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DAIRY FARM BUSINESS SUMMARY

SEPTEMBER 2004 *E.B. 2004-14*

INTENSIVE GRAZING FARMS NEW YORK 2003

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Intensive Grazing Farms
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This report was written by the Intensive Grazing Committee consisting of George Conneman, Professor, Farm Management; Jason Karszes, Senior Extension Associate, PRO-DAIRY; James Grace, Extension Educator, Steuben County; Janice Degni, Extension Specialist, Chemung, Cortland, Schuyler, Tioga and Tompkins Counties; Fay Benson, Extension Specialist, Chemung, Cortland, Schuyler, Tioga and Tompkins Counties; Ed Staehr, Extension Educator, Onondaga County; Judith Barry, Extension Educator, Cayuga County; and Linda Putnam, Extension Support Specialist, Farm Management. The committee appreciates the assistance from the following Extension Educators that collected the grazing practices survey data: Molly Ames, Sandy Buxton, Mariane Kiraly, Peggy Murray, Joan Petzen, Cathy Wickswat, Jason Murphy and George Allhusen (Consultant).

2003 DAIRY FARM BUSINESS SUMMARY
INTENSIVE GRAZING FARMS

INTRODUCTION

Dairy farm managers throughout New York State have been participating in Cornell Cooperative Extension's farm business summary and analysis program since the early 1950's. Managers of each participating farm business receive a comprehensive summary and analysis of the farm business.

This is the eighth year that a study of intensive grazing farms has been done. The farms included in the study are a subset of New York State farms participating in the Dairy Farm Business Summary (DFBS). Thirty farms indicated that they grazed dairy cows at least three months, moving to a fresh paddock at least every three days and more than 30% of the forage consumed during the growing season was from grazing. Operators of these 30 farms were asked to complete a grazing practices survey. Twenty-two of the farms did complete it. The investigators had special interest in practices used on farms with above average profitability. **Therefore the study centered on 27 farms which were not organic farms, were not first year grazers and on which at least 40 percent of forage consumed during the grazing season was grazed. Twenty of these 27 farms completed a grazing practices survey.** These 20 farms were divided on the basis of net farm income per cow (without appreciation) above and below $600 which was the median for these 20 intensive grazing farms. **Ten farms with net farm income per cow above $600 are in the "Above Average" (more profitable) group and ten farms with net farm income per cow below $600 comprise the "Below Average" (less profitable) group.**

Program Objective

The primary objective of the dairy farm business summary, DFBS, is to help farm managers improve the business and financial management of their business through appropriate use of historical farm data and the application of modern farm business analysis techniques. This information can also be used to establish goals that will enable the business to better meet its objectives. In short, DFBS provides business and financial information needed in identifying and evaluating strengths and weaknesses of the farm business.

Format Features

The first section compares intensive grazing farms that participated in the Dairy Farm Business Summary project in 2002 and 2003. The second section of this publication reports data from the grazing practices survey. A comparison of intensive grazing farms with non-grazing farms is included on page 8. The third section, Case Studies, describes three grazing farms. The fourth section summarizes grazing farms by herd size.

The summary and analysis portion of this report follows the same general format as in the 2003 DFBS individual farm report received by all participating dairy farmers. It may be used by any dairy farm manager who wants to compare his or her business with the average data of intensive grazing farms. A DFBS Data Check-in Form can be used by non-DFBS participants to summarize their businesses.

The summary and analysis portion of the report features:

(1) an income statement including accrual adjustments for farm business expenses and receipts, as well as measures of profitability with and without appreciation,

(2) a complete balance sheet with analytical ratios;

(3) a statement of owner equity which shows the sources of the change in owner equity during the year;

(4) a cash flow statement and debt repayment ability analysis;

(5) an analysis of crop acreage, yields, and expenses;

(6) an analysis of dairy livestock numbers, production, and expenses; and

(7) a capital and labor efficiency analysis.

PROGRESS OF THE FARM BUSINESS

Comparing your business with average financial data from Dairy Farm Business Summary (DFBS) grazing dairy farms that participated in both of the last two years can be helpful in comparing performance[1] and establishing goals for your business. It is equally important for you to determine the progress your business has made over the past two or three years, to compare this progress to your goals, and to set goals for the future. Please refer to the table on page 3 for selected factors from 23 farms that were grazing in both 2002 and 2003 and participated in the DFBS project for both years.

These 23 farms increased herd size, with average cow numbers increasing by four head to 106 cows. Although the herd size increased, the average number of worker equivalents remained basically the same at 2.74. Non-tillable and tillable pasture and hay acres increased 3.0 percent. Milk sold per cow decreased 4.5 percent to 15,469 pounds. The increase in cow numbers partially offset the decrease in production per cow, resulting in a decline of only 0.7 percent for total milk sold.

The herd size increase offset the decrease in milk sold per cow, allowing the milk sold per worker equivalent to remain nearly the same at 596,950, only a 0.3 percent decrease. With the herd size increase and worker equivalents remaining the same, cows per worker equivalent increased from 37 to 39 cows per worker, a 5.4 percent increase. Correspondingly labor costs increased. Hired labor cost per worker equivalent increased 5.7 percent, from $22,960 to $24,264. Hired labor costs per hundredweight of milk sold increased 10.9 percent to $1.43 per cwt. While hired labor expenses did increase, with the increase in the milk price, hired labor as a percent of milk sales only increased .4 percent to 10.4 percent.

The 2003 growing season was another challenging year for grazers. Hay yields remained close to the same at 2.3 ton per acre but corn silage fall from 12.1 ton per acre in 2002 to 9.9 ton in 2003, an 18.2 percent decrease.

The amount of investment per cow increased from $5,669 to $6,794 or 19.8 percent. This resulted from the value of machinery and equipment increasing and cattle being worth more than in 2002.

Grain and concentrate as a percentage of milk sales increased 3.6 percent from 28 percent to 29 percent. Coupled with fewer total pounds sold, the per hundredweight cost increased 10.6 percent to $3.96. Dairy feed and crop expenses increased 3.6 percent to $5.13 per hundredweight. All the costs except interest increased in 2003, resulting in a 4.3 percent increase in operating cost per hundredweight.

However, the gross milk price increased from $12.93 to $13.71, a 6.0 percent increase. Cattle sales per cow decreased from $188 to $121 but calf sales increased from $40 to $69 per cow. Government payments continue to be important, averaging $1.41 per hundredweight, a decrease of eight cents from 2002.

Income per hundredweight was, milk sales $13.71, cattle $.78, calves $.45, and government payments $1.41 for a total income of $16.35. The total farm operating expenses were $12.90 per hundredweight. This left $3.45 for principal payments, unpaid family labor, operators' labor and management, an interest charge for owner's equity, and to make new purchases.

The increase in milk price more than offset the increase in costs, decrease in milk production, and decrease in government receipts, resulting in an increase in farm profitability.

- Net farm income without appreciation increased 21.2 percent to $46,554.
- Net farm income with appreciation increased 39.6 percent to $63,579.
- Labor and management income per operator had a 56.8 percent increase to $10,826.
- Rate of return on equity capital without appreciation averaged 1.1 percent.
- Rate of return on all capital without appreciation averaged 2.3 percent.

Overall, profits were up and this was further reflected by an increase in net worth of 2.1 percent with the debt to asset ratio falling to .29 from .33. There was a slight increase in debt per cow of $15 or .8 percent to $1,913.

In spite of the weather, 2003 was a better year for grazers than 2002, mainly due to the increase in the price of milk. Increased costs of production reduced the profitability from the price increase but net farm income per cow without appreciation still increased from $376 to $439.

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[1]**The importance of trend analysis is to identify what areas changed, ask why they changed, and look at what you can do differently in the future to influence that change. If you would like help in developing and looking at the trends in your business, contact your local extension service and become involved in a financial management education program.**

PROGRESS OF THE FARM BUSINESS
Same 23 Grazing Dairy Farms, 2002 & 2003

Selected Factors	Average of 23 Farms 2002	Average of 23 Farms 2003	Percent Change
Size of Business			
Average number of cows	102	106	3.9
Average number of heifers	75	76	1.3
Milk sold, lbs.	1,646,581	1,635,642	-0.7
Worker equivalent	2.75	2.74	-0.4
Total nontillable and tillable pasture & hay acres	267	275	3.0
Total nontillable pasture & tillable acres	311	326	4.8
Rates of Production			
Milk sold per cow, lbs.	16,205	15,469	-4.5
Hay DM per acre, tons	2.4	2.3	-4.2
Corn silage per acre, tons	12.1	9.9	-18.2
Labor Efficiency & Costs			
Cows per worker	37	39	5.4
Milk sold per worker, lbs.	598,757	596,950	-0.3
Hired labor cost per cwt.	$1.29	$1.43	10.9
Hired labor cost per worker	$22,960	$24,264	5.7
Hired labor cost as % of milk sales	10.0%	10.4%	4.0
Cost Control			
Grain & conc. purchased as % of milk sales	28%	29%	3.6
Grain & conc. per cwt. milk	$3.58	$3.96	10.6
Dairy feed & crop expense per cwt. milk	$4.95	$5.13	7.7
Labor & mach. costs per cow	$1,083	$1,100	3.6
Total farm operating costs per cwt. sold	$12.37	$12.90	4.3
Interest costs per cwt. milk	$0.68	$0.59	-13.2
Milk marketing costs per cwt. milk sold	$0.79	$0.88	11.4
Operating cost of producing cwt. of milk	$9.29	$9.55	2.8
Total costs of producing cwt. of milk	$14.30	$14.72	2.9
Capital Efficiency (average for the year)			
Farm capital per cow	$5,669	$6,794	19.8
Mach. & equip. per cow	$1,106	$1,423	28.7
Asset turnover ratio	0.47	0.48	2.1
Income Generation			
Gross milk sales per cow	$2,087	$2,116	1.4
Gross milk sales per cwt.	$12.93	$13.71	6.0
Net milk sales per cwt.	$12.14	$12.83	5.7
Dairy cattle sales per cow	$188	$121	-35.6
Dairy calf sales per cow	$40	$69	72.5
Government receipts per cwt.	$1.49	$1.41	-5.4
Profitability			
Net farm income without appreciation	$38,414	$46,554	21.2
Net farm income with appreciation	$45,541	$63,579	39.6
Labor & mgt. income per operator/manager	$6,906	$10,826	56.8
Rate of return on equity capital without apprec.	-0.9%	1.1%	222.2
Rate of return on all capital without apprec.	1.4%	2.3%	64.3
Financial Summary			
Farm net worth, end year	$392,994	$401,328	2.1
Debt to asset ratio	0.33	0.29	-12.1
Farm debt per cow	$1,898	$1,913	0.8

INTENSIVE GRAZING SURVEY SUMMARY

From the survey data of the 20 selected grazing farms, analysis of average production levels and profitability measures are shown below. Net farm income per cow without appreciation was used this year to evaluate whether certain practices contributed favorably to improved profitability. Net farm income is a measure of the net annual return from working, managing, and financing the farm business. The farms were divided into two sets of 10 farms each scaled from with the highest to lowest average net farm income per cow. The net farm income per cow of the top 10 farms ranged from $600 to over $1,000 while the lower 10 farms ranged from around $-200 to $600 net farm income per cow without appreciation.

