



**50th  
Anniversary  
1956-2006**

It is the Policy of Cornell University actively to support equality of educational and employment opportunity. No person shall be denied admission to any educational program or activity or be denied employment on the basis of any legally prohibited discrimination involving, but not limited to, such factors as race, color, creed, religion, national or ethnic origin, sex, age or handicap. The University is committed to the maintenance of affirmative action programs which will assure the continuation of such equality of opportunity.

The Dairy Farm Business Summary and Analysis Project is funded in part by:



For additional copies, please contact:

Linda Putnam  
Cornell University  
Department of Applied Economics and Management  
305 Warren Hall  
Ithaca, NY 14853-7801

E-mail: [ldp2@cornell.edu](mailto:ldp2@cornell.edu)  
Fax: 607-255-1589  
Voice: 607-255-8429

Or visit the Department's website for a publication order form:

<http://aem.cornell.edu/order/index.htm>

© Copyright 2007 by Cornell University. All rights reserved.

**Dairy Farm Management  
Business Summary New York State 2006**

**Wayne A. Knoblauch\***  
**Linda D. Putnam**  
**Jason Karszes**

Department of Applied Economics and Management  
Cornell University, Ithaca, New York 14853-7801 USA

\*Author phone: 607-255-1599

\*Author e-mail: wak4@cornell.edu

**Keywords:** BUSINESS ANALYSIS, DAIRY MANAGEMENT, FARM BUSINESS SUMMARY,  
NEW YORK FARMS

**JEL codes:** Q12, Q14

## ABSTRACT

Business and financial records for 2006 from 240 New York dairy farm businesses are summarized and analyzed. This analysis demonstrates the use of cash accounting with accrual adjustments to measure farm profitability, financial performance, and costs of producing milk. Traditional methods of analyzing dairy farm businesses are combined with evaluation techniques that show the relationship between good management performance and financial success.

The farms in the project averaged 350 cows per farm and 23,083 pounds of milk sold per cow, which represent above average size and management level for New York dairy farms. Net farm income excluding appreciation, which is the return to the operator's labor, management, capital, and other unpaid family labor, averaged \$41,144 per farm. The rate of return to all capital invested in the farm business including appreciation averaged 4.0 percent.

Differences in profitability between farms continue to widen. Average net farm income excluding appreciation of the top 10 percent of farms was \$322,100, while the lowest 10 percent was a negative \$183,853. Rates of return on equity with appreciation ranged from positive 16 percent to negative 27 percent for the highest decile and the lowest decile of farms, respectively.

Large freestall farms averaged the highest milk output per cow and per worker, the lowest total cost of production and investment per cow, and the greatest returns to labor, management and capital. Farms milking three times a day (3X) were larger, produced more milk per cow and had higher net farm incomes than herds milking two times per day (2X). Operating costs per hundredweight of milk were \$0.54 per hundredweight higher for 3X than 2X milking herds, while output per cow was 4,153 pounds higher. In 2006, farms supplementing the herd with bovine somatotropin (bST) attained higher rates of milk production per cow, had larger herds and were more profitable than farms not supplementing with bST for most measures of profitability. Farms adopting intensive grazing generally produced less milk per cow than non-grazing farms but had lower costs of production and higher profitability. One should not conclude that adoption of these technologies alone were responsible for differences in performance.

## TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION .....	1
Farms Included .....	1
Features .....	1
Acknowledgments .....	1
2006 Regional Summary Publications .....	2
FIFTY YEARS OF NEW YORK STATE DAIRY FARM BUSINESS DATA .....	3
FOUR YEARS OF VARIABILITY .....	3
ADJUSTING PROFIT, PRICE AND COSTS FOR INFLATION .....	6
SUMMARY & ANALYSIS OF THE FARM BUSINESS .....	8
Business Characteristics & Resources Used .....	8
Accounting Procedures .....	9
Income Statement - Expenses .....	9
Income Statement - Receipts .....	11
Profitability Analysis .....	12
Farm & Family Financial Status .....	15
Cash Flow Summary & Analysis .....	18
Repayment Analysis .....	20
Cropping Program Analysis .....	21
Dairy Program Analysis .....	24
Cost of Producing Milk .....	28
Milk Income and Marketing Expense Breakdown .....	40
Capital & Labor Efficiency Analysis .....	42
Farm Business Charts .....	44
Financial Analysis & Management .....	46
Herd Size Comparisons .....	48
SUPPLEMENTAL INFORMATION .....	61
Comparison for Farms That Buy All Feed Versus Farms That Grow Forages .....	63
Comparisons by Type of Barn & Herd Size .....	65
Comparison of Farms by bST Usage .....	71
Comparison of Farm Business Summary Data, 1997-2006 .....	72
Farm Receipts & Expenses Per Cow & Per Hundredweight for Three Levels of Milk Production & Three Herd Size Categories .....	74
Intensive Grazing Farms vs. Non-Grazing Farms .....	76
Comparison of Farms by Milking Frequency .....	77
Comparison of Dairy Farm Business Data by Region .....	78
Milk Production & Average Cost of Producing Milk by Region .....	79
Other Comparisons .....	80
APPENDIX: PRICES, COSTS AND TRENDS IN THE NEW YORK DAIRY INDUSTRY .....	83
GLOSSARY & LOCATION OF COMMON TERMS .....	86

## LIST OF TABLES

<u>Table Number</u>		<u>Page</u>
1	Comparison of Farm Business Summary Data, New York Dairy Farms, 1956-2006 .....	4
2	Comparison of Farm Business Summary Data, Same 140 New York Dairy Farms, 2003-2006 .....	5
3	Business Characteristics & Resources Used, 240 New York Dairy Farms, 2006 .....	8
4	Cash & Accrual Farm Expenses, 240 New York Dairy Farms, 2006 .....	10
5	Cash & Accrual Farm Receipts, 240 New York Dairy Farms, 2006 .....	11
6	Net Farm Income, 240 New York Dairy Farms, 2006.....	12
7	Labor & Management Income, 240 New York Dairy Farms, 2006 .....	13
8	Return to Capital, 240 New York Dairy Farms, 2006 .....	14
9	Returns to All Labor & Management by Return to All Capital With Appreciation, 240 New York Dairy Farms, 2006 .....	14
10	2006 Farm Business & Nonfarm Balance Sheet, 240 New York Dairy Farms, 2006 .....	15
11	Farm Balance Sheet Analysis, 240 New York Dairy Farms, 2006.....	16
12	Farm Inventory Balance, 240 New York Dairy Farms, 2006.....	16
13	Statement of Owner Equity (Reconciliation), 240 New York Dairy Farms, 2006 .....	17
14	Annual Cash Flow Statement, 240 New York Dairy Farms, 2006.....	18
15	Annual Cash Flow Data, 240 New York Dairy Farms, 2006 .....	19
16	Farm Debt Payments Planned, Same 191 New York Dairy Farms, 2005 & 2006 .....	20
17	Coverage Ratios, Same 191 New York Dairy Farms, 2005 & 2006 .....	20
18	Debt to Asset Ratio vs. Cash Flow Coverage, 191 New York Dairy Farms, 2006 .....	20
19	Land Resources & Crop Production, 240 New York Dairy Farms, 2006 .....	21
20	Crop Management Factors, 240 New York Dairy Farms, 2006 .....	21
21	Crop Related Accrual Expenses, New York Dairy Farms, 2006.....	22
22	Accrual Machinery Expenses, 233 New York Dairy Farms That Grow Forages, 2006.....	22
23	Crop Related Accrual Expenses by Hay Crop Production Per Acre, 29 New York Dairy Farms, 2006 .....	23
24	Crop Related Accrual Expense by Corn Production Per Acre, 29 New York Dairy Farms, 2006 .....	23
25	Dairy Herd Inventory, 240 New York Dairy Farms, 2006 .....	24
26	Milk Production, 240 New York Dairy Farms, 2006 .....	25
27	Milk Sold Per Cow & Farm Income Measures, 240 New York Dairy Farms, 2006 .....	25
28	Culling Rate and Dairy Replacement Information, New York Dairy Farms, 2006 .....	27
29	Cost of Producing Milk, Whole Farm Method, 240 New York Dairy Farms, 2006 .....	28
30	Itemized Costs of Producing Milk Per Hundredweight Based on Whole Farm Data, 240 New York Dairy Farms, 2006.....	29
31	Itemized Costs of Producing Milk per Hundredweight Based on Whole Farm Data, Same 191 New York Dairy Farms, 2005-2006 .....	30
32	Cost of Producing Milk, Accrual Receipts from Dairy, and Profitability, 240 New York Dairy Farms, 2006 .....	31
33	Farm Cost of Producing Milk by Milk Sold Per Cow, 240 New York Dairy Farms, 2006.....	31
34	Farm Cost of Producing Milk by Herd Size, 240 New York Dairy Farms, 2006.....	33
35	Ten Year Comparison: Average Cost of Producing Milk Per Hundredweight, New York Dairy Farms, 1997 to 2006 .....	36
36	Ten Year Comparison: Selected Business Factors, New York Dairy Farms, 1997 to 2006.....	37
37	Dairy Related Accrual Expenses, 240 New York Dairy Farms, 2006.....	38
38	Purchased Feed & Crop Expenses Per Hundredweight of Milk and Farm Income Measures, 240 New York Dairy Farms, 2006.....	39
39	Average Milk Income and Marketing Report, 170 New York Dairy Farms, 2006 .....	40
40	Milk Price Information by Quintile, 170 New York Dairy Farms, 2006.....	41
41	Capital Efficiency, 240 New York Dairy Farms, 2006.....	42
42	Asset Turnover & Profitability, 240 New York Dairy Farms, 2006.....	42
43	Labor Efficiency, 240 New York Dairy Farms, 2006 .....	42
44	Labor Force Inventory & Cost Analysis, 240 New York Dairy Farms, 2006 .....	43
45	Milk Sold Per Worker & Net Farm Income, 240 New York Dairy Farms, 2006.....	43
46	Farm Business Chart for Farm Management Cooperators, 240 New York Dairy Farms, 2006 .....	44

