

DISCUSSION OUTLINE

- Dairy Profitability and Status
- Understanding Financial Statements
- Dairy Financing Guidelines

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DAIRY PROFIT TREND CYCLICAL MILK PRICES AND PROFITS

* DATA FROM COMPEER CONSULTING BENCHMARKS

	2014	2015	2016	2017	2018	2019	2020
Class III Price	\$22.34	\$15.80	\$14.87	\$16.17	\$14.61	\$16.96	\$18.16
Net Income/Cow	\$1110	(\$40)	(\$214)	(\$84)	(\$279)	\$437	\$ 962 *
Top 25%	\$1717	\$573	\$290	\$514	\$267	\$848	\$1589 *
Low	\$163	(\$1225)	(\$907)	(\$1646)	(\$1920)	(\$373)	(\$ 253)*

* 2020 Net Income includes an average of \$2.71/cwt in government payment income

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WHAT DISTINGUISHES THE TOP 25%?

No one thing – attention to detail throughout their business

- ❖ Solid production with emphasis on components
- ❖ Excellent herd health and reproductive performance
- ❖ Strong connection with nutritionist – high quality forages
- ❖ Well aligned processor/marketing relationship
- ❖ Strategic capital investments and use of debt
- ❖ Understand their financial position and cost of production
 - *Timely and accurate financial and production management systems*

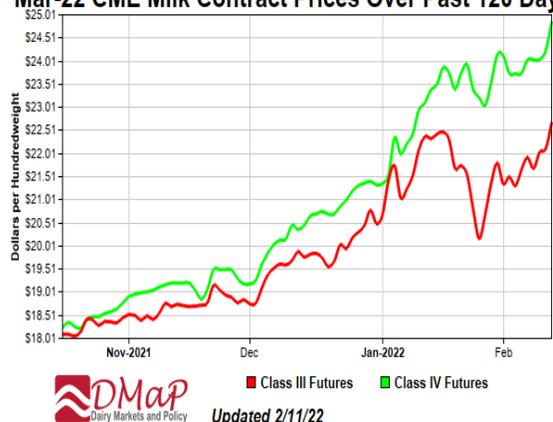
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FACTORS DRIVING HIGH MILK PRICES

Mar-22 CME Milk Contract Prices Over Past 120 Days



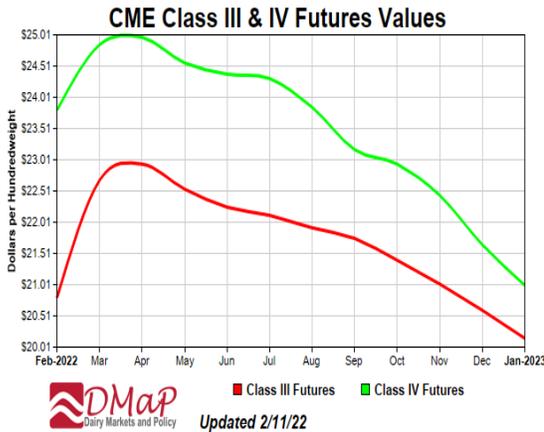
- Milk production flat or down in US, EU, and NZ
 - Weather – heat and drought
 - Feed costs high
 - Environmental policies in EU
- Solid retail demand for cream, butter, and cheese.
- Strong export demand for milk powders, whey, and cheese
- Limited excess heifers

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MILK PRICE CAUTION FACTORS



- If China decreased whey imports, Class III would drop
- Slowdown in economic growth could cause consumers to cut back on higher priced dairy products
- Dairy farms will increase production at some point
 - Favorable growing season would support adding cows
 - “High prices do cure high prices”

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CURRENT DAIRY FARM STATUS

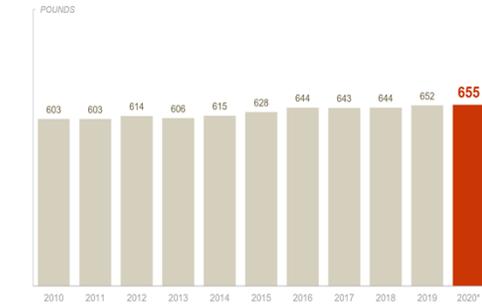
- Financial position much improved after 2 to 3 years of profits
 - Payables caught up and operating lines paid down
- Many farms with older milking parlors – looking to reinvest
- Construction costs and material prices are high
- Processor capacity is tight and processors cautious to grow
- Feed costs are high and limited availability in drought areas
 - Farm raised feeds an advantage this year
 - High input costs this spring may lead to higher feed costs next year
- Government payments will likely be minimal this year
- Environmental and regulatory environment is a challenge