SELECTED PRODUCTION AND PROFITABILITY MEASURES
Intensive Grazing Dairy Farms, 2003

	10 Above Average Farms	10 Below Average Farms
Pounds milk sold per cow	18,728	13,768
Net farm income per cow without appreciation	$759	$280
Operating cost of producing milk per cwt.	$8.40	$10.53
Total cost of production per cwt.	$14.48	$15.50

Comparison of survey data on the various grazing practices, such as water availability, supplemental feeding, pasture species, pasture management, milking system type and frequency of rotation are shown as follows:

GRAZING PRACTICES
Intensive Grazing Dairy Farms, 2003

	10 Above Average Farms	10 Below Average Farms
Average number of cows	62	133
Percent of farms with seasonal or semi-seasonal calving	30%	30%
Percent of farms with parlor-type milking system	0%	50%
Average percent forage from pasture	65%	76%
Average length of grazing season	187	193
Average pounds dry matter supplemented grain	17.3	15.8
Percent farms supplement with forage	100%	100%
Average pounds dry matter supplemented forage	13.9	9.6
Percent rotated after each milking	30%	40%
Percent rotated one time a day	20%	50%
Percent rotated every other day	20%	10%
Percent other rotation	20%	0%
Percent farms applied fertilizer	50%	70%
Percent farms applied manure to pasture	50%	64%
Percent farms that clipped pasture	90%	90%
Percent farms weed problems	30%	50%
Percent farms water every paddock	60%	60%
Average percent pasture that was reseeded in the last 10 years	43%	35%
Percent farms harvested mechanically	50%	80%
Average percent pasture harvested by machine	30%	30%
Most common pasture species:		
First	Orchard grass	Orchard grass
Second	Ladino	Native clover
Third	Quackgrass/Bluegrass	Bluegrass

Breeds

There is some information that suggests that some breeds are more efficient graziers. Since Holsteins have years of breeding for confinement and production levels they may not be the most effective at harvesting their own forage. The participants in this summary predominantly graze Holsteins or Holstein/Jersey crosses. Of the 10 above average grazing farms for net farm income per cow without appreciation, 80 percent graze herds that are greater than 75 percent Holstein. One herd is greater than 75 percent crossbreeds. One is a mix of Holstein and Jersey. Of the 10 below average grazing farms for net farm income per cow without appreciation, 50 percent graze herds that are greater than 75 percent Holstein and thirty percent graze herds with 50 percent or greater Jersey/Holstein crosses.

Supplemental Feeding

The table below compares the farms that fed corn silage, grain, and other forage to those that fed only grain and other forage. Incorporation of corn silage was not associated with higher profitability. For a more specific look at what was being fed to these grazing herds, see the following section "Ration Details".

SUPPLEMENTAL FEEDING
Intensive Grazing Farms, 2003

	10 Above Average Farms		10 Below Average Farms	
	(7) Corn Silage	(3) No Corn Silage	(2) Corn Silage	(8) No Corn Silage
Net farm income per cow without appreciation	$735	$863	$401	$204
Pounds milk sold per cow	19,736	16,854	16,000	14,628
Operating Cost per cwt of milk	$11.98	$11.83	$14.22	$14.07
Pounds dry matter of grain	17	19	17	16
Pounds dry matter of corn silage	8.5	-----	7.0	-----
Pounds dry matter of other forage[2]	2.7	7.0	7.5	4.8

[2]Other includes baleage, dry hay, or other forage.

Ration Details

Of the 10 above average grazing farms for net farm income per cow without appreciation, all fed grain during the grazing season. Seven of the farms fed corn silage. One farm reported feeding haylage. Five farms fed baleage, at an average of 4.4 pounds of dry matter per cow per day and three farms reported feeding dry hay at an average of 4.7 pounds of dry matter per cow per day.

Of the 10 below average farms for net farm income per cow without appreciation, all fed grain during the grazing season. Two of the farms fed corn silage. One of the farms fed baleage, two farms fed haylage and five farms fed dry hay at an average rate of 4.2 pounds dry matter.

Frequency of Rotation

In the above average group, three farms rotated cows into a fresh paddock after each milking, three farms provided new pasture once per day, two farms moved the cows every other day, and two farms rotated every three days. In the below average group, four farms rotated cows into a fresh paddock after each milking, five moved the cows to a new pasture one time per day, and one farm provided a fresh paddock every other day. The table below compares the rotation program of cows on new pasture to milk production and net farm income per cow without appreciation.

ROTATION FREQUENCY
Intensive Grazing Farms, 2003

	10 Above Average Farms		10 Below Average Farms	
	Rotation		Rotation	
	(3) After Each Milking	(7) Other	(4) After Each Milking	(6) Other
Pounds milk sold per cow	22,367	17,374	14,201	15,471
Net farm income per cow without appreciation	$858	$737	$351	$172

Water Source

There are various options for providing water to pasture. In the above average group, two farms used a well, three farms used ponds or springs in combination, and one farm used a stream. In the below average group, 6 farms used a well, one farm used a stream, two farms used a pond, and one farm used a spring.

WATER SOURCE
Intensive Grazing Farms, 2003

	10 Above Average Farms		10 Below Average Farms	
	(2) Well	(5) Other[3] (3) Unreported	(6) Well	(4) Other[3]
Pounds milk sold per cow	22,242	18,029	14,856	14,972
Net farm income per cow without appreciation	$767	$775	$312	$139

[3]Pond, stream, spring, or combination.

Milking System

There are several ways to classify milking systems. For the purposes of this analysis, all farms utilizing some sort of a parlor (herringbone, parrabone, rotary, flat barn or other) were separated from those utilizing pipeline, dumping station, or bucket and carry system. The type of milking system may impact the degree of control the manager has over the supplemental feeding system. In the above average group one farm had a flat barn parlor, the other used pipelines. In the below average group 3 had pit parlors, one uses a flat barn parlor, one uses a New Zealand Swing-type parlor and five milked with a pipeline.

MILKING SYSTEM
Intensive Grazing Farms, 2003

	10 Above Average Farms		10 Below Average Farms	
	(1) With parlor	(9) Without parlor	(5) With parlor	(5) Without parlor
Pounds milk sold per cow	19,551	18,528	15,147	15,089
Net farm income per cow without appreciation	$702	$737	$-98	$136
Average number of cows	106	55	212	65
Operating cost of producing milk/cwt	$8.75	$8.22	$12.63	$10.50

Commercial Ferilizer

Five farms in the above average group and seven farms in the below average group applied fertilizer to the paddocks during the growing season. Fertilizers other than urea that were applied included ammonium sulfate, map (11-52-0) and some blends. Some chose to fertilize only a small number of acres in the early season. Some fertilized after the first and second rotations and late June. One farm applied small amounts of nitrogen several times in the season with the last application in September of 50 pounds of actual nitrogen.

COMMERCIAL FERTILIZER
Intensive Grazing Farms, 2003

	10 Above Average Farms		10 Below Average Farms	
	(5) Applied Fertilizer	(5) Did not apply fertilizer	(7) Applied Fertilizer	(3) Did not apply fertilizer
Pounds milk sold per cow	20,112	18,542	15,256	14,076
Net farm income per cow without appreciation	$763	$780	$259	$206
Most common product applied	urea	--	urea	--
Operating cost of producing milk/cwt	$11.98	$11.91	$13.96	$14.40

Intensive Grazing Satisfaction Comments

On a scale of 1 to 5, with 5 being the highest, the average rating of grazing satisfaction was 4.5. When asked whether their lifestyle has improved with the adoption of rotational grazing, a majority indicated that their lifestyle has improved. One farmer commented that even though his lifestyle had not improved, the cows' had.

Grazing Trends

The table below compares key figures from 2003 grazing farms to an average of the last eight years. The average cow numbers are up considerably (18 percent). Milk sold per cow is down one percent. Operating cost per hundredweight is one of the indicators of why grazing farms are as profitable, if not more profitable, than non-grazing farms. An average operating cost of $9.19 per hundredweight in 2003 was the third lowest since grazing summaries have been published. Net farm income per cow was a positive figure in 2003 showing that grazing farmers did well in adapting to different situations. Grain expense as a percent of milk income and cost of grain per hundredweight were impacted by another challenging growing season.

