



COMPEER
FINANCIAL™

UNDERSTANDING YOUR FINANCIAL STATEMENTS

PART 2: RATIOS

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MATT LANGE, COMPEER FINANCIAL

- Matt Lange
 - Dairy Business Consultant with Compeer Financial since 2012.
 - MS: Purdue University
 - MBA: Indiana University
 - Resides in Menomonie, WI
-
- Compeer Dairy Consulting Team
 - 8 team members working with over 100 dairy farms annually, nationwide.
 - Serve dairy clients with
 - budgeting,
 - ongoing monitoring of performance,
 - financial and production analysis,
 - Benchmarking, and
 - margin management.





WHAT WILL WE COVER TODAY

- Recap
- Ratios from the Balance Sheet
- Ratios from the Income Statement
- Performance Metrics
- Resources
- Outline for Presentation of Ratios:
 - Definition & Description
 - **CALC: Formula for calculating ratio**
 - Example
 - Target



RECAP

- **Accrual vs. Cash**
- **Three Financial Statements**
 1. Balance Sheet
 2. Income Statement
 3. Cash Flows
- **Reference Sample Financials Packet**



REMEMBER

- **Purpose of Financials:**
 - Not just to create work.
 - Create accurate records for which sound business management decisions can be made.
- **Disclaimer:**
 - Communicate with lender to validate/compare calculations.
 - Consistent calculation and comparison is critical.

The background is a solid teal color. On the left side, there is a stylized bar chart with four vertical bars of increasing height from left to right. On the right side, there is a large, light teal outline of a house with a gabled roof. The text 'BALANCE SHEET RATIOS' is centered in the middle of the house outline.

BALANCE SHEET RATIOS



WORKING CAPITAL

- Working Capital

- Difference between current assets and current liabilities.
- **CALC: Current Assets – Current Liabilities = Working Capital**
 - Example: \$2,183,106 - \$3,792,123 = -\$1,609,017

- Working Capital / Cow

- **CALC: Working Capital / Total Mature Cows = Working Capital / Cow.**
 - Example: -\$1,609,017 / 2,544 = -\$632.48/Cow
 - Target: Positive, \$400+

CURRENT ASSETS, pledged:

Cash and cash equivalents	\$	45,368
Accounts receivable, Dairyman's Cooperative Inc.		463,173
Inventories:		
Hay - 3,016 tons	\$	238,440
Silage - 35,783 tons		1,206,507
Investment in growing crops		38,723
Total inventories		<u>1,483,670</u>
Prepaid expenses		190,895
		<u>2,183,106</u>
Total current assets		2,183,106

CURRENT LIABILITIES:

Accounts payable, feed dealers	\$	555,738
Other trade payables		465,086
Accrued interest payable		18,803
Wages and payroll taxes payable		52,146
Farmers Bank, line of credit, secured by inventories and dairy herd, variable payments monthly plus 4.7% interest, matures September 2019		2,414,350
Estimated current portion of long-term debt		<u>286,000</u>
Total current liabilities		3,792,123

BURN RATE & LIQUIDITY

- **Burn Rate**

- The rate in which a company is losing money or “burning” through its cash.
- Monthly or Annually.
- **CALC: Working Capital / Projected or Actual Annual Losses = Burn Rate**
 - Example: $\$800,000 / \$500,000 = 1.3$ years.
 - Target: Ideally a year or longer.

- **Current Ratio**

- Assets easily convertible to cash.
- **CALC: Current Assets / Current Liabilities = Current Ratio**
 - Example: $\$2,000,000 / \$1,250,000 = 1.6$
 - Target: Over 1.2

EQUITY

- **Debt to Asset Ratio:**

- It is the total amount of assets financed by creditors.
- **CALC: Total Debt / Total Assets = Debt to Asset Ratio**
 - Example: $(\$3,792,123 + \$2,618,848) / \$11,331,706 = .565$ or 56.5%

- **Owner Equity**

- Your total equity within a business. How much of the business you own.
- **CALC: Total Assets – Total Liabilities = Owners Equity**
- **CALC: Owners Equity / Total Assets**
 - Example: $\$11,331,706 - (\$3,792,123 + \$2,618,848) = \$4,920,735$
 - Example: $\$4,920,735 / \$11,331,706 = .434$ or 43.4%

Total assets	\$	11,331,706
Total current liabilities		3,792,123
Long-term debt, net		2,618,848
Balance at December 31, 2018		<u>4,920,735</u>
Total liabilities and members' equity	\$	<u><u>11,331,706</u></u>

DEBT RATIOS

- **Debt / Cwt.**

- Debt/cwt. is the total term debt a dairy carries on a cwt. basis.
- Alternative to Debt / Cow.
- **CALC: Total debt including current portion less operating loans and payables / cwt. shipped**
 - Example: \$5,000,000 of debt with \$400,000 of operating and payables / (55,000lbs. Shipped daily *365/100) = \$22.91/cwt.
 - Target no more than \$20/cwt.

