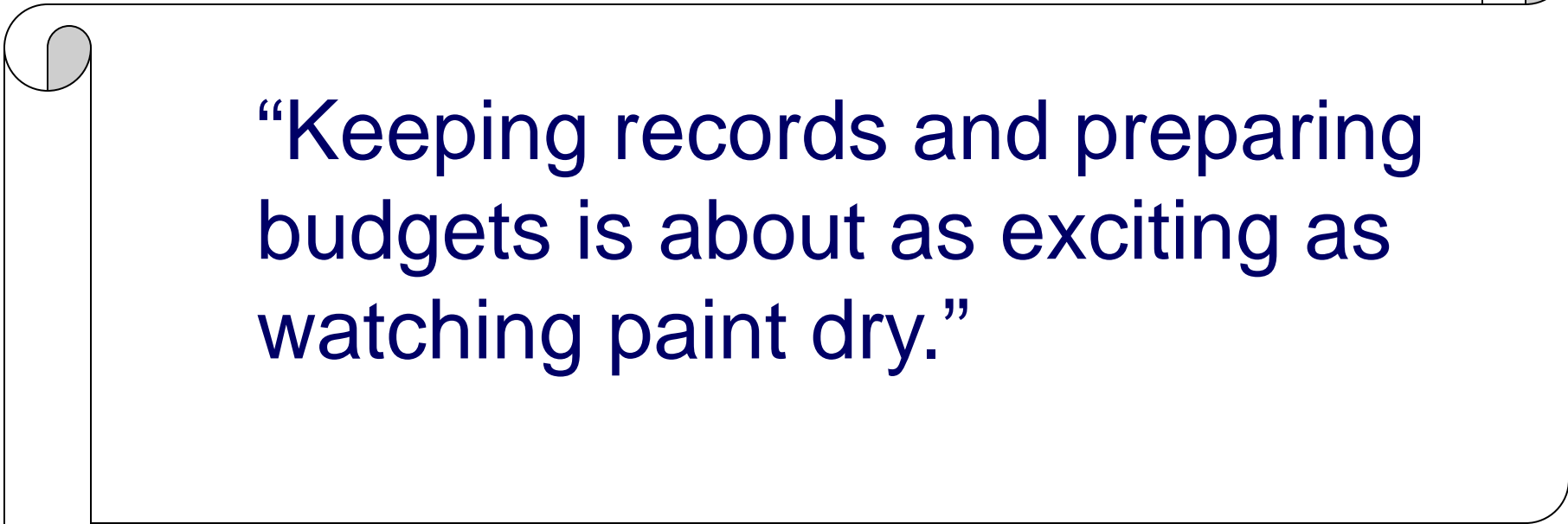


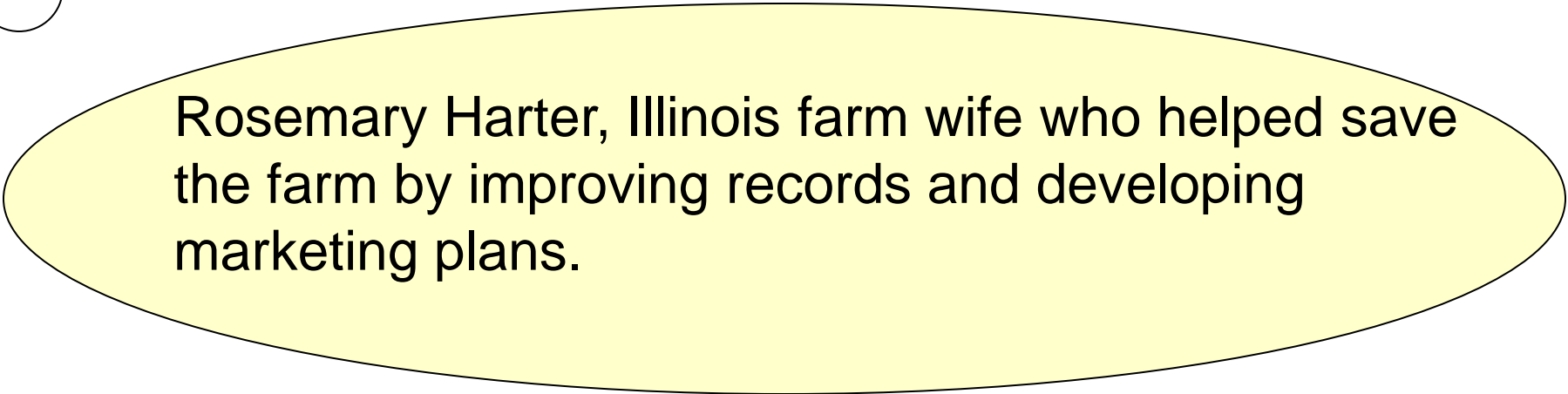


# ASSESSING FINANCIAL STRENGTHS AND WEAKNESSES

John Campbell  
Area Farm Management Specialist



“Keeping records and preparing budgets is about as exciting as watching paint dry.”