2003 GRAZING INFORMATION COMPARED TO 1996 - 2003 Averages
Same 14 Grazing Farms, 1996-2003

	14 Grazing Dairy Farms, 2003 Averages	1996 - 2003 Average of 14 Grazing Farms
Number of cows	93	79
Pounds milk sold per cow	17,463	17,676
Operating cost of producing milk per cwt.	$ 9.19	$ 9.76
Net farm income per cow without appreciation	$ 530	$ 591
Purchased grain and concentrate as % of milk receipts	32	28
Grain and concentrate per cwt.	$ 4.19	$ 3.91

INTENSIVE GRAZING FARMS VS. NON-GRAZING FARMS
New York State Dairy Farms, 2003

Item	All Intensive Grazing Farms[4]	Non-Grazing Farms[5]	Profitable Grazing Farms[6]	Profitable Non-Grazing Farms[7]
Number of farms	27	76	10	16
Business Size & Production				
Number of cows	98	99	66	57
Number of heifers	71	75	47	37
Milk sold, lbs.	1,536,133	1,954,323	1,234,196	1,108,671
Milk sold/cow, lbs.	15,728	19,741	18,728	19,471
Milk plant test, % butterfat	3.78%	3.50%	3.75%	3.66%
Cull rate	25.6%	30.9%	27.3%	25.4%
Tillable acres, total	256	322	195	170
Hay crop, tons DM/acre	2.3	2.5	2.2	2.4
Corn silage, tons/acre	9.7	14.6	15.7	13.8
Forage DM/cow, tons	5.7	8.2	6.1	7.1
Labor & Capital Efficiency				
Worker equivalent	2.64	3.32	2.54	2.15
Milk sold/worker, lbs.	581,869	588,652	485,904	515,661
Cows/worker	37	30	26	27
Farm capital/worker	$233,569	$250,388	$199,922	$185,983
Farm capital/cow	$6,292	$8,397	$7,694	$7,015
Farm capital/cwt. milk	$40	$43	$41	$36
Machinery & equipment per cow	$1,515	$1,862	$1,523	$1,807
Milk Production Costs & Returns				
Selected costs/cwt.:				
Hired labor	$1.07	$1.32	$1.33	$0.39
Grain & concentrate	$4.21	$4.03	$3.65	$3.69
Purchased roughage	$0.56	$0.29	$0.40	$0.43
Replacements purchased	$0.14	$0.24	$0.16	$0.13
Vet & medicine	$0.38	$0.49	$0.32	$0.41
Milk marketing	$0.94	$0.86	$1.05	$0.79
Other dairy expenses	$1.01	$1.28	$1.08	$1.25
Operating cost of producing milk/cwt.	$9.25	$10.49	$8.40	$7.83
Total labor cost/cwt.	$5.29	$4.91	$4.82	$5.27
Operator resources/cwt.	$3.45	$3.53	$4.39	$4.70
Total cost of producing milk/cwt.	$15.94	$16.49	$14.48	$14.52
Average farm price/cwt.	$13.51	$13.16	$13.55	$12.96
Related Cost Factors				
Hired labor/cow	$185	$261	$249	$74
Total labor/cow	$882	$916	$901	$998
Purchased dairy feed/cow	$799	$831	$757	$802
Purchased grain & conc. as % of milk receipts	31%	31%	27%	28%
Vet & medicine/cow	$65	$98	$60	$79
Machinery costs/cow	$510	$599	$495	$526
Feed & crop exp./cwt.	$5.26	$5.12	$4.61	$4.66
Profitability Analysis				
Net farm income (with appreciation)	$62,249	$38,727	$63,645	$50,124
Net farm income (without appreciation)	$44,046	$19,143	$50,092	$45,318
Net farm income per cow (w/o appreciation)	$449	$193	$759	$795
Net farm income per cwt. (w/o appreciation)	$2.87	$0.98	$4.06	$4.09
Labor & management income/operator	$9,744	$-14,952	$16,702	$13,040
Labor & mgmt. income/oper./cow	$99	$-151	$253	$229
Rates of return on: Equity capital with apprec.	4.6%	-1.4%	5.5%	1.8%
All capital with appreciation	4.7%	0.2%	5.3%	2.3%

[4]Farms grazing at least three months of year, changing paddock at least every three days, forage from pasture at least 30 percent, and no organic farms.
[5]Farms with similar herd size, as the 27 rotational grazing farms.
[6]Farms with net farm income/cow greater than $600, had been grazing at least two years, and forage from pasture at least 40 percent.
[7]Farms with similar herd size as the 10 profitable grazing farms and net farm income per cow greater than $600.

CASE STUDIES

Deysenroth Farm

Paul and Gwen Deysenroth started dairy farming together nineteen years ago in Bloomville, New York in Delaware County, the heart of the Catskill Mountains. Their farm has been in Gwen's family for seven generations and they are hoping that at least one of their three sons will someday continue to farm there.

In 1985, Paul built a milk house onto the existing barn and they began milking a herd of forty Holsteins and Jerseys. There was no room to raise calves, so they purchased all of their replacements. At that time, all of the pastureland on their farm was surrounded by one large perimeter fence as Gwen's father had been raising heifers only for the past 12 years. They began pasturing, never knowing on foggy mornings in which corner of the farm they might find their cows. Gradually, Paul divided the pastureland with more and more fences and in 1990 became interested in intensive grazing. He purchased a charger and some portable fencing and began replacing barbed wire fences with high tensile wire. A bedded pack heifer facility was funded by the Watershed Agricultural Council in 1994 and all replacements are now home-raised. Calves are started in hutches and stay there until they are weaned at three months of age. Heifers are grazed starting at eight months of age.

Since there were no silos or tillage equipment on the farm, growing corn was not considered. Paul purchased a power no-till seeder and reseeds at least one meadow per year to a variety of crops including alfalfa, clover, orchard grass and brome grass, depending on the field. Fields are sprayed the previous fall so that sod can rot down over the winter. No-till significantly decreases labor with the stony soils they have to work with. The Deysenroth's own their hay equipment and share baleage equipment with a neighbor.

The cows are grazed on native pastures in the spring, then through the summer are rotated on some meadows following first or second cutting. Plenty of fresh, cool water is available to the cows at all times while on pasture. A spring was developed on the hill which gravity feeds portable water vats. In order to maintain milk production, cows are grazed mornings, brought into the tiestall barn**,** which has tunnel ventilation, early afternoons for an extra feeding of grain and hay, then grazed all night. Fences are moved each time the cows go out to eat. Ideally, the Deysenroth's like to have their cows freshen in the late summer and fall. Pasture quality is good in the fall and higher production can be maintained while cows are stabled in the winter. In the spring, production gets a boost when cows go out on pasture. Then they are dry during the heat of the summer. Unfortunately, keeping cows seasonal does not always work.

In the summer, milking cows are fed a total of twenty to twenty-seven pounds of a custom mix concentrate of about 15 percent protein, three times per day. Eight to twelve pounds of dry matter forage are fed to the cows in the barn as dry hay or baleage. In the winter, pounds of grain and percent protein are increased. Good quality forage is pushed so that cows get about 30 pounds of dry matter from it. The herd now consists entirely of Holsteins and production averages about 23,000 pounds per cow.

Pasture is regarded as high quality feed for cows and not as the sole source of summer forage. It allows the Deysenroth's to get better quality feed from some lesser quality land. Paul and Gwen try to balance good production with moderate costs. Advantages of grazing include harvest cost savings and less time spent in the barn as well as healthier calvings. Disadvantages include more foot injuries due to poor lanes. Future plans include improving lanes. Paul spends lots of time and effort moving fences and maintaining pastures properly. The Deysenroth's rely on the help of their three sons as well as a neighbor part-time.

Paul, Gwen and their boys are in the process of planning to make some of their milk into cheese in order to increase profits. Initially, they plan to use cheese-making facilities on another farm about 15 miles away to make a raw milk gouda cheese. Paul is constructing a temporary aging room on his farm where the cheese will be aged for at least sixty days. If marketing their cheese is a success, the Deysenroth's hope to someday make a permanent cheese plant on their farm.

Switch to Grazing Benefited Family and Finances[8]

They have nearly tripled the size of their herd and their annual milk production...without adding any labor and without adding new buildings or feed storage. On top of that, they are making a lot more money. And they have more time for family activities. Sound impossible? The impossible became possible for Robert and Barbara Eder of Weyauwega, Wisconsin, when they started grazing their herd seven months of the year.

Robert, who was raised on a Wisconsin dairy farm, moved to Arizona after high school and worked as a carpenter. However, when he and Barb married and started a family, they decided to return to the home farm where they worked for his uncle for seven years.

The Eders were in their mid-30s when they rented their own farm in January 1988 and later purchased it in 1990. With a good herd of 40 to 50 Holsteins and conscientious care, they were able to get the rolling herd average over 21,000 pounds per cow within two years. But they weren't showing much of a profit, so they went to 3 time-a-day milking in 1990. When they cut back to milking five times every two days late in 1991, their rolling herd average was over 26,000 pounds per cow and one of the highest in the county. Early in 1992, they added 10 stalls to their 39-stall barn so they could grow to nearly 60 cows.

Still life wasn't what they wanted it to be. "We worked so hard. It was always a struggle to make ends meet," Eder said. "We were pretty well burned out," he continued. "We looked at each other and asked, 'Do we want to be doing this when we're 50 years old?' We were doing chores all day long, every day."

For the Elders, the conversion came when they attended a two-day grazing conference early in 1992. The conference was attended by 70 New Zealand dairy farmers who were touring the United States. "They were successful men in their 50's," Eder pointed out. "They were wealthy and happy. They weren't burned out. And they were all graziers. That night we knew that we were going to make a major change on the farm."

And change they did. Heifers went out on pasture in the spring of 1992. Cows were put on pasture in the fall of that year. In November of 1992, the Eders traveled to New Zealand to see first-hand how rotational grazing works. By the spring of 1993, their rotational grazing system was up and running. Each year since, they've added more cows. Today, they're milking about 130 head 2 times a day. Pounds of milk sold per cow have ranged from 16,818 to 20,520 during the last six years.