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TRENDS – EXPORTS INCREASINGLY IMPORTANT

U.S. Per Capita Dairy Consumption

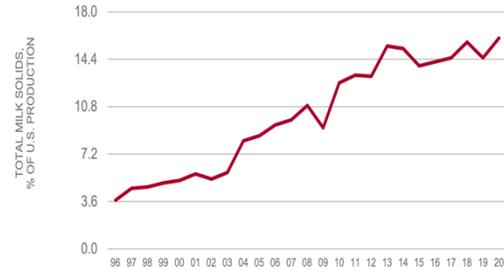
Per capita consumption of dairy (in all forms/products) grew 0.5% in 2020 to reach 655 pounds per person, the highest level since 1960



Source: USDA/ERS, Dairy Data
*Preliminary estimate. All dairy products in pounds of milk equivalent, on a trailer basis.

U.S. Dairy Exports - Percent of Production

1996-2020



Source: U.S. Dairy Export Council, U.S. Bureau of Census.

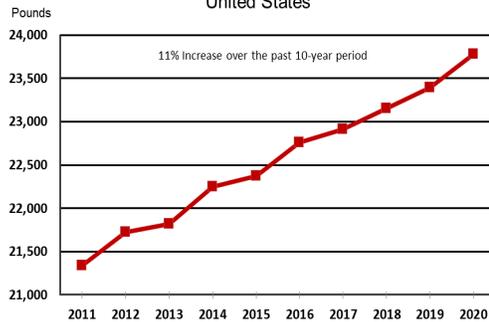
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TRENDS - CONTINUOUS IMPROVEMENT INDUSTRY

Production per Cow, 2011-2020 United States



USDA-NASS
02-23-2021

- Genetic Improvement
- Enhanced cow comfort
 - Barns, stalls, ventilation
- Forage quality and Feed
- Herd health and milk quality
 - Major drop in SCC
- Employee training
- Management systems

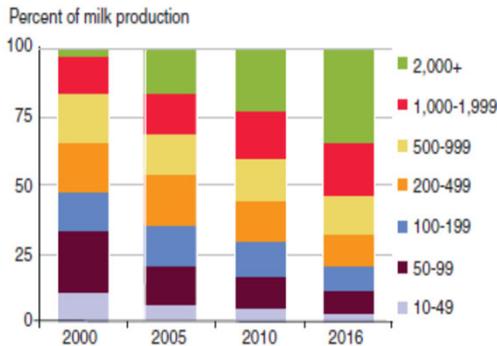
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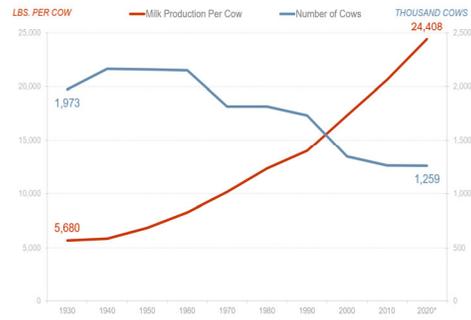
TRENDS – CONSOLIDATION AND PRODUCTIVITY

Milk production has shifted to larger herds



Wisconsin Dairy Cow Trend, 1930-2020

In 2020, Wisconsin produced 174% more milk with 36% fewer cows than in 1930, due to **much higher** milk production per cow



DAIRY FARMERS WISCONSIN

Source: USDA/NASS, Milk Production
*Preliminary estimate



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TRENDS - LABOR AND ENVIRONMENT PRESSURES

“Labor Shortage Continues to Plague Farms”



U.S. farms and livestock operations employed 11% fewer workers during one-week periods this past January and April compared to the comparable weeks in 2020. (Farm Journal)
By **FRAN HOWARD** June 3, 2021

Net Zero Initiative – Newtrient, NMPF, IDFA, USDEC, DMI

On-farm Benefits

Feed production & practice changes:

- Healthy soils
- Water resistant soils
- Improved nutrient and carbon cycling
- Enhanced air and water quality
- Ecosystem services

Manure handling & nutrient use:

- Transportable, high-quality fertilizers
- Animal Bedding
- Clean, recycled water
- Compost
- Ecosystem Services

Cow care & efficiency:

- Healthier cows
- Increased milk production
- Reduced GHG intensity

Renewable energy:

- Renewable electricity, heat, vehicle fuel and natural gas
- Ecosystem services



*Should do not represent all possible practices, technologies or benefits. Each farm can substantially contribute to net zero efforts based on their individual operations. NET ZERO INITIATIVE



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UNDERSTANDING FINANCIAL STATEMENTS

- Balance Sheet
- Income Statement

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CAPITAL

- Two Main Components:
 - Solvency
 - Liquidity
- Information comes from Balance Sheet
 - Assets
 - Liabilities
 - Net Worth

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CAPITAL

- What makes a Balance Sheet “balance”?
- **Liabilities + Net Worth = Total Assets**
OR
- **Total Assets – Liabilities = Net Worth**

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CAPITAL



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CAPITAL

- **Cost Basis vs. Market Value Balance Sheets**
- **Cost Basis – cost of acquisition less depreciation**
- **Market Value – based on current market or appraisal**

- **Both methods have value:**
- **Cost Basis gives a “business” view of asset value**
- **Market Value should be done each year to show what is “real value” of the business**

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CAPITAL

Solvency

- A long-run concept relating to **capital structure** and the **ability of a business to pay off all financial obligations if assets are liquidated.**

- Measures **ownership & control** of a business

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CAPITAL

- Solvency
- Measured by Net Worth and Owner Equity
- Net Worth = Total Assets – Total Liabilities
- Net Worth is a Dollar Amount (\$\$)
- Owner Equity = Net Worth / Total Assets
- OE is a percentage (%)

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CAPITAL

- Solvency
- Owner Equity
- Indicates what % of Assets are paid for
- Who has more at risk - owner or creditors?

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CAPITAL

- Owner Equity = 50%
- Debt/Asset = 50%
- Debt/Equity Ratio = 1:1
- Owner and Creditors each have the same amount of capital at risk.



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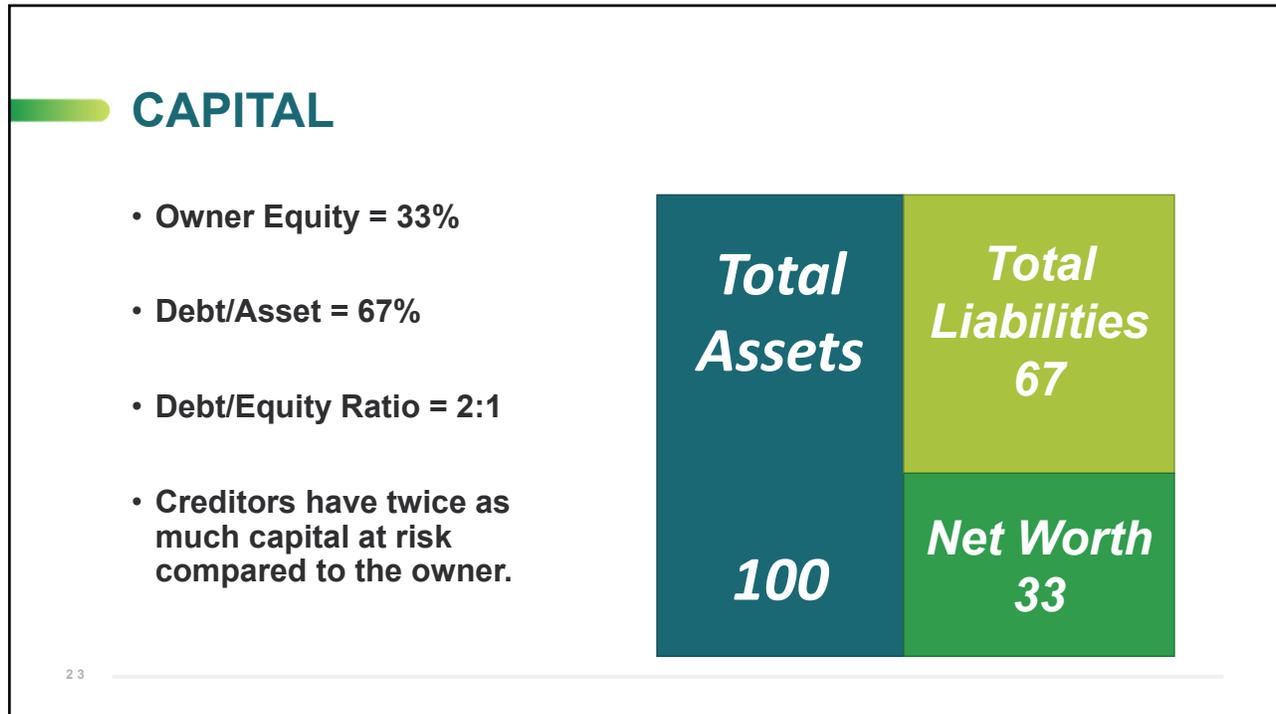
CAPITAL

- Owner Equity = 67%
- Debt/Asset = 33%
- Debt/Equity Ratio = 1:2
- Owner has twice as much capital at risk compared to the creditors.

