Financial Benchmarking for Pasture-Based Dairy Farms

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How Realistic are the DATA?

Data are a quantity and quality issue:
--Several sources and different programs
--Working towards a ***common*** program

- DAIRY TRANS ~ 25 farms per year
- DFBS > 100 farms per year
- Lakeshore/Fox Valley Farm Mgt > 1000 farms
- FINPACK - data not collected

1

PROFIT CRITERIA

$30,000 Return to Labor and Mgt per Operator/Manager

Net farm income - Unpaid Labor - 5% ROE

Divided by number of operators/managers

Average DFBS Data

- 3.65 workers
- 32 cows/worker
- 651,095 pounds sold per worker

- Costs
  - $1 non-dairy income = $1 expense
  - Milk income/cwts sold = price
  - Economic depreciation
  - 5% return on equity
  - Opportunity cost of labor & mgt

DFBS More Profit Farms

	More Profit (18)	Less Profit (49)
Return/Oper.	$47,868	$4,021
NFI	$90,070	$30,563
ROE	10.4%	-2.3%
ROA	9.1%	2.5%

Why More Profit?

- Higher financial efficiency
- More milk per cow
- Received a higher milk price
- Milk more cows
- Had lower investment/cow

However…

Profitable Performance Evident Across Size

- Averaged 136 cows
- Ranged from 44 to 754 cows
- 2 herds less than 50 cows
- 2 herds over 200 cows

Profitable Performance Evident Across Milk Production Levels/Cow

- Averaged 21,149 pounds per cow
- Ranged from 13,353 to 24,501
- 4 herds under 18,000 pounds
- 3 herds over 23,000 pounds

Investment…

Less capital investment per cow and higher returns on debt capital

	Capital per cow More Profit	Less Profit
Total Capital	$6,657	7,705
Real Estate	$2,719	$3,559
Machinery	$1,225	$1,416

Capital Investment & Returns

Capital per cow	Returns to Operator
> $9,000	$16,960
$7,000-$9,000	$27,770
$5,000-$7,000	$25,240
$3,000-$5,000	$27,830
< $3,000	$10,830

Debt and Returns

Debt per Cow	Returns to Operator
>$5,000	-$7,473
$4,000-$5,000	$7,680
$3,000-$4,000	$29,170
$2,000-$3,000	$28,290
$0-$2,000	$27,760
$0	$24,530

Operating Costs & Returns

Operating Costs/cwt.	Returns
>$11	-$120
$10-$11	$27,830
$9-$10	$29,080
$8-$9	$33,040
$7-$8	$45,840
<$7 (low cost = lower $)	$27,650

Dairy Farm Financial Benchmark Web Site represents > 1000 farms at UW Center for Dairy Profitability

- http://www.wisc.edu/dairy-profit
- can break data into parameters by pounds of milk, herd size, ROA, etc.
- what's the site look like?

Benchmarks set by Graziers

- Not all that different ?
- Lower production per cow?
- Lower investment level?
- Lower operating expense?

DAIRY TRANS 2.0 -- MVP's -- 1997

- Herd sizes ~ 30 to ~100; ave = 65
- Return to Operator = $37,809/FTE
- Milk Production per Cow = 16,348
- Return on Assets = 12.05%
- Milk Production Cost = $12.39
- Average Milk Price = $13.76

Dairy Trans 2.0 -- MVP Ranges Benchmarks Set By Dairy Graziers

Farm Cash Incomes

	Cwt. Eq.	Per Cow	Range/Cow
Milk Sales	10,241	$2,241	$1,708-$2,857
Cull Cows	615	$127	$101-$161
Calf Sales	115	$36	$9-$74
Other Income	356	$93	$41-$162
Total	$13.76	$2,497	$1,868-$3,194

Dairy Trans 2.0 -- MVP Ranges
Benchmarks Set By Dairy Graziers

Farm Cash Expenses

	Cwt. Eq.	Per Cow	Range/Cow
Vet & Med	$0.21	$39	$20-$76
Dairy Supplies	$0.34	$64	$39-$94
Breeding Fees	$0.09	$17	$9-$20
Feed Purchased	$1.88	$346	$103-$486
Repairs	$0.35	$69	$36-$113
Crop Expenses	$0.62	$108	$103-$154
Fuel/Gas/Oil	$0.12	$31	$23-$45

Dairy Trans 2.0 -- MVP Ranges
Benchmarks Set By Dairy Graziers

Farm Cash Expenses (take two)

	Cwt. Eq.	Per Cow	Range/Cow
Utilities	$0.25	$37	$28-$88
Interest Paid*2	$0.65	$117	$77-$156
Labor Hired*2	$0.92	$144	$108-$179
Rent/Lease/Hire	$0.42	$78	$7-$178

Dairy Trans 2.0 -- MVP Ranges
Benchmarks Set By Dairy Graziers

Farm Cash Expenses (take three)

	Cwt. Eq.	Per Cow	Range/Cow
Property Taxes	$0.37	$70.25	$36-$103
Farm Insurance	$0.22	$39.50	$26-$53
Other Cash Exp.	$0.58	$120	$81-$169
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Total Cash Exp.	$6.30	$1,158	$538-$1,634
Net Cash Income	$7.46	$1,337	$627-$1,975
Inventory Chg	$0.66?	($117)?	($343)-$2.90
Net Farm Income	$7.10	$1,308*	$915-$1,633

Dairy Trans 2.0 -- MVP Ranges
Benchmarks Set By Dairy Graziers

Net Farm Return

	Cwt. Eq.	Per Cow	Range/Cow
Net Farm Income	$7.10	$1,308	$915-$1,633
-Equity @ 6-8%	$2.54	$460	$188-$682
Return to Labor	$4.56	$847	$561-$1,151

Labor Earnings $14.22 per hour

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Cash Income/Acre $867 ave.; Range $657-$1,016

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Profit Performance Rating -- per FTE Laborer

	MVP ave.	Range
Adj. Gross Inc.	$110,114	$60,401-$147,548
Return/Labor	$37,809	$31,415-$44,415
Number Cows	43	30-60
Cwts Milk Sold	6,857	$4,093-9,167

Dairy Trans 2.0 -- MVP Ranges
Benchmarks Set By Dairy Graziers

Profit Performance Rating -- per Cow

	MVP ave.	Range
Lbs Milk Sold	16,348	11,527-20,714
Total Debt	data not available	
Crop Acres	2.83	2.6-3.1
Capital Cost	$726	$564-$1,025
Capital Invested	$6,433	$3,589-$10,801
Labor Costs	$671	$512-$714
Fixed Costs	$904 DIRTI 5	$710-$1,267

Dairy Trans 2.0 -- MVP Ranges
Benchmarks Set By Dairy Graziers

Profit Performance Rating -- per Crop Acre

	MVP ave.	Range
Net Farm Inc.	$458	$323-$631
Lbs. Milk Sold	5,686	$4,052-$6,591
Adj Gross Cash	$899	$707-$1,033
Machine FMV	$374	$90-$682
Fuel/Gas/Oil	$11	$9-$14
Repair Cost	$24	$14-$40
Fert/Chem/Seed	$38	$21-$54

Dairy Trans 2.0 -- MVP Ranges
Benchmarks Set By Dairy Graziers

Profit Performance Rating -- Other Ratios

	MVP ave.	Range
Livestock/Inv	24%	13%-37%
Cash Exp/Cash Inc w/o Labor and Interest	42%	25%-53%
All Labor/Total	30%	22%-45%
Fixed Costs/Total	39%	31%-45%

Dairy Trans 2.0 -- MVP Ranges
Benchmarks Set By Dairy Graziers

Profit Performance Rating -- Sweet 16's Best

	MVP ave.	Range
Return on Assets*	12.06%	8%-15%
Return on Equity	unable to calculate	
Operating Profit Margin	30%	20%-38%
Asset Turnover Ratio***	42%	28%-71%
Operating Exp Ratio	38%	22%-54%
Depreciation Exp Ratio	7.75%	2%-11%

Unable to calculate rest due to debts absent

What's to "Take Home"

- Take a look at your own operation
- Wide ranges of demonstrated successes
- Each Ratio by itself may mean little

- Purchase or Raise Forages
- Purchase or Raise Grains
- Purchase or Raise Replacements
- Is your system like the group?

What's to "Take Home"

- What's the Best Measure of Profit?
- ROA? NFI/cow? Net/cwt? Milk/Acre?

- What's your biggest fixed cost or most limiting resource?
- Labor = return per FTE Laborer
- Land = return per acre
- Cow #'s = return per cow

What's to "Take Home"

- Each farm has a unique Cost Structure
- Each farmer has unique mgt strengths
- Exploit strengths and optimize production relative to cost structure
- More than one way to manage grazing

Financial Benchmarking

- Assess ranges of cash incomes and costs--are yours in line?
- Opp. cost or "psychological income"
- Break-even costs per cwt <= pay price?
- Efficiencies per labor FTE; cow; acre
- ROA greater than debt paid at bank?
- ROE greater than ROA?
- Asset Turnover Ratio--gross/assets
- ATR * Operating Profit Margin = ROA