The Eders farm is forage self-sufficient for cows and youngstock. All grain and protein are purchased. They have about 300 acres in permanent pasture; they also take one or two crops of hay silage from this ground. In addition, they raise 60 to 70 acres of corn silage each year. All other forage harvesting is done by the herd. In a typical grazing season, heifers are put on pasture the second week of April and cows by the end of April. For two weeks, the milking herd still receives the winter total mixed ration. For another two weeks, the forage is gradually reduced in the total mixed ration until the cows are getting 20 pounds of grain and 5 pounds of corn silage per day (dry matter basis) to supplement the grazing—an 18-1/2 percent ration.

Cows are on pasture until late November. Then it's back to being fed entirely at the bunk with a 16 percent protein total mixed ration.

The herd is bred for spring and fall calving, with about 80 percent of calving in March, April, and May. The Eders are down to as few as 40 cows in milk during February.

Although their switch to rotational grazing was sudden, it wasn't without thought. The Eders believed it would help eliminate three problems they faced with their "traditional" stall barn and confinement feeding system. "One, we wanted to produce high-quality forage but were unable to due to our shortage of labor and equipment, and we couldn't afford to increase either," Eder explained. "Second, we weren't able to use the silo unloader (we had only one hay silage silo) while filling during the harvest period. This led to a lot of hand labor. Third, we didn't like keeping cows in the barn all day, every day, so we let them outside. But we felt this 'dry out' handling of dairy cows was a waste of manure nutrients and not very hygienic."

The switch to rotational grazing brought many benefits. With cattle on pasture seven months of the year, the need for mechanically harvested and stored forage was cut by 50 percent. They no longer have to throw down hay silage by hand during the harvest season. And fieldwork was reduced by 75 percent.

For the winter months, the Eders fill one 20-by 50-foot silo with first-crop hay silage. They also fill some silage bags and make 100 to 200 round bales for heifers and dry cows. "We know, through forage analysis, that our cows are getting better-

[8]Most of this case farm report has been excerpted from the April 25, 1997 issue of *Hoard's Dairyman*. It has been updated from the previous version.

quality forage on pasture which reduces their grain requirements," Eder said. "Cows can harvest forage, even in the rain, at quality levels that are not practical with mechanical harvesting—shorter lengths and on a more frequent basis."

The switch to a rotational grazing system also eliminated the need for housing and the many chores associated with it. During grazing season, all cattle are kept outside. In winter, the milking herd is kept on a bedded pack in an open shed. Heifers are kept outside near a grove of trees

The financial gains have been rewarding for the Eders. "When you are making money in farming, your whole outlook is different. You can wake up in the morning and feel good," Eder pointed out.

The first year in farming (1988), the Eders shipped 807,000 pounds of milk for the year. In 2000, they shipped 2,778,609 pounds. The labor it took to produce that milk was the same both years—the Eders plus one part-time employee. Labor efficiency is a key strength of the operation. And, with cattle outside and harvesting their own forage most of the year, no new buildings or feed storage facilities have been needed. The only major building project was to install a double-14 swing parlor (14 units in center of pit) in one wing of their existing stall barn. The actual parlor (concrete work, stalls, and milking units) cost $15,000. Improvements to the building (insulation, new ceiling, new interior walls, new windows, making it a clear-span structure) cost $35,000. Automatic takeoffs and a crowd gate were added later at a cost of $14,000. Even with this $64,000 parlor project, the Eders were able to pay off lots of short-term debt since switching to grazing. And they've been able to boost their net worth substantially. Eder is quick to emphasize that his rotational grazing system is not low cost when it comes to variable inputs. They have a good herd of cows, and they feed them well. "We spent $75,000-$95,000 on feed," he said, adding that they purchase all grain, protein, mineral, and calf feed.

After a few years of grazing, the Eders are convinced that the switch to rotational grazing was a good fit for their farm and lifestyle. On a daily basis, they have more time to do things with their children. On an annual basis, they're able to take more—and longer—family vacations. And it gives them peace of mind to look out and see their children working with contented cows in green grass. "Many dairy producers are making the jump to large, confinement dairies to get the financial advantages that go with it. We've achieved financial advantages without making that big jump," Eder concluded.

After only a few years of switching to grazing, the Eders shifted a significant amount of their attention to helping others in the dairy industry. They have shared their success with others. They have encouraged others to try grazing as active members of several farm organizations, including their local grazing network (which they helped start). As a producer-member of the American Grassland and Forage Council, Robert won the organization's nation forage spokesperson contest in 2000 with his enthusiastic portrayal of what the grazing system has does for their farm, their family and for the environment. They have mentored several aspiring graziers and are gracious hosts to anyone who visits their farm. They are enthusiastic charter members of the Wisconsin Grazing Dairy Profitability Analysis.

Recently Eders have formed a cooperative with four other graziers to manufacture cheese from milk produced on pasture.

The Straub Case Farm from Michigan [9]

In 1992, Howard and Mary Jo Straub milked 80 cows three times a day, and their 24,800-pound rolling herd average was listed as second highest in their county. Howard says they were making a living and slowly paying off debt, but working far too hard in doing so. Looking back, Howard and Mary Jo agree that there appeared to be little chance their children would want to milk cows for a living. Or, even if the kids wanted to dairy, the margins were so thin, and the debt retirement so slow, that there would be no way the parents could provide much help in helping them get started.

Roll ahead to January 2004. Last year the Straubs shipped just 12,000 pounds of milk from about 95, largely crossbred, cows milked twice a day (once daily during the last few weeks of lactation), and bred seasonally to calve in April and dry up in February. Since starting with managed grazing in 1993, the Straubs have paid off a $250,000 mortgage. They sold most of their equipment and cut their involuntary culling rate by two-thirds. Today they are nearly debt free, and spend more time planning trips and working on ways to reduce income tax payments than they do in worrying about per-cow production.
With an 18 percent culling rate (7 percent from failure to meet their seasonal breeding window), Howard and Mary Jo could have milked more than 150 cows this year. But instead they will be milking closer to 60 because they have sold or traded (in return for labor) dozens of cattle to their kids.

[9] Reprinted with slight modifications with permission from the February 2004 issue of *Graze* magazine.

There are lots of fairly similar financial success stories about people who have "switched" to grazing. But perhaps as least as well as anyone, the Straubs have accomplished something perhaps even more important: they've succeeded in attracting three of their four children into grazing-based dairying on their own operations.

Seven miles away, 23-year-old daughter Terri Hawbaker, and her husband, Rick, last year started milking 60 cows on 120 acres of pasture they purchased from Howard and Mary Jo with a bank loan. Closer to home, Patti Warnke, 31, and her husband, John, also borrowed money last year to buy 40 acres and build an attractive, six-unit swing parlor with a walk-in pit. Son Howie, 29, is recently married and starting a dairy in northern Ohio with a string of cattle from the home farm.

With the change over to grazing, many things changed on the farm, that both impacted the bottom line of the farm and also created a positive influence on the next generation for being involved in the dairy industry. What follows are a few of the changes.

The change to grazing … and in attitude

Howard says that in his conventional era he would usually work 12 to 14-hour days growing crops and doing chores like mixing five separate daily rations. "Chores were a grind, and we didn't really get to go anywhere," Terri recalls.

But within a few years after the cows first went out on pasture (and most of the equipment was sold, most of the ration mixing ditched, and the old double-six parlor was retrofitted to a swing-11) Howard says his typical working day was down to eight to 10 hours. "And I started having more fun in the process," he admits.

The change was obvious to the kids. Patti was already off on her own, but nevertheless saw the difference. "(Howard's attitude) just turned when he started grazing." "Their moods changed," Terri says of her parents. "It was much more positive. They were happy and making money, and still got the chance to get away from the farm. My dad never wasted a chance to pop in and say that if you did it this way, you could have time off."

"Yes, attitude has a lot to do with it," Howard offers. "You can't be whiney for very long and not have the kids pick up on that." Adds Mary Jo: "You have to make them think they have an advantage being a farm kid." That attitude seems be have rubbed off. In comparing herself to her non-farming peers, "I don't envy them at all," Terri asserts. She describes a recent dairy cooperative meeting where the attitude was definitely negative toward the future of smaller family farms. "It frustrates me that more people don't encourage people our age to farm," Terri says. "Those people are really missing out. We have the ability to do as well or better than the people in town."

Help from home

Twelve years ago, the Straubs had a $250,000 mortgage that was being whittled away very slowly. "I guess we didn't really know at that time whether the kids would farm or not, and we just didn't know if we could pull it off financially," Mary Jo says.

Howard is a bit more certain when asked whether he could have helped any of his kids get into farming if he'd continued his conventional ways. "Absolutely not!"

This is pretty close to a textbook grazing story. Howard stopped buying equipment, and started selling most of what he had. Profit margins increased. Culling rates dropped from 32 percent to 18 percent (11 percent not counting sales of animals not fitting the breeding window), and the herd started growing from within.

Within a dozen years the mortgage was gone. Some of that was due to Howard and Mary Jo selling 120 acres to Terri and Rick, although Howard notes that capital gains taxes took a substantial bite from that payment and they sold the land at less than highest value so that the next generation could get a break.

Also over the years, selling heifers and cows to the kids in exchanged for labor, they have provided 25 cows and 66 youngstock to the various farming enterprises.

Perhaps more interesting is the fact that the older Straubs were able to leverage low culling rates and minimal investment in depreciable assets to put themselves into position to be able to offer such benefits in return for a little financial farsightedness from their children.

Developing a financial mindset

The Straubs began doing detailed financial analyses of their operation about four years ago. More importantly, they also shared the information with the family. It didn't take very long for the kids to start noticing their results.

Says Howie, who had graduated from Michigan State University with a degree in animal science (no grazing in the curriculum): "When I got to see the numbers, I got interested in grazing."

Adds Terri: "When they started running their numbers, that was pretty impressive." In her three-semester dairy program at MSU, a professor talked about setting a goal of netting $400 per cow. "We were doing better than twice that," Terri marvels.

