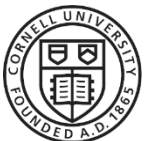
- Working Capital to Operating Gross Expenses
  - Working Capital= Total current assets–total current liabilities
  - Working capital / total expenses
  - What % of the farm expenses are available as excess operating capital?

WEAK	STABLE	STRONG
< 18%	18 – 28%	> 28%



# Business Assessment

- Solvency
  - If the business was sold, can all debt be covered?
  - How much of the business is owned by the lender?
  - For every dollar of equity, how much debt is utilized?
  - Can we borrow more capital if needed?
  - If an opportunity comes up, can we pursue?



# Solvency Analysis

- Equity to Asset Ratio
  - Total farm net worth / total farm assets
  - What part of the business do you own?
  - % equity

WEAK	STABLE	STRONG
< .45	.45 - .75	> .75





# Business Assessment

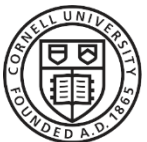
- Repayment Capacity
  - What is the ability to service debt?
  - How much reserve after debt service is there?
  - How is annual capital replacement handled?
  - Are there sufficient earnings to service debt?
  - Is the ability to service debt limiting the ability to utilized debt?



# Repayment Capacity Analysis

- Term-Debt Coverage Ratio
  - Capital debt repayment capacity / planned principal and interest payments
  - Was enough income produced to cover debt service?

WEAK	STABLE	STRONG
< 1.30	1.30 – 2.00	> 2.00



# Repayment Capacity Analysis

- Replacement Margin Coverage Ratio
  - Capital debt repayment capacity / (planned debt payments + un-funded capital replacement)
  - Did you generate enough earnings to replace capital and pay debt?

WEAK	STABLE	STRONG
< 1.00	1.00 – 1.5	> 1.5



# Business Assessment

- Financial Efficiency
  - How well are assets generating revenue?
  - Where is that revenue going?
    - Operating expenses
    - Interest
    - Depreciation
    - Profit
  - Where is the opportunity to improve earnings?
  - What can be done to improve investment efficiency?
  - What can be done to improve operating efficiency?



# Financial Efficiency Analysis

- Asset Turnover Ratio
  - Gross farm revenue / average farm assets
  - How much sales did you generate per dollar invested?

WEAK	STABLE	STRONG
< .50	.50 - .60	> .60



# Business Assessment

- No one measure to look at- cumulative financial picture
- Where is the business in stage of maturity?
- How do the ratios compare to where you want them?
- How do they compare to where the bank wants them?
- What type of year was it for the industry?



# Business Assessment

- Benchmark against industry data
  - Track business performance over time - trend analysis
  - Provide performance standards to monitor changes & analyze impact over time.
  - Identify areas to improve, emphasize, or discontinue.



# Resources for Business Assessment

- Business analysis programs
  - Cornell Dairy Farm Business Summary
  - Farm Credit Business Analysis
  - Dehm & Associates Dairy Dashboard
- Penn State Cooperative Extension
- Profit Teams
- Business consultants/ Accountants
- Agri-service personnel





# Decision Making



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# Economic Decision Making

- Does the proposed change *support the mission and vision of the business?*
- Is it profitable?
- How will it affect cash flow?
- Is it the best use of resources?



# Mission & Vision

- Why are we in business?
- What is the goal of the current operating generation?
- Is there a successor generation?
- Does this move us in the right direction?



# Profitability

- How does it affect the profitability equation?
  - Generate more volume?
  - Change price?
  - Reduce operating expense?
  - Effect on investment?
- How does it affect rate of return?



# Cash Flow

- How will the change be funded?
  - Operating cash flow?
  - Borrowing?
  - Contributed capital?
- How and when will change affect cash flow?
- Repayment period?



# Use of Resources

- Is it the best use of limited resources?
- Total impact on the financial position of the business
  - Change in ratios
  - Timeline
- Evaluate other options objectively



# Business Plan



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# Business Planning

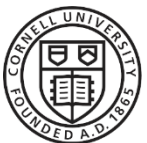
- Organize thoughts
- Present information to stakeholders
  - Business partners
  - Bank
  - Potential partners/investors
- Work through the hard questions





# Business Planning

- What needs to be done?
- Timeline and order of implementation?
- Who does it impact?
- Capital costs?
- Source of capital?
- Effect on profit and cash flow?



# Business Planning

- What external things can impact the ability of the business to complete the plan?
- What is the risk to the business if plan is not implemented successfully?
- What other resources are needed for completion of the plan?



# Formal Business Plan

1. Executive summary
2. Current business description
3. Historical performance
4. Planned capital investments
5. Monthly and annual budgets
6. Sensitivity analysis
7. Supporting documents
8. Summary



# Budgets

- Partial budget
  - Results of incremental change
  - Evaluate effect of one change at a time
- Whole farm budget
  - Projected earnings with cumulative changes
- Cash flow budget
  - Identify potential borrowing needs



# Partial Budget

## Items That Add to Net Income:

Added Inflows

Reduced Outflows

Total (A) \$ \_\_\_\_\_

## Items That Reduce Net Income:

Reduced Inflows

Added Outflows

Total (B) \$ \_\_\_\_\_

Change in Net Income (A-B) \$ \_\_\_\_\_

Benefit/Cost Ratio (A/B) \_\_\_\_\_



# Cash Flow Partial Budget

## Items That Add to Cash Flow:

Added Inflows

\$

Reduced Outflows

\$

Total (A) \$ \_\_\_\_\_

## Items That Reduce Cash Flow:

Reduced Inflows

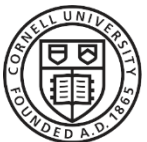
\$

Added Outflows
















\$

Total (B) \$ \_\_\_\_\_

Change in Net Income (A-B) \$ \_\_\_\_\_



# Whole Farm Budget

	<u>Base Year</u>	<u>Future Year</u>	
		<u>Without</u> <u>Change</u>	<u>With</u> <u>Change</u>
Receipts			
Expenses			
Profit			
Cash Flow			
Percent Equity			



# Budgets

- Must have accurate history to build off
- Evaluate more than one option
- Hard vs. Soft numbers
- Sensitivity analysis
  - Milk Price
  - Cost of Inputs
  - Regulatory changes, etc.





# Risk Management

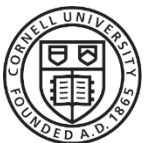


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# Five Key Areas of Risk

- Production Risk
- Financial Risk
- Legal Issues Associated with Agriculture
- Human Resource Issues
- Marketing Risk



# Risk Management

- Many different tools available to management various type of risks
- Tools transfer risk from business to a third party
- The third party takes on this risk for a fee, cost, premium, etc.
  - Private business: generate a profit by taking on this risk.
  - Government program: may be subsidized to a certain extent to achieve policy goals.



# Self-Insurance Vs. Transferring Risk

- Every business is different.
- How comfortable is management with risk?
- What is the cost?
- What is the exposure?
- What are the issues associated with self insuring?



# Self Insurance vs. Transferring Risk

- Key management question
  - What is the financial health of the business?
- The financial health of the business impacts the ability to self-insure.
  - Stronger= easier to self-insure
  - Weaker= increased interest in risk management tools



# Business planning is always important!

- With increased uncertainty, increased emphasis on
  - Knowing your numbers
  - Assessing your business
  - Operational planning and strategic planning
  - Managing risk

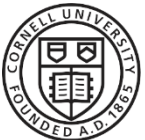


# Questions?

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# Resources:

“Understanding Financial Performance”, Jason Karszes, Cornell Dairy Executive Program, PRO-DAIRY, December 2017



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