- **Principal & Interest Payment / Cwt.**

- P&I/cwt. is the total principal and interest payments on a cwt. basis.
- **CALC: Total P&I in a period / total cwt. shipped in that same period.**
 - Example: \$552,000 of P&I in a year / (55,000lbs. Shipped daily *365/100) = \$2.75/cwt.
 - Target less than \$2.75/cwt.

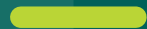
COVERAGE RATIOS

- **Debt Coverage Ratio**

- Term Debt Coverage
- Indicates the ability for a business to utilize operating income to service interest and principal payments, sometimes lease payments included.
 - **CALC: ((Gross Revenue – Operating Expenses) + Interest + Depreciation) = A**
 - **A / (Principal Repayment + Interest + Sometimes leases) = Debt Coverage**
 - Example: $(\$10,615,241 - \$10,576,128) = \$39,113 + \$206,765 + \$692,404 = \$938,282$
 - $\$938,282 / (\$602,665 + \$206,765) = 1.15$ or 115%
 - Target: At 100% you have covered your operating expenses and services your debt and interest.
 - Target: At 120% you have reserved 20% to be reinvested into the business for capital improvements.
 - Again, check with lender on their preferred method of calculating.

The background is a solid teal color. On the left side, there is a stylized bar chart with four vertical bars of increasing height from left to right. On the right side, there is a large, light teal outline of a house with a gabled roof. The text 'INCOME STATEMENT RATIOS' is centered in the middle of the page, overlapping the house outline.

INCOME STATEMENT RATIOS



OPERATING EXPENSE RATIO

- Operating costs as a percent of gross Income is the portion of income that is used for operating expenses.
- CALC: Total expenses less depreciation and interest divided by accrual revenue.**
 - Example: $(\$10,576,128 \text{ expenses} - \$692,404 \text{ depreciation} - \$206,765) \text{ interest} / \$10,615,241 \text{ accrual revenue} = 91.16\%$
 - Target, the lower the percentage the better, less than 80% ideal.

Total other operating expenses	<u>4,460,978</u>
Total operating expenses	<u>10,576,128</u>
Depreciation - other	692,404
Interest	206,765
Total income from operations	<u>10,615,241</u>

FEED COST

- **Accrual vs. Cash Feed**

- Value of Forages & Inventoried Feeds

- Cost

- Market Value:

- I.E. \$36.80/ton Corn Silage @ 35% DM.

- \$102/ton Alfalfa Haylage @ 40% DM

- **Accrual Feed Cost / Cow / Day**

- **CALC: Accrual Feed / 365 / Average Number of Cows**

- Example: $\$5,051,295 / 365 / 2544 = \$5.44/\text{cow}/\text{day}$

- **Income Over Feed Cost**

- **CALC: (Milk Revenue/365/Lactating Cows) – Feed Cost/Cow/Day**

- **CALC: OR Price Received/cwt. / 100 x milk/cow/day) – Feed Cost/Cow/Day**

- Example: $(\$10,439,484/365/2,250) = \$12.71/\text{cow} - \$5.44/\text{cow} = \7.27 IOFC

- Example: $\$15.85/100 = \$.1585 \times 80\text{lbs./cow} = \$12.68/\text{cow} - \$5.44 = \7.24 IOFC

- Target: \$8.25 + on average

LABOR COST

- Generally 2nd highest expense on most dairy farms.
- Generally Include:
 - Employee wages, SUTA, FUTA, Workers Comp., other benefits
 - Owner draws, health and life insurance premiums, etc.
- 1. **Labor Cost / Cwt.**
 - **CALC:** Total labor cost / cwt. shipped in period
 - Target: \$3.00/cwt. or less.
- 2. **Labor Expense Ratio:**
 - **CALC:** Total Annual Labor Cost / Gross Accrual Revenue x 100
 - Example: \$1,151,292 labor cost / \$10,615,241 gross revenue = .108 x 100 = 10.8%
 - Target: Average 12% to 15% or less
- 3. **Labor Turnover Rate**
 - Various ways to calculate.
 - **CALC:** Total FTE / w-2's dispersed

NET HERD REPLACEMENT COST

- Not the cost of raising heifers.
- It is the cost of the change of one mature cow leaving and you replacing her. Think herd turnover ratio cost.
 - **CALC: (# of culls + # dead in period) * balance sheet value – cull cow income.**
 - Example: $(642 + 223) * \$1,700 - \$367,940 = \$1,102,560 / 688,642 \text{cwt} = \$1.60/\text{cwt}$
 - Target: \$1.35 or less.