As he progressed in grazing and in analyzing his finances, Howard says he started learning about the financial power of equity growth through low culling rates, reducing depreciable asset overhead, and keeping overall debt to manageable levels in order to take advantage of opportunities when they present themselves.

"I tried to preach that the fastest way to build equity is through dairy cattle," he describes. And, while he certainly works to avoid income taxes, Howard suggests that it's "cheaper to pay the tax than to buy the equipment." His children were quick learners.

"I think they picked up on the concepts fairly quickly — especially when they went off to college and saw what others were doing compared to what we were doing." Howard says.

SUMMARY OF GRAZING FARMS BY HERD SIZE

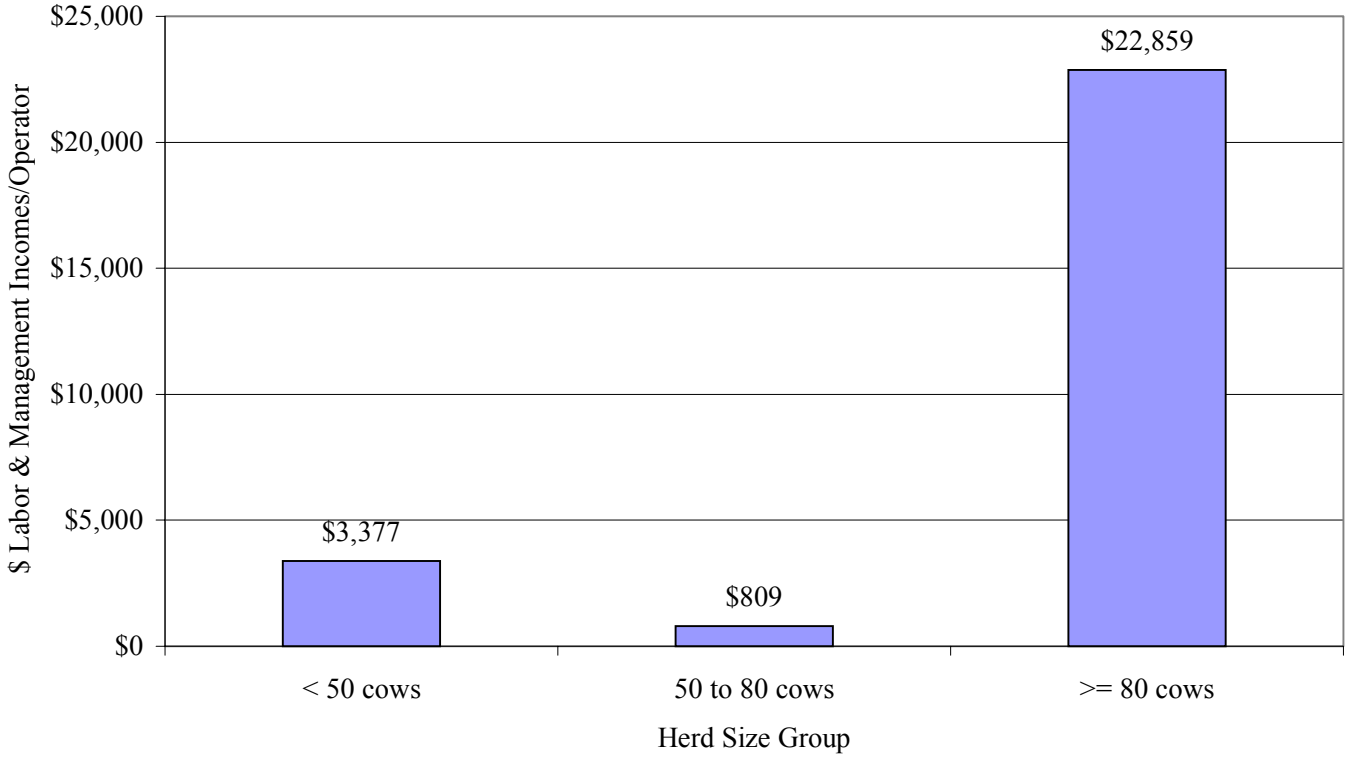
There were six grazing farms with more than 100 cows. The chart below shows the variation in labor and management income per operator by herd size group. The table on the following page compares grazing farms by herd size group.

Grazing Practices From Six Grazing Farms With More Than 100 Cows:

- Average size of the herd was 245 cows.
- This group as an average received 83 percent of their forage DM from pasture during the grazing season.
- All but two of the farms provided water in every pasture
- Three of these farms fed additional forage.
- None of the farms fed baleage.
- All farms clipped pastures at least once during the year.
- One of the farms was a seasonal herd.
- Three farms selected the highest score for satisfaction (5), two others chose the second highest score (4), and one chose average satisfaction (3) compared to "in-barn" feeding.
- The average grazing season for this group was 199 days.
- Four of the herds moved their cows after each milking, while two herds moved the herd once a day.

DISTRIBUTION OF LABOR AND MANAGEMENT INCOMES PER OPERATOR

27 Intensive Grazing Dairy Farms, 2003



INTENSIVE GRAZING FARMS BY HERD SIZE GROUP

27 Intensive Grazing Dairy Farms, 2003

Item	Less Than 50 Cows	50 to 80 Cows	80 Cows Or More
Number of farms	8	10	9
Business Size & Production			
Number of cows	43	66	187
Number of heifers	33	47	136
Milk sold, lbs.	786,092	1,131,167	2,735,572
Milk sold/cow, lbs.	18,123	17,036	14,646
Milk plant test, % butterfat	3.84%	3.71%	3.80%
Cull rate	21.6%	29.9%	25.0%
Tillable acres, total	173	161	477
Hay crop, tons DM/acre	1.9	2.1	3.0
Corn silage, tons/acre	6.7	7.1	16.7
Forage DM/cow, tons	6.6	4.9	6.5
Labor & Capital Efficiency			
Worker equivalent	1.93	2.20	3.96
Milk sold/worker, lbs.	407,302	514,167	690,801
Cows/worker	22	30	47
Farm capital/worker	$202,781	$211,856	$257,590
Farm capital/cow	$9,102	$7,062	$5,455
Farm capital/cwt. milk	$50	$41	$37
Milk Production Costs & Returns			
Selected costs/cwt.:			
Hired labor	$0.60	$0.99	$1.80
Grain & concentrate	4.18	4.20	3.74
Purchased roughage	0.32	0.78	0.45
Replacements purchased	0.00	0.25	0.27
Vet & medicine	0.39	0.35	0.39
Milk marketing	1.02	0.97	0.88
Other dairy expenses	1.05	1.24	0.97
Operating cost of producing milk/cwt.	8.41	9.59	9.78
Operator resources/cwt.	6.07	3.92	2.69
Total labor cost/cwt.	6.25	4.92	3.60
Total cost of producing milk/cwt.	16.98	15.68	14.25
Average farm price/cwt.	13.43	13.31	14.01
Related Cost Factors			
Hired labor/cow	$110	$169	$264
Total labor/cow	1,143	843	527
Purchased dairy feed/cow	821	852	614
Purchased grain & concentrate as % of milk receipts	31%	32%	27%
Vet & medicine/cow	$71	$60	$57
Machinery costs/cow	$563	$508	$403
Feed & crop exp./cwt.	$4.90	$5.46	$4.90
Profitability Analysis			
Net farm income (without appreciation)	$28,625	$29,413	$76,615
Net farm income/cow (without appreciation)	$666	$446	$410
Net farm income/cwt. (without appreciation)	$3.64	$2.60	$2.80
Labor & management income/operator	$3,377	$809	$22,859
Rates of return on:			
Equity capital with appreciation	1.0%	-0.8%	8.7%
All capital with appreciation	1.7%	0.5%	7.4%

SUMMARY AND ANALYSIS OF THE FARM BUSINESS

Business Characteristics

Planning the optimal management strategies is a crucial component of operating a successful farm. Various combinations of farm resources, enterprises, business arrangements, and management techniques are used by the grazing dairy farmers in New York. The following table shows important farm business characteristics and the number of farms with each characteristic.

BUSINESS CHARACTERISTICS
27 Intensive Grazing Dairy Farms, 2003

Type of Farm	Number
Dairy	27
Part-time dairy	0
Dairy cash-crop	0

Type of Ownership	Number
Owner	26
Renter	1

Type of Business	Number
Sole Proprietorship	20
Partnership	4
Limited Liability Corporation	3
Subchapter S Corporation	0
Subchapter C Corporation	0

Type of Barn	Number
Stanchion or Tie-Stall	17
Freestall	8
Combination	2

Milking Frequency	Number
2 times per day	27
3 times per day	0
Other	0

Breed	Percent
Holstein	73
Jersey	8
Other	19

Milking System	Number
Bucket & carry	0
Dumping station	0
Pipeline	16
Herringbone-conventional exit	5
Herringbone-rapid exit	0
Parallel	0
Parabone	2
Rotary	0
Other	4

Production Records	Number
Testing Service	21
On-Farm System	1
Other	0
None	5

bST Usage	Number
Used consistently	3
Used inconsistently	2
Started using in 2003	0
Stopped using in 2003	0
Not used in 2003	22
Average percent usage, if used	73%

Business Record System	Number
Account Book	10
Accounting Service	2
On-farm computer software	15
Other	0

The averages used in this report were compiled using data from all the participating grazing dairy farms in New York unless noted otherwise. There are full-time dairy farms, farm renters, partnerships, and corporations included in the average. Average data for these specific types of farms are presented in the State Business Summary.

Income Statement

In order for an income statement to accurately measure farm income, it must include cash transactions and accrual adjustments (changes in accounts payable, accounts receivable, inventories, and prepaid expenses).

Cash paid is the actual cash outlay during the year and does not necessarily represent the cost of goods and services actually used in 2003.