<u>Table Number</u>		<u>Page</u>
47	A Farm Finance Checklist, 240 New York Dairy Farms, 2006.....	46
48	Financial Analysis Chart, 240 New York Dairy Farms, 2006 .....	47
49	Cows Per Farm and Farm Family Income Measures, 240 New York Dairy Farms, 2006 .....	48
50	Cows Per Farm and Related Farm Factors, 240 New York Dairy Farms, 2006.....	49
51	Progress of Farm Businesses with Less Than 100 Cows, Same 38 New York Dairy Farms, 2002-2006 ...	50
52	Progress of Farm Businesses with 100-499 Cows, Same 55 New York Dairy Farms, 2002-2006 .....	51
53	Progress of Farm Businesses with More Than 500 Cows, Same 40 New York Dairy Farms, 2002-2006..	52
54	Farm Business Summary by Herd Size, 240 New York Dairy Farms, 2006 .....	53
55	Farm Family Financial Situation by Herd Size, 240 New York Dairy Farms, 2006 .....	55
56	Selected Business Factors by Herd Size, 240 New York Dairy Farms, 2006 .....	59
57	Income and Expense Comparison for Farms Buying Majority of Forages Versus Similar Size Farms Growing Forages, 2006 .....	63
58	Selected Business Factors for Farms Buying Majority of Forages Versus Similar Size Farms Growing Forages, 2006 .....	64
59	Selected Business Factors by Type of Barn & Herd Size, 226 New York Dairy Farms, 2006 .....	65
60	Farm Business Chart for Small Conventional Stall Dairy Farms, 33 Conventional Stall Dairy Farms with 60 or Less Cows, New York, 2006.....	66
61	Farm Business Chart for Large Conventional Stall Dairy Farms, 31 Conventional Stall Dairy Farms with More Than 60 Cows, New York, 2006.....	67
62	Farm Business Chart for Small Freestall Dairy Farms, 40 Freestall Barn Dairy Farms with 150 or less Cows, New York, 2006 .....	68
63	Farm Business Chart for Medium Freestall Dairy Farms, 32 Freestall Barn Dairy Farms with 151-300 Cows, New York, 2006 .....	69
64	Farm Business Chart for Large Freestall Dairy Farms, 90 Freestall Barn Dairy Farms with 300 or More Cows, New York, 2006 .....	70
65	bST Non-users vs. Users, Same 57 Farms, 2002-2006.....	71
66	Comparison of Farm Business Data, Same 53 New York Dairy Farms, 1997-2006.....	72
67	Farm Receipts & Expenses Per Cow & Per Hundredweight for Three Levels of Milk Production, 240 New York Dairy Farms, 2006 .....	74
68	Farm Receipts & Expenses Per Cow & Per Hundredweight for Three Herd Size Categories, 240 New York Dairy Farms, 2006 .....	75
69	Intensive Grazing Farms vs. Non-Grazing Farms, New York State Dairy Farms, 2006.....	76
70	Selected Business Factors by Milking Frequency, New York Dairy Farms, 2005 & 2006.....	77
71	Comparison of Dairy Farm Business Data by Region, 240 New York Dairy Farms, 2006 .....	78
72	Milk Production & Average Cost of Producing Milk, Five Regions of New York .....	79
73	Farm Business Summary & Farm Family Financial Situation, 22 New York Dairy-Renter Farms, 2006 .....	80
74	Farm Business Summary & Farm Family Financial Situation, Average of 24 Top 10 Percent Farms by Rate of Return on All Capital (without appreciation), 2006.....	81
75	Farm Business Summary & Farm Family Financial Situation, Average of 240 New York Dairy Farms, 2006 .....	82
A1	Prices Paid by New York Farmers for Selected Items, 1993-2006 .....	84
A2	Values of New York Dairy Farm Inventory Items, 1990-2006 .....	84
A3	Number of Dairy Farms and Milk Cows by Size of Herd, New York State, 2005.....	85