Sale of cows and bulls:		
Number of head		642
Total amount received	\$	367,940
Average per head	\$	573
Number of dead and condemned cows		223

NET HERD REPLACEMENT COST

- How do we improve NHRC?
 1. Lower Cull Rate
 2. Lower Death Loss
 3. Limit Early Lactation Removal Rates
 - 1st Lactation < 3 of Freshenings
 - 2nd Lactation and Older Cows < 6 of Freshenings
 4. Right Size Heifer Inventory
 5. Obtain Greater Value for Cull Cows

INTEREST EXPENSE RATIO

- **Int. Expense Ratio**
 - % of total revenue in a business allocated to interest expense.
 - **CALC: Interest Expense / Total Revenue = Interest Expense Ratio**
 - Example: $\$300,000 / \$7,000,000 = 4.3\%$
 - Target: Less than 7%. The lower the better.

WHOLE FARM, ACCRUAL, ENERGY- CORRECTED COST OF PRODUCTION

FEBRUARY 7, 2019
EDITION OF
PROGRESSIVE DAIRY

Farm Name: _____

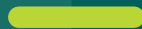
Total Lbs. Shipped in Year: _____ %BF _____ %P _____

^aEnergy Corrected Formula = (Total Lbs*0.327)+(Fat Lbs.*12.95)+(Protein Lbs.*7.2)

		Your herd	Example herd*	Notes
		of milk shipped in year	Based on 262,800 cwt of milk shipped in year	
		Enter Value		
A	Item	How to Calculate		
B	Supplements	Total purchased feed including payables		\$1,445,400
C	Grains	Total inventoried dry corn x \$3.30/bu. @85%dm equivalent		\$149,796
D	Forages	2017 Haylage @ 40% DM = \$34.40/ton 2018 Haylage @ 40% DM = \$66.80/ton 2017 & 2018 Corn Silage @ 35% DM = \$34.40/ton		\$614,952
E	Feed Total	(Take line B + C + D) / cwt shipped		\$8.41
F	Hired Labor	(Wages, Workers Compensation Insurance, State and Federal Taxes, other Benefits)		\$735,840
G	Owner Draws and Family Living Expense	(Draws, benefits, insurances, etc.)		\$105,120
H	Labor (Total)	Take line F + G / cwt shipped		\$3.20
I	Herd Replacement Expense	(Culls + deads) x \$1700		\$569,500
J	Cull Cow Income	Enter Cull Cow Income		\$195,750
K	Net herd replacement cost	(Take line I - line J) / cwt shipped		\$1.42
L	Depreciation (Machinery)	Take machinery value on BS x 12%		\$210,000
M	Depreciation (Buildings)	Take buildings value on BS x 5%		\$187,500
N	Interest Expense	Total Interest Expense for year.		\$325,000
O	Leases	Total Equipment Lease Payments for year.		\$0
P	Capital cost (Depreciation, interest and leases)	(Take line L + M + N + O) / cwt shipped		\$2.75
Q	Animal Health, Bedding, Breeding, Supplies	Add all dairy supporting expenses		\$525,600
R	Other production	Take line Q / cw. shipped		\$2.00
S	Admin, fuel, insurance, marketing, repairs, utilities	Add all farm related expenses		\$328,500
T	Seed, Chemical, Fertilizer, Land Rent	Add all agronomy related expenses		\$1,314,000
U	Overhead	(Take line S + T) / cwt shipped		\$6.25
V	Crop Production	2018 Dry Corn x \$3.30/bu. @85%dm equivalent 2018 Corn Silage @ 35% DM = \$34.40/ton 2018 Haylage @ 40% DM = \$66.80/ton		\$880,380
W	Heifer Appreciation	\$64 x (total heifers - loss of heifers) x 12 months in inventory for a herd with steady state heifer inventory		\$552,960
X	Other non-dairy Income	All other non-dairy income including patronage, government receipts, custom work income, rental income, and interest income.		\$302,220
Y	Less other Income	Take line (V + W + X) / cwt shipped		\$6.60
Z	Whole farm cost of production	Add Lines E, H, K, P, R, and U and subtract line Y		\$17.43

A large, light teal graphic of a house outline with three vertical pillars of varying heights on the left side. The house outline is composed of thick, rounded lines. The pillars are also thick and rounded at the top. The entire graphic is set against a dark teal background.

OTHER PERFORMANCE CALCULATIONS



HEIFERS IMPACT

- **Heifer Inventory Ratio**
 - Historical guides say 1 heifer for every 1 lactating cow or 85% of herd.
- **First lactation cows as a % of herd**
 - **CALC: First lactation number of head / herd size**
 - Example: $887 / 2544 = .348$ or 34.8%
- **How many heifers do you need?**
 - Heifer rearing is incredibly expensive. Average is \$1,800
 - **CALC:**
 - $(\text{Target Cull Rate} + \text{Death Loss}) / 12\text{months} = A$
 - $A * \text{Total Milking \& Dry} * \text{Age at 1}^{\text{st}} \text{ Calving} = B$
 - $B * (1 + \% \text{ Heifer Loss}) = \text{Total Heifers Needed}$
 - Example:
 - $(.30 + .05) / 12 = .0291$
 - $.0291 * 2,544 \text{ cows} * 23 \text{ months} = 1,706$
 - $1,706 * 1.10$ (means a 10% loss of heifers) = 1,877 or 82 heifers/ month

The image features a solid teal background. A white outline of a house is centered, with a yellow horizontal line positioned below the word 'RESOURCES'.

RESOURCES

CAPITAL BUDGET

- **Capital Budgeting**

- Guide for what constitutes a necessary capital investment.
- Conversation on what to invest in, when, and how it will be financed.
- Outline of major capital investments over the next 5 to 10 years.

D. Requires More Investigation

Item	Key Reason	\$ Amount (Est.)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
TOTAL		\$0.00

*

C. SEMI-LONG-TERM (24 MONTHS TO 48 MONTHS)

Item	Year	\$ Amount (Est.)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
TOTAL		\$0.00

*

A. URGENT & IMPORTANT (Next 12 months)

Item (List any tradein & \$ amount as a negative)	Month	\$ Amount
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
TOTAL		\$0.00

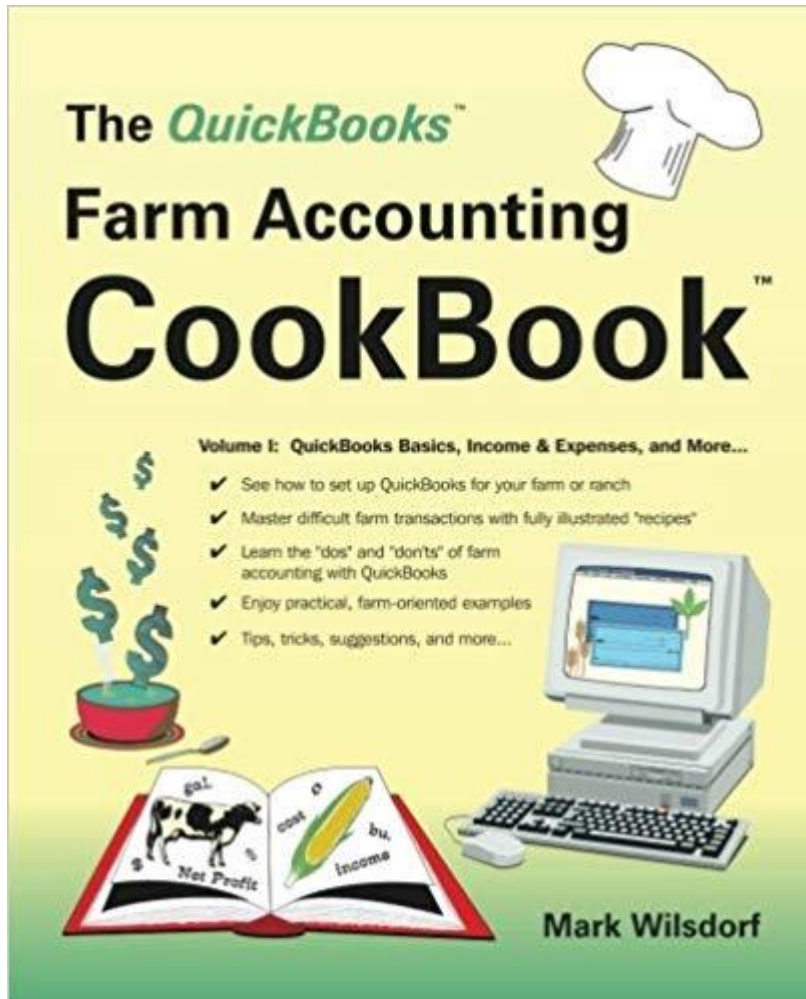
*

B. IMPORTANT, BUT NOT URGENT (12 months to 24 months)

Item	Month	\$ Amount
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
TOTAL		\$0.00

*

BOOKS AND ONLINE TOOLS



- **QuickBooks Farm Accounting Cookbook**
 - Great “how to” book for setup, making entries, and maximizing value of the software
 - Amazon: \$34.98
- **CenterPoint Software**
 - Alternative to QuickBooks
 - www.redwingsoftware.com
- **Farm Financial Standards Council**
 - Education Programming
 - <https://ffsc.org/>

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A large, light teal outline of a house with a gabled roof and a chimney on the left side, serving as a background for the text.

THANK YOU

A short, horizontal yellow line positioned below the 'THANK YOU' text.