Change in inventory: Increases in inventories of supplies and other purchased inputs are subtracted in computing accrual expenses because they represent purchased inputs not actually used during the year. Decreases in purchased inventories are added to expenses because they represent inputs purchased in a prior year and used this year.

CASH AND ACCRUAL FARM EXPENSES

27 Intensive Grazing Dairy Farms, 2003

Expense Item	Cash Paid	-	Change in Inventory or Prepaid Expense	+	Change in Accounts Payable	=	Accrual Expenses
Hired Labor	$ 21,774		$ -41	<<	$ 142		$ 21,957
Feed							
Dairy grain & concentrate	61,517		15		-81		61,421
Dairy roughage	7,144		130		1,111		8,125
Nondairy	85		15		0		70
Professional nutritional services	67		0		0		67
Machinery							
Machinery hire, rent & lease	4,626		0	<<	115		4,741
Machinery repairs & farm vehicle exp.	13,237		21		46		13,262
Fuel, oil & grease	6,296		27		-99		6,170
Livestock							
Replacement livestock	3,501		0	<<	0		3,501
Breeding	3,296		-7		-18		3,285
Veterinary & medicine	5,726		-53		124		5,903
Milk marketing	14,432		0	<<	8		14,440
Bedding	1,267		50		0		1,217
Milking supplies	4,599		35		354		4,918
Cattle lease & rent	570		0	<<	0		570
Custom boarding	1,313		0	<<	-6		1,306
bST expense	1,132		19		-20		1,093
Livestock professional fees	781		0		0		781
Other livestock expense	3,332		17		-1		3,314
Crops							
Fertilizer & lime	6,234		-343		-969		5,608
Seeds & plants	2,181		-244		0		2,425
Spray, other crop expense	1,369		32		52		1,389
Crop professional fees	21		0		8		29
Real Estate							
Land, building & fence repair	3,238		6		204		3,436
Taxes	5,834		-4	<<	-84		5,754
Rent & lease	4,957		0	<<	0		4,957
Other							
Insurance	3,937		0	<<	-93		3,844
Utilities (farm share)	6,423		0	<<	74		6,497
Interest paid	9,162		0	<<	-13		9,149
Other professional fees	671		0		0		671
Miscellaneous	1,946		-4		-21		1,929
Total Operating	$200,669		$ -327		$ 831		$ 201,827
Expansion livestock	2,027		0	<<	0		2,027
Extraordinary expense	0		0		0		0
Machinery depreciation							14,584
Building depreciation							6,291
TOTAL ACCRUAL EXPENSES							$ 224,729

Change in prepaid expenses (noted above by <<) is a net change in non-inventory expenses that have been paid in advance of their use. For example, prepaid lease expense on the beginning of year balance sheet represents last year's payment for use of the asset during this year. End of year prepaid expense represents payments made this year for next year's use of the asset. Adding payments made last year for this year's use of the asset, and subtracting payments made this year for next year's use of the asset is accomplished by subtracting the difference.

Change in accounts payable: An increase in accounts payable from beginning to end of year is added when calculating accrual expenses because these expenses were incurred (resources used) in 2003 but not paid for. A decrease is subtracted because it represents payment for resources used before 2003.

Accrual expenses are an estimate of the costs of inputs actually used in this year's production. They are the cash paid, less changes in inventory and prepaid expenses, plus accounts payable.

CASH AND ACCRUAL FARM RECEIPTS
27 Intensive Grazing Dairy Farms, 2003

Receipt Item	Cash Receipts	+	Change in Inventory	+	Change in Accounts Receivable	=	Accrual Receipts
Milk sales	$ 212,557				$ 2,192		$ 214,749
Dairy cattle	12,596		$ 197		179		12,972
Dairy calves	2,291		4,379		-58		6,612
Other livestock	1,272		-320		-30		922
Crops	866		7,263		37		8,166
Government receipts	22,903		0 [10]		-816		22,087
Custom machine work	279				-30		250
Gas tax refund	51				0		51
Other	4,004				-212		3,792
Less nonfarm noncash capital[11]		(-)	0 [11]			(-)	0
Total Receipts	$ 256,820		$ 11,519		$ 1,262		$ 269,601

[10]Change in advanced government receipts.
[11]Gifts or inheritances of cattle or crops included in inventory.

Cash receipts include the gross value of milk checks received during the year plus all other payments received from the sale of farm products, services, and government programs. Nonfarm income is not included in calculating farm profitability.

Changes in inventory of assets produced by the business are calculated by subtracting beginning of year values from end of year values excluding appreciation. Increases in livestock inventory caused by herd growth and/or quality are added, and decreases caused by herd reduction and/or quality are subtracted. Changes in inventories of crops grown are also included. An increase in advanced government receipts is subtracted from cash income because it represents income received in 2003 for the 2004 crop year in excess of funds earned for 2003. Likewise, a decrease is added to cash government receipts because it represents funds earned for 2003 but received in 2002.

Changes in accounts receivable are calculated by subtracting beginning year balances from end year balances. Payments in January for milk produced in December 2003 compared to January 2003 payments for milk produced in 2002 are included as a change in accounts receivable.

Accrual receipts represent the value of all farm commodities produced and services actually generated by the farm business during the year.

Profitability Analysis

Farm operators[12] contribute labor, management, and equity capital to their businesses and the combination of these resources, and the other resources used in the business, determines profitability. Farm profitability can be measured as the return to all family resources or as the return to one or more individual resources such as labor and management.

These measures should be considered estimates as they include inventory values that are only estimates and they include an unknown degree of error stemming from cash flow imbalances.

[12]Operators are the individuals who are integrally involved in the operation and management of the farm business. They are not limited to those who are the owner of a sole proprietorship or are formally a member of the partnership or corporation.

Net farm income is the return to the farm operators and other unpaid family members for their labor, management, and equity capital. It is the farm family's net annual return from working, managing, and financing the farm business. This is not a measure of cash available from the year's business operation. Cash flow is evaluated later in this report.

Net farm income is computed both with and without appreciation. Appreciation represents the change in values caused by annual changes in prices of livestock, machinery, real estate inventory, and stocks and certificates (other than Farm Credit). Appreciation is a major factor contributing to changes in farm net worth and must be included for a complete profitability analysis.

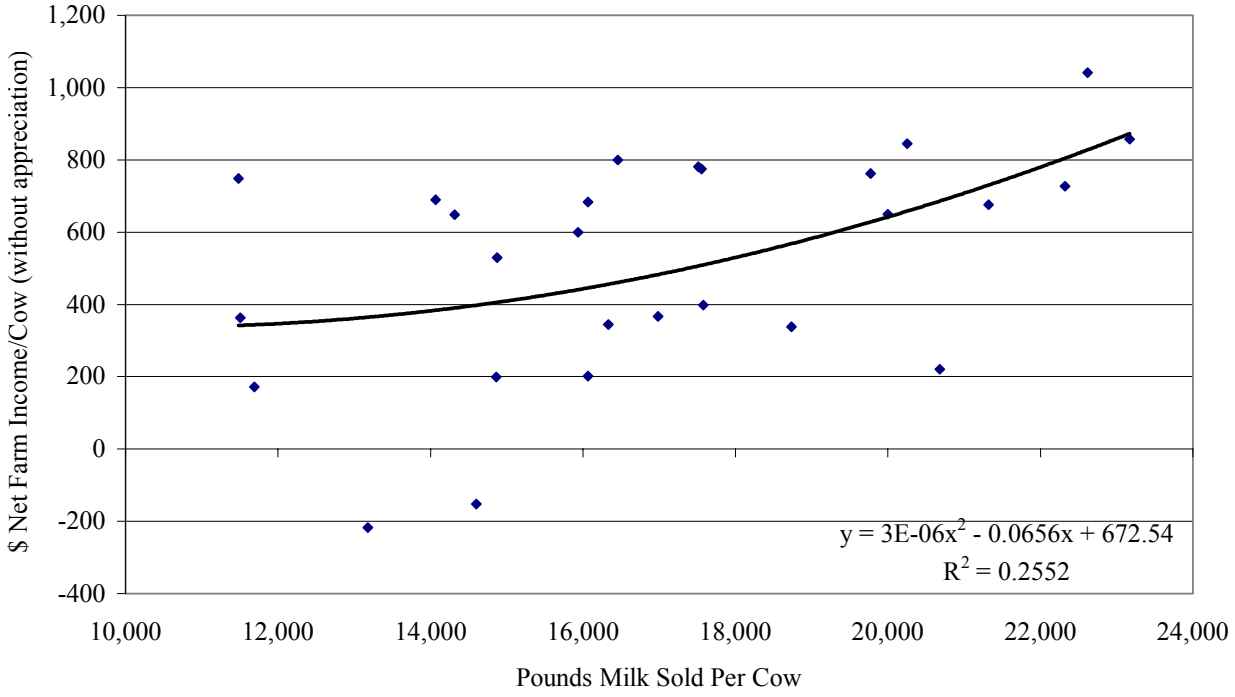
NET FARM INCOME
Intensive Grazing Dairy Farms, 2003

Item	27 Grazing Dairy Farms[13]	10 Above Average Farms[13]	10 Below Average Farms[13]
Total accrual receipts	$ 269,601	$ 210,891	$ 350,333
Appreciation: Livestock	3,686	4,388	-270
Machinery	5,725	4,415	8,528
Real Estate	8,125	4,573	9,136
Other Stock & Certificates	253	177	507
Total Including Appreciation	$ 287,390	$ 224,444	$ 368,234
Total accrual expenses	- 224,729	- 160,799	- 309,802
Net Farm Income (with appreciation)	$ 62,661	$ 63,645	$ 58,432
Net Farm Income Per Cow (with appreciation)	$ 627	$ 964	$ 403
Net Farm Income (without appreciation)	$ 44,872	$ 50,092	$ 40,531
Net Farm Income Per Cow (without appreciation)	$ 449	$ 759	$ 280

[13]See page 1 for a description of these groups of farms.