Rosemary Harter, Illinois farm wife who helped save the farm by improving records and developing marketing plans.

# Financial Statements

- Balance Sheet
  - ▣ Statement of financial condition at a specific time
- Income Statement
  - ▣ Summary of income and expenses that occurred during a specified accounting period (usually calendar year)
- Cash flow statement
  - ▣ How cash has entered and left during the year

# Farm Finance Scorecard

Looks at 16 financial management measures

Developed by:

K. Becker, D. Kauppila, G. Rogers, R. Parsons

University of Vermont

D. Nordquist, R. Craven

Center for Farm Financial Management

University of Minnesota



# Liquidity

## □ Current Ratio

- ▣ Total Current Farm Assets / Total Current Farm Liabilities
- ▣ Measures extent to which current farm assets would pay of current farm liabilities



## □ Working Capital

- ▣ Total Current Farm Assets - Total Current Farm Liabilities
- ▣ Tells the operating capital available in the short term

# Solvency

- Farm Debt-to-Asset Ratio
  - $\text{Total Farm Liabilities} / \text{Total Farm Assets}$
  - Compares total farm debt to total farm assets
  - Higher ratio indicates greater financial risk and lower borrowing capacity



# Solvency

- Farm Equity-to-Asset Ratio
  - ▣ Farm Net Worth / Total Farm Assets
  - ▣ Owners share of business



# Solvency

- Farm Debt-to-Equity Ratio
  - ▣ Total Farm Liabilities / Farm Net Worth
  - ▣ Compares lender's share to owner's share





# Profitability

## □ Net Farm Income

- Gross cash farm income – total cash farm expenses + inventory changes - depreciation and other capital adjustments
- Represents returns to owner's labor, management, and equity

# Profitability

- Rate of Return on Farm Assets
  - ▣  $(\text{Net Farm Income} + \text{Farm Interest} - \text{Value of operator's labor and management}) / \text{Average Farm Assets}$
  - ▣ Average interest rate being earned on all (owner and lender) investments in the farm



# Profitability

- Rate of Return on Farm Equity
  - $(\text{Net Farm Income} + \text{Farm Interest} - \text{Value of operator's labor and management}) / \text{Average Farm Net Worth}$
  - Average interest rate being earned by owner's investment in farm



# Profitability

- Operating Profit Margin
  - ▣ Return on Farm Assets / Value of Farm Production
  - ▣ Shows operating efficiency of business
    - If expenses are low relative to value of farm production, operating profit margin will be good
    - Low profit margin caused by low product prices, high expenses, or inefficient production



# Repayment Capacity

## □ Term-debt Coverage Ratio

- (Net farm operating income + net non-farm income + scheduled interest on term debt – family living – income taxes) / Scheduled principal & interest payments on term debt
- Shows ability to repay term debts (farm and non-farm) on time

Vulnerable

110%

140%

Strong



# Repayment Capacity

- Capital-replacement Margin
  - Net farm operating income + net non-farm income – family living – income taxes - Scheduled principal & interest payments on term debt
  - Amount left after all operating expenses, taxes, family living, and scheduled debt payments have been made
  - Money available for purchasing or financing new machinery, equipment, land, or livestock

# Financial Efficiency

## □ Asset-turnover rate

- Value of farm production / Average farm assets
- Measures efficiency in using capital
- High level of production with a low level of capital investment gives high asset-turnover rate
- Reverse gives low asset-turnover rate



# Financial Efficiency

- Operating Expense Ratio
  - ▣  $(\text{Total farm operating expense} - \text{Farm Interest}) / \text{Gross Farm Income}$
  - ▣ Proportion of farm income used to pay operating expenses, not including principal and interest





# Financial Efficiency

- Depreciation Expense Ratio
  - ▣ Depreciation & other capital adjustments / Gross Farm Income
  - ▣ Tells what proportion of farm income needed to maintain capital used by the business
  - ▣ Not 1040F depreciation