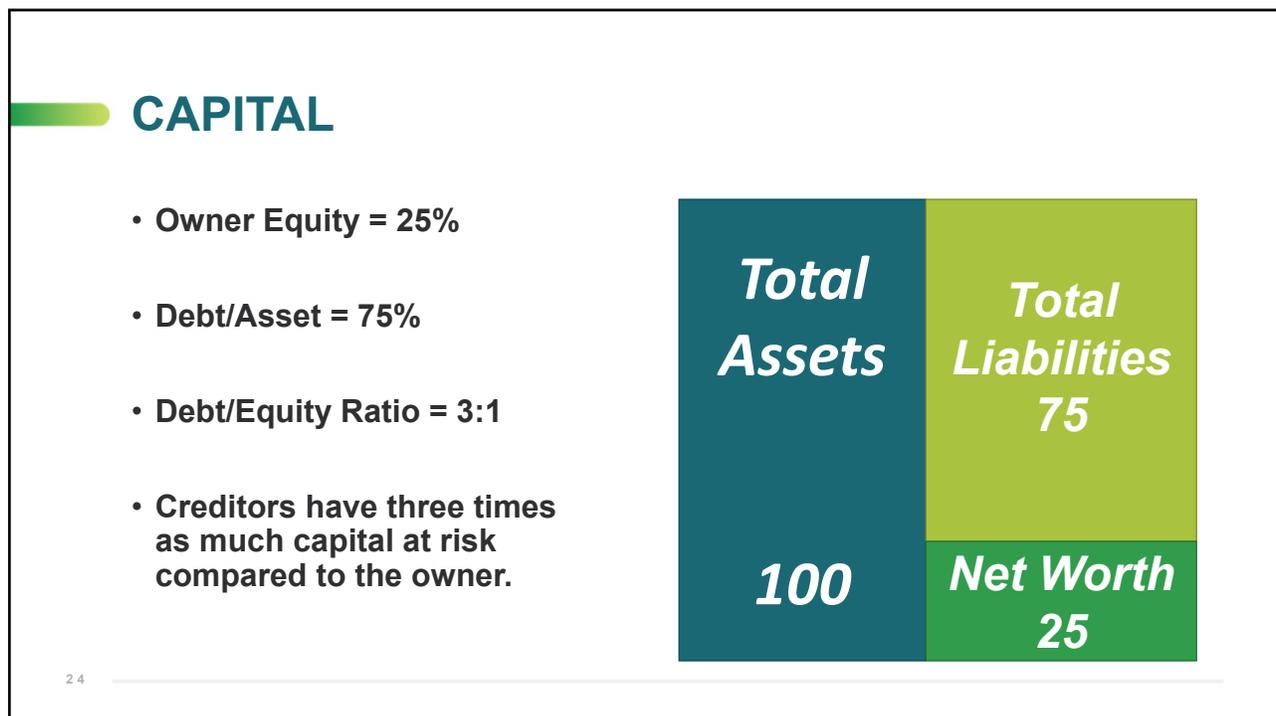


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CAPITAL

- Liquidity
- “The ability of a business to meet its cash or short-term obligations when due without disrupting the normal operation of the business.”

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CAPITAL

- Liquidity
- Measured by Working Capital/Adjusted Gross Income
- Combines data from Balance Sheet and Income Statement
- Working Capital = Current Assets - Current Liabilities
- Working Capital is a Dollar Amount (\$\$)

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CAPITAL

- **Working Capital**
- **Current Assets = assets that are sold or consumed within 1 year of balance sheet date**
- **Current Liabilities = liabilities that are due within 1 year of balance sheet date**

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CAPITAL

- **Working Capital**
 - **Examples of Current Assets:**
 - Cash
 - Accounts Receivable
 - Inventory
 - Market Livestock
 - Prepaid Expenses

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CAPITAL

• Working Capital

- Examples of Current Liabilities:
 - Accounts Payable
 - Accrued Expenses
 - Interest
 - Taxes
 - Operating Loans
 - Current Portion of Term Debt

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LIQUIDITY EXAMPLE – WC/AGI MEASURE

Sample Farm	
Current Assets	\$1,482,000
Current Liabilities	\$1,303,985
Working Capital	\$178,015
AGI	\$5,400,000
WC/AGI = 3%	

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CAPITAL

- **Why is Working Capital important?**
 - 1. *Helps withstand volatility and adversity***
 - + Markets
 - + Weather
 - + Other Risks
 - 2. *Allows for taking advantage of “opportunities”***
 - + Capital purchases
 - + Additional debt reduction

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INCOME STATEMENT

- **Profitability**
- **Capacity**

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PROFITABILITY

- Understand the relationship between the balance sheet and the income statement
 - Balance sheet is a snapshot of a *point in time*
 - + Recommend strongly it be 12/31 each year or end of your fiscal year
 - Income statement measures results over a *period of time*
 - + Example 1/1/2021 – 12/31/2021
 - Beginning and ending balance sheets are like “*bookends*” of the income statement

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BALANCE SHEET – INCOME STATEMENT



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CASH VS. ACCRUAL ACCOUNTING

- **Cash Method**
 - Income recognized when cash is **received**
 - Expense is recognized when invoice is **paid**

- **Accrual Method**
 - Income and expense are recognized as of the **date of the transaction** (**matching principle**)
 - Changes in inventories, receivables, payables are also accounted for (non-cash transactions)

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INCOME STATEMENTS - REVENUES

Revenues

- + Milk Sales
- + Raised Calf, Cow, Cull Sales
- + Grain Sales
- + Government Payments
- + Other Income

Gross Income

Cash Differences

- + Deferred Sales
- +/- Inventory Changes
- + Capital Sales

Cash Inflows

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INCOME STATEMENT -EXPENSES

Expenses

+ Feed Cost
 + Labor Cost
 + Replacement Cost
 + Capital: Depreciation + Interest
 + Other Production Cost
 + Overhead Cost

Total Expense

Cash Differences

+/-Prepaid feed or payables
 + Owner draws
 +Cow Purchases+Heifer Raising
 + Term P & I
 +/-Prepaid or payables
 + Capital Expenditures (Cash)

Cash Outflows

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COST OF PRODUCTION

= *(Total Expenses - Non-Milk Sale Income)/Cwt. Produced.*

- Concept is to subtract out other revenue sources from expenses to isolate the expenses to be paid by milk production
- Cost of production varies from year to year, particularly due to changes in commodity prices impacting feed expenses
- Typical range is \$16 to \$18/cwt with variance on either side of the range. Should standardize for components when comparing results.
 - Energy corrected milk or fat corrected milk

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CAPACITY

- Capacity is the ability to repay term debt on time
- Profitability and debt structure are key components

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CAPACITY

- **Profits**
 - This is what pays principal on loans
 - Capital replacement
 - Return for Labor - Family Draw
- **Accrual versus Cash**
- **Cash Flow**

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CAPACITY

- Capital Debt Repayment or Debt Coverage Margin
- Capacity (\$\$ Amount)
- Demands (\$\$ Amount)
- Margin (\$\$ Amount)
- Capacity (%)

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CAPACITY EXAMPLE

- Capital Debt Repayment Capacity for Sample Farm

Net Farm Income From Operations	\$300,000
+ Depreciation	+ \$400,000
+ Interest on term debt	+ \$350,000
+ Non-Farm Income	+ \$50,000
- Family Living & Income Taxes	- \$150,000
= Capital Debt Repayment Capacity (\$\$)	\$950,000

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CAPACITY EXAMPLE

- Calculate the Capital Debt Repayment Demands for Sample Farm

Scheduled Principal Payments on Term Loans	\$600,000
+ Interest on term debt	+\$350,000
= Capital Debt Repayment <i>Demands</i> (\$\$)	=\$950,000

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CAPACITY EXAMPLE

- Capital Debt Repayment Margin for Sample Farm

Capital Debt Repayment <i>Capacity</i> (\$\$)	\$950,000
- Capital Debt Repayment <i>Demands</i> (\$\$)	- \$950,000
= Capital Debt Repayment <i>Margin</i> (\$\$)	= 0

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CAPACITY EXAMPLE

- Capital Debt Repayment Capacity for Sample Farm

Capital Debt Repayment <i>Capacity</i> (\$\$)	\$950,000
÷ Capital Debt Repayment <i>Demands</i> (\$\$)	÷ \$950,000
= Capital Debt Repayment <i>Capacity</i> (%)	100%

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CAPACITY

- Capital Debt Replacement Capacity
- Underwriting Standard is 115%
- 100% CDRC indicates that all principal and interest payments would be able to be made.
- 115% allows for volatility

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DAIRY FINANCING GUIDELINES

- **Owner Equity**
 - Minimum 40% to 50% on market valuations
 - Minimum 30% to 40% on cost (GAAP) basis
- **Market Value Owner Equity** can be influenced by changing values of cows, facilities, and land

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DAIRY FINANCING GUIDELINES

- **Debt Coverage Ratio (or CDRC)**
 - Usually 1.15 to 1.25
 - 15% to 25% cushion margin after all demands are paid
 - Combination of 3 to 4 yr. average plus projection for coming year

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DAIRY FINANCING GUIDELINES

- **Working Capital** – several different approaches
 - Current Ratio of 1.2 to 1.5
 - Working Capital per Cow of \$300 to \$500
 - Working Capital to AGI of 10% to 15%
- The working capital area often creates the most confusion due to variety of measures and calculations

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DAIRY FINANCING GUIDELINES

- **Working Capital**
 - All measure are designed to make sure that there is cushion for 6 to 12 months of negative margins or other adversity
 - Treatment of equity in cows has big impact – most include lending value of cows and related cow debt in current ratio calculation

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DAIRY FINANCING GUIDELINES

- **Collateral**

- **Real Estate**
 - + Loan amount less than 60% to 70% of appraised value of real estate
 - + Appraised Values often lag market trends
 - + Appraised Values generally less than construction costs
- **Chattel: Cows, equipment, feed, milk, etc.**
 - + Loan amount less than 65% to 75% of value of chattel collateral
 - + Cow values generally maintained at “normal” levels
 - + ***“Not all cows are created equal”***

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DAIRY LOAN STRUCTURE

- **Feed Loan – One year note**

- Typically set up to revolve so that funds can be re-advanced within max commitment
- Commitment at 50% to 80% of feed inventory

- **Cow Loan – Term Note**

- Set up with monthly principal and interest payments over 5 to 7 years
- Typically steady state and/or smaller operations

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DAIRY LOAN STRUCTURE

• Cow Loan – Revolving Note

- One to three year maturity
- Funds can be re-advanced after payments
- Commitment amount set at 60% to 75% of cow and heifer values as set by lender
- Monthly inventory report (“Borrowing Base”)
- In many cases, funds can be used for general working capital needs as long as herd is well maintained.

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DAIRY LOAN STRUCTURE

• Equipment Loan – Term Notes

- 3 to 5 year term with monthly principal and interest
- Funds used for purchase of “rolling stock” such as feed wagons, tractors, loaders
- Loans at 70% to 80% of equipment value
- Dealer finance programs common

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DAIRY LOAN STRUCTURE

- **Real Estate Loan – Term Note**
 - Facilities financed on 15 year amortization
 - Farm land financed on 20-25 years
 - Principal and Interest payments monthly
 - Loan amounts set at 60% to 70% of appraised value
 - Fixed rates often used for real estate
 - + Prepayment penalties may apply

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KEY FINANCIAL SIGNALS

Dr. David M. Kohl, Professor Emeritus
Agricultural Economics, Virginia Tech, Blacksburg, VA

		Your Unit		a = owner	b = rent/lease	
Working Capital / AGI		> 33%	>20%	10% to 20%	<10%	
Equity to Asset Ratio		> 60%	>60%	60% to 40%	<40%	
Cash Farm Oper Exp / VFP		< 70%	<65% a < 75% b	65% to 80% a 75% to 85% b	>80% a >85% b	
Term Debt Coverage Ratio		> 2.00	>1.50	1.10 to 1.50	<1.10	
		STRONG	ACCEPTABLE	DESERVES FURTHER ANALYSIS	REQUIRES FOCUS AND CHANGE	
		This is an area of strength and is best in class.	This is an area of acceptable financial performance. If growth is anticipated, consider moving this ratio to an area of strength.	This is an area that deserves further attention as it may pose a threat to this business in the future.	This is an area that requires management focus and change in order to protect the financial security of the business.	

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