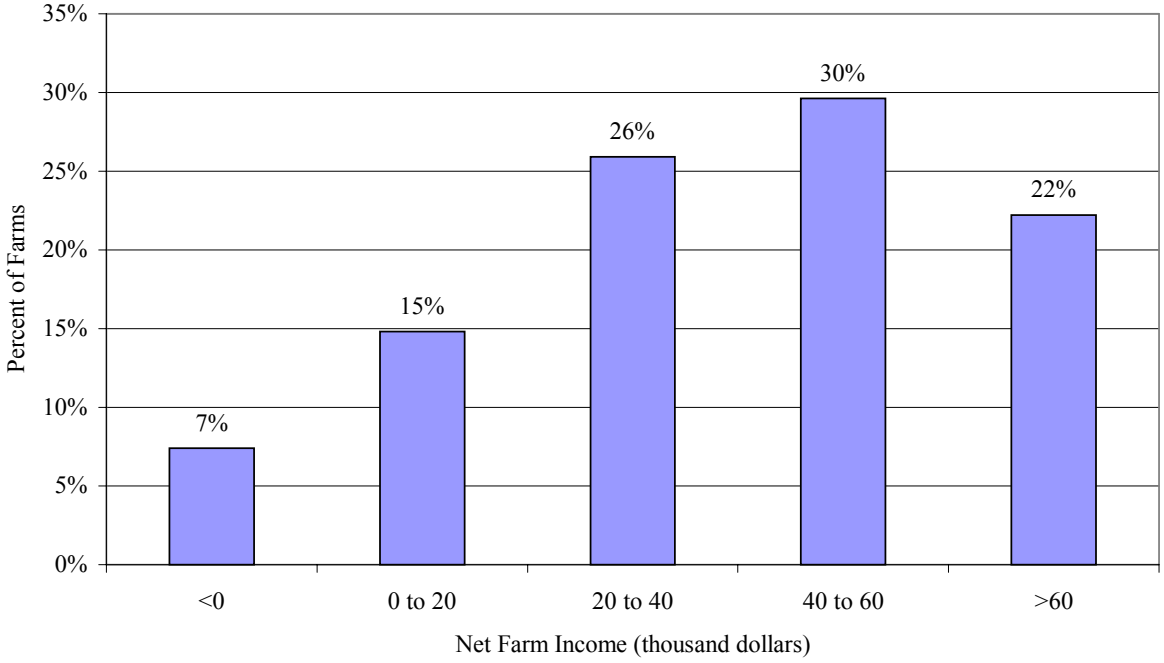
The chart below shows the relationship between net farm income per cow (without appreciation) and pounds of milk sold per cow. Higher new farm incomes can be achieved across a range of production levels as a result of different management systems, such as grazing, being utilized by the participating dairies.

NET FARM INCOME PER COW AND MILK PER COW
27 Intensive Grazing Farms, 2003



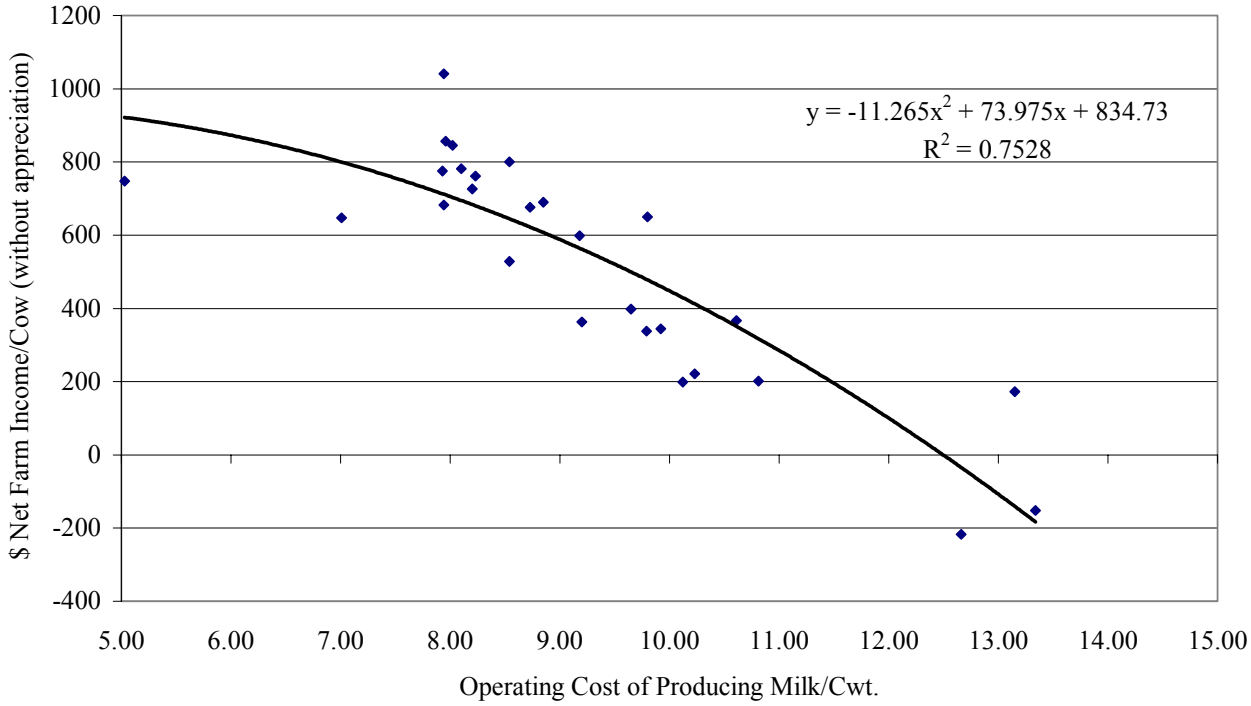
Net farm income without appreciation averaged $44,872 on these 27 farms in 2003. The range in net farm income without appreciation was from less than $-9,000 to more than $175,000. Net farm income was less than $20,000 on 22 percent of the farms, between $20,000 and $60,000 on 56 percent of the farms, while 22 percent showed net farm income of $60,000 or more.

DISTRIBUTION OF NET FARM INCOME WITHOUT APPRECIATION
27 Intensive Grazing Farms, 2003



The importance of cost control and its impact on farm profitability are illustrated in the chart below. As the operating cost of producing milk per hundreweight increased, net farm income per cow fell.

NET FARM INCOME/COW & OPERATING COST OF PRODUCING MILK/CWT.
27 Intensive Grazing Farms, 2003



Labor and management income is the return which farm operators receive for their labor and management used in the farm business. Appreciation is not included as part of the return to labor and management because it results from ownership of assets rather than management of the farm business. Labor and management income is calculated by deducting a charge for family labor unpaid and the opportunity cost of using equity capital, at a real interest rate of five percent, from net farm income excluding appreciation. The interest charge of five percent reflects the long-term average rate of return above inflation that a farmer might expect to earn in comparable risk investments.

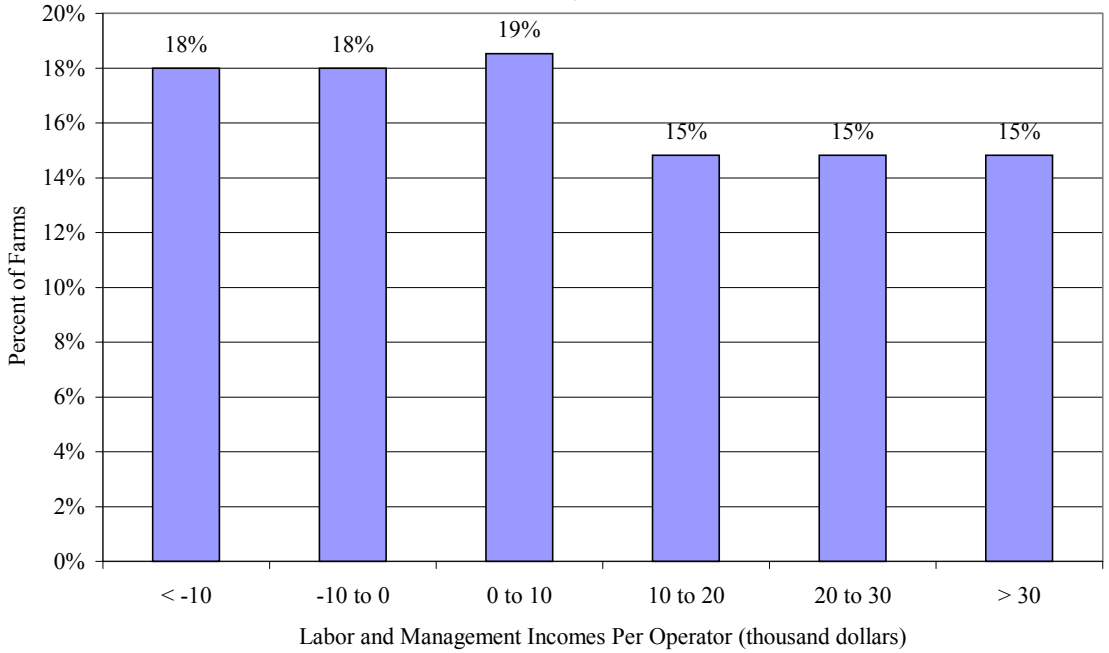
LABOR AND MANAGEMENT INCOME
Intensive Grazing Dairy Farms, 2003

Item	27 Grazing Dairy Farms[14]	10 Above Average Farms[14]	10 Below Average Farms[14]
Net farm income without appreciation	$ 44,872	$ 50,092	$ 40,531
Family labor unpaid @ $2,200 per month	- 10,234	- 7,392	- 9,878
Interest on average equity capital @ 5% real rate	- 21,530	- 20,152	- 25,553
Labor & Management Income per farm	$ 13,108	$ 22,548	$ 5,100
Labor & Management Income per Operator/Manager	$ 9,638	$ 16,702	$ 3,984
Labor & Management Income per Operator per Cow	$ 96	$ 253	$ 27

[14]See page 1 for a description of these groups of farms.