# Financial Efficiency

## □ Interest Expense Ratio

- ▣ Farm interest / Gross farm income
- ▣ Shows how much of gross farm income is used to pay for borrowed capital



# Financial Efficiency

- Net Farm Income Ratio

- Net Farm Income / Gross Farm Income
- Compares profit to gross farm income
- Left after all farm expenses, except for unpaid labor and management, are paid



# Cost of Production



# Why, What, How?

- To adequately evaluate value-added opportunities, answer this question:
  - ▣ What is your cost per hundredweight of producing milk?
- Not as simple as it sounds
- What do you include?
- There are different definitions of cost of production
  - ▣ Economic cost may include value of total investment
  - ▣ Cash cost may include family living and income taxes

# Minnesota Dairy Farm Data 2011 – 468 Farms

	All 468 Farms	114 Farms, 100-200 Cows
Average Herd Size	158.1	139.2
Milk Per Cow	22,071	19,958
Culling Percentage	27.7	26.7
Cow Death Loss %	7.6	7.2
Feed Cost/Cwt. Milk	\$8.86	\$9.47
Average Milk Price	\$19.96	\$20.49

Source: [www.finbin.umn.edu/output/222761.htm](http://www.finbin.umn.edu/output/222761.htm)

# Definitions

## Direct Expenses

- Feed
- Breeding
- Vet
- Supplies
- Fuel
- Repairs
- Custom Hire
- Hired Labor
- Utilities
- Trucking
- Marketing
- Bedding

## Overhead Expenses

- Hired Labor
- Building Leases
- Utilities
- Interest
- Depreciation
- Miscellaneous

# Definitions

## Other Revenue Adjustments

- ▣ Cost of replacements
- ▣ Cull income
- ▣ Bull calves
- ▣ Inventory change

## Labor & Management

- ▣ Value of operators  
unpaid labor and  
management
- ▣ Relate to family living  
and income taxes



# Minnesota Dairy Farm Data - 2011

## Cost of Production Per Cwt. of Milk

	All Herds	1-50 Cows	51-100 Cows	101-200 Cows	201-500 Cows	Over 500 Cows
Direct	13.69	14.54	13.91	13.77	13.63	13.50
Direct + Overhead	16.31	16.90	16.55	16.77	16.29	15.90
+ Other Revenue Adjustments	17.51	18.09	17.88	18.10	17.49	16.98
+ Labor & Mgmt.	18.44	20.18	19.49	19.31	18.20	17.51
Milk Price	19.96	20.29	20.14	20.49	19.76	19.71

# Minnesota Dairy Farm Data - 2011

## Cost of Production Itemized

	All Herds	1-50 Cows	51-100 Cows	101-200 Cows	201-500 Cows	Over 500 Cows
Direct	13.69	14.54	13.91	13.77	13.63	13.50
Overhead	2.62	2.36	2.64	3.00	2.66	2.40
Other Revenue Adjustments	1.20	1.19	1.33	1.33	1.20	1.08
Owner's Labor & Mgmt.	0.93	2.09	1.61	1.21	0.71	0.53
<b>Total</b>	<b>18.44</b>	<b>20.18</b>	<b>19.49</b>	<b>19.31</b>	<b>18.20</b>	<b>17.51</b>
Milk Price	19.96	20.29	20.14	20.49	19.76	19.71
Net/Cwt.	1.52	0.11	0.65	1.18	1.56	2.20

# Cash Cost of Production - Cow

Including all demands on cash.

**The following data is for example purposes only and should not be viewed as the expected outcome of any dairy operation.**



# Example Farm

- 125 cows @ 19,000 lbs. milk/cow
- 90 acres corn silage
- 100 acres grass/clover hay
- 115 acres grass/clover pasture
- \$25,000 equipment loan balance
- \$100,000 farm loan
- \$20,000 family living from dairy, rest from off-farm income
- Farm share of income taxes

# Cash Expenses

	Whole Farm	Per Cow	Per Cwt.
Seed	10,700	85.60	0.45
Fertilizer	36,100	288.80	1.52
Chemicals	4,460	35.68	0.19
Hay Twine	200	1.60	0.01
Cow Feed	162,500	1,300.00	6.84
Heifer Feed	37,500	300.00	1.58
Breeding	3,375	27.00	0.14
Vet	10,625	85.00	0.45
Dairy Supplies	7,500	60.00	0.32
Bedding	1,875	15.00	0.08
DHIA	2,750	22.00	0.12
Milk Hauling	26,125	209.00	1.10

# Cash Expenses

	Whole Farm	Per Cow	Per Cwt.
Dairy Check-off	3,563	28.50	0.15
Coop Dues	2,375	19.00	0.10
Equipment Interest	1,000	8.00	0.04
Farm Interest	3,191	25.53	0.13
Fuel & Oil	18,000	144.00	0.76
Repairs	23,000	184.00	0.97
Hired Labor	35,000	280.00	1.47
Property Taxes	2,000	16.00	0.08
Farm Insurance	5,000	40.00	0.21
Utilities	12,000	96.00	0.51
Dues/Fees	500	4.00	0.02
Miscellaneous	5,000	40.00	0.21
<b>Total Cash Expenses</b>	<b>\$414,339</b>	<b>\$3,314.71</b>	<b>\$17.45</b>

# Cash Requirement Summary

	Whole Farm	Per Cow	Per Cwt.
Equipment Replacement	15,000	120.00	0.63
Principal Payments	23,979	191.83	1.01
Family Living (Farm Share)	20,000	160.00	0.84
Income Tax/Social Security	6,763	54.10	0.28
<b>Total Cash Required</b>	<b>\$480,081</b>	<b>\$3,840.65</b>	<b>\$20.21</b>

# Income

	Farm	Per Cow	Per Cwt.
Milk	\$451,250	\$3,610.00	\$19.00
Cull Cows	26,325	210.60	1.11
Bull Calves	3,500	28.00	0.15
<b>Gross Farm Income</b>	<b>\$481,075</b>	<b>\$3,848.60</b>	<b>\$20.26</b>



# Summary

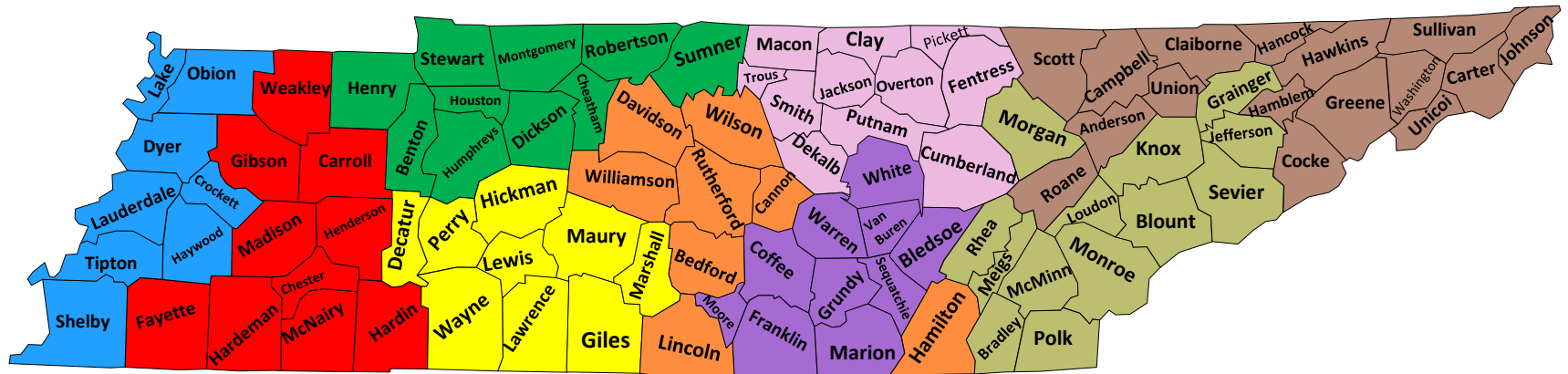
- Assess current financial condition before investing in a value-added venture
- Look for areas that could improve current situation
  - ▣ Increase revenue
  - ▣ Reduce expenses
  - ▣ Modify debt structure
- Calculate your cost of production
- Analyze likely consequences of adding a value-added venture

# MANAGE Program

- Review current financial situation
- Capitalize on strengths and reduce weaknesses in the farm business
- Develop individualized farm and financial plans
- Explore alternatives
- Evaluate capital investment opportunities
- Analyze likely consequences of changing the scope of enterprises (including new operations)

# Area Specialists – Farm Management Territories

## June, 2012



	Danehower		Galloway
	Castellaw		Manning
	Campbell		Rhea
	Davis		Bilderback
	Ferguson		

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Figures don't lie, but liars figure.

*Mrs. Ruth Barnes, Algebra I Teacher, 1967*



# Questions