## LIST OF FIGURES & CHARTS

	<u>Page</u>
Figure 1. Location of the 240 New York Dairy Farms in the 2006 Dairy Farm Business Summary .....	2
Figure 2. Percent Change in Milk Production, Five Regions in New York, 1996-2006.....	79
Chart 1. Operating Cost of Producing Milk and Price Received for Milk .....	3
Chart 2. Labor and Management Income Per Operator.....	6
Chart 3. Operating Cost of Producing Milk and Milk Price.....	7
Chart 4. Distribution of Labor & Management Incomes Per Operator .....	13
Chart 5. Net Farm Income (without appreciation) by Herd Size.....	24
Chart 6. Net Farm Income & Milk Per Cow.....	26
Chart 7. Net Farm Income Per Cow & Milk Per Cow.....	26
Chart 8. Milk Sold Per Cow and Cull Rate.....	27
Chart 9. Net Farm Income Per Cow Without Appreciation and Cull Rate.....	27
Chart 10. Production Cost by Milk Per Cow .....	32
Chart 11. Total Cost of Producing Milk/Cwt. & Milk Per Cow.....	32
Chart 12. Production Cost by Herd Size.....	33
Chart 13. Net Farm Income Per Cow & Total Cost of Producing Milk Per Hundredweight .....	34
Chart 14. Variation in Average Milk Price.....	38
Chart 15. Net Milk Income Over Purchased Concentrate Per Cow Versus Return on Assets .....	39