Labor and management income per operator averaged $9,638 on these 27 farms in 2003. The range in labor and management income per operator was from less than $-56,000 to more than $110,000. Returns to labor and management were less than $0 on 36 percent of the farms. Labor and management income per operator was between $0 and $20,000 on 34 percent of the farms while 30 percent showed labor and management incomes of $20,000 or more per operator.

DISTRIBUTION OF LABOR & MANAGEMENT INCOMES PER OPERATOR
27 Intensive Grazing Farms, 2003



The distribution of labor and management income per operator on grazing farms is very similar to the distribution for all farms across the state that participate in the DFBS project. A large percentage of farms fall near $0 to $20,000 with a considerable percentage less than zero. One comparison to make to the state distribution is the percentage of farms that were above $20,000 labor and management income per operator. For the intensive grazing farms, 30% of the farms had returns that were over $20,000, while for 170 farms across the state, 18% had returns greater than $20,000 in 2003.

Return on equity capital measures the net return remaining for the farmer's equity or owned capital after a charge has been made for the owner-operator's labor and management. The earnings or amount of net farm income allocated to labor and management is the opportunity cost of operators' labor and management estimated by the cooperators. Return on equity capital is calculated with and without appreciation. The rate of return on equity capital is determined by dividing the amount returned by the average farm net worth or equity capital. Return on total capital is calculated by adding interest paid to the return on equity capital and then dividing by average farm assets to calculate the rate of return on total capital. Net farm income from operations ratio is net farm income (without appreciation) divided by total accrual receipts.

RETURN ON EQUITY CAPITAL AND RETURN ON TOTAL CAPITAL
Intensive Grazing Dairy Farms, 2003

Item	27 Grazing Dairy Farms[15]	10 Above Average Farms[15]	10 Below Average Farms[15]
Net farm income with appreciation	$ 62,661	$ 63,645	$ 58,432
Family labor unpaid @$2,200 per month	- 10,234	- 7,392	- 9,878
Value of operators' labor & management	- 33,593	- 34,000	- 34,200
Return on equity capital with appreciation	$ 18,834	$ 22,253	$ 14,354
Interest paid	+ 9,149	+ 4,882	+ 14,859
Return on total capital with appreciation	$ 27,983	$ 27,135	$ 29,213
Return on equity capital without appreciation	$ 1,045	$ 8,700	$ -3,547
Return on total capital without appreciation	$ 10,194	$ 22,253	$ 11,312
Rate of return on average equity capital:			
with appreciation	4.4%	5.5%	2.8%
without appreciation	0.2%	2.2%	-0.7%
Rate of return on average total capital:			
with appreciation	4.5%	5.3%	3.6%
without appreciation	1.6%	2.7%	1.4%
Net farm income from operations ratio	0.17	0.24	0.12

[15]See page 1 for a description of these groups of farms.

Farm and Family Financial Status

The first step in evaluating the financial position of the farm is to construct a balance sheet which identifies and values all the assets and liabilities of the business. The second step is to evaluate the relationship between assets, liabilities, and net worth and changes that occurred during the year.

Financial lease obligations are included in the balance sheet. The present value of all future payments is listed as a liability since the farmer is committed to make the payments by signing the lease. The present value is also listed as an asset, representing the future value the item has to the business. For 2003, lease payments were discounted by 5.5 percent to obtain their present value.

Advanced government receipts are included as current liabilities. Government payments received in 2003 that are for participation in the 2004 program are the end year balance and payments received in 2002 for participation in the 2003 program are the beginning year balance.

Current Portion or principal due in the next year for intermediate and long term debt is included as a current liability.

2003 FARM BUSINESS & NONFARM BALANCE SHEET

27 Intensive Grazing Dairy Farms, 2003

Farm Assets	Jan. 1	Dec. 31	Farm Liabilities & Net Worth	Jan. 1	Dec. 31
Current			Current		
Farm cash, checking & savings	$ 7,552	$ 5,479	Accounts payable	$ 6,962	$ 7,793
Accounts receivable	14,858	16,122	Operating debt	6,978	4,575
Prepaid expenses	198	154	Short Term	772	1,855
Feed & supplies	35,710	42,691	Advanced govt. receipts	0	0
			Current Portion:		
			Intermediate	17,740	18,307
			Long Term	8,887	8,144
Total Current	$ 58,318	$ 64,446	Total Current	$ 41,339	$ 40,674
Intermediate			Intermediate		
Dairy cows:			Structured debt		
owned	$ 106,628	$ 109,530	1-10 years	$ 67,808	$ 60,222
leased	77	0	Financial lease		
Heifers	52,553	57,913	(cattle/machinery)	1,290	972
Bulls & other livestock	3,775	3,454	Farm Credit stock	1,450	1,679
Mach. & equip. owned	115,498	120,582	Total Intermediate	$ 70,548	$ 62,873
Mach. & equip. leased	1,213	972			
Farm Credit stock	1,450	1,679			
Other stock/certificate	5,523	5,902			
Total Intermediate	$ 286,717	$ 300,032			
			Long Term		
Long Term			Structured debt		
Land & buildings:			>10 years	$ 82,732	$ 97,835
owned	$ 256,326	$ 291,369	Financial lease		
leased	0	0	(structures)	0	0
Total Long Term	$ 256,326	$ 291,369	Total Long Term	$ 82,732	$ 97,835
			Total Farm Liab.	$ 194,619	$ 201,382
Total Farm Assets	$ 601,361	$ 655,847	FARM NET WORTH	$ 406,742	$ 454,465

Nonfarm Assets, Liabilities & Net Worth (Average of 19 farms reporting)

Assets	Jan. 1	Dec. 31	Liabilities & Net Worth	Jan. 1	Dec. 31
Personal cash, checking & savings	$ 6,326	$ 9,222	Nonfarm Liabilities	$ 173	$ 0
Cash value life insurance	12,031	11,741			
Nonfarm real estate	13,763	14,182			
Auto (personal share)	7,548	6,500			
Stocks & bonds	19,161	24,815			
Household furnishings	12,842	12,895			
All other nonfarm assets	5,895	10,262			
Total Nonfarm Assets	$ 77,566	$ 89,617	NONFARM NET WORTH	$ 77,393	$ 89,617

Farm & Nonfarm Assets, Liabilities, and Net Worth[16]	Jan. 1	Dec. 31
Total Assets	$678,927	$ 745,464
Total Liabilities	194,792	201,382
TOTAL FARM & NONFARM NET WORTH	$ 484,135	$ 544,082

[16]Assumes that average nonfarm assets and liabilities for the nonreporting farms were the same as for those reporting.

Balance sheet analysis involves examination of relative asset and debt levels for the business. Percent equity is calculated by dividing end of year net worth by end of year assets and multiplying by 100. The debt to asset ratio is compiled by dividing liabilities by assets. Low debt to asset ratios reflect business solvency and the potential capacity to borrow. The leverage ratio is the dollars of debt per dollar of equity, computed by dividing total farm liabilities by farm net worth. Debt levels per productive unit represent old standards that are still useful if used with measures of cash flow and repayment ability. A current ratio that has been falling or is less than 1.5 warrants additional evaluation. An adequate amount of working capital will be related to the size of the farm business.

BALANCE SHEET ANALYSIS
Intensive Grazing Dairy Farms, 2003

Item	27 Grazing Dairy Farms[17]	10 Above Average Farms[17]	10 Below Average Farms[17]
Financial Ratios - Farm:			
Percent equity	69%	81%	64%
Debt/asset ratio: total	0.31	0.19	0.36
long-term	0.34	0.18	0.41
intermediate/current	0.28	0.20	0.32
Leverage Ratio	0.44	0.28	0.56
Current Ratio	1.58	3.73	0.97
Working Capital: $23,772, As % of Expenses	11%	($26,938) 17%	($-2,252) -1%
Farm Debt Analysis:			
Accounts payable as % of total debt	4%	2%	6%
Long-term liabilities as a % of total debt	49%	38%	52%
Current & inter. liabilities as a % of total debt	51%	51%	48%
Cost of term debt (weighted average)	4.7%	4.7%	4.8%

	27 Grazing Dairy Farms		10 Above Average Farms		10 Below Average Farms	
Farm Debt Levels:	Per Cow	Per Tillable Acre Owned	Per Cow	Per Tillable Acre Owned	Per Cow	Per Tillable Acre Owned
Total farm debt	$ 2,014	$ 1,398	$ 1,526	$ 793	$ 2,036	$ 1,750
Long-term debt	978	679	727	367	1,051	904
Intermediate & long term	1,607	1,116	1,172	635	1,564	1,345
Intermediate & current debt	1,035	719	790	466	984	846

[17] See page 1 for a description of these groups of farms.

Farm inventory balance is an accounting of the value of assets used on the balance sheet and the changes that occur from the beginning to end of year. Changes in the livestock inventory are included in the dairy analysis. Net investment indicates whether the capital stock is being expanded (positive) or depleted (negative).

FARM INVENTORY BALANCE
27 Intensive Grazing Dairy Farms, 2003

Item	Real Estate	Machinery & Equipment
Value beginning of year	$ 256,326	$ 115,498
Purchases	$ 36,671[18]	$ 14,727
Gift & inheritance	+ 1,852	+ 0
Lost capital	- 5,312	
Sales	- 0	- 784
Depreciation	- 6,291	- 14,584
Net investment	= 26,918	= -641
Appreciation	+ 8,125	+ 5,725
Value end of year	$ 291,369	$ 120,582

[18] $18,624 land and $18,047 building and/or depreciable improvements.

The Statement of Owner Equity has two purposes. It allows (1) verification that the accrual income statement and market value balance sheet are consistent (in accountants terms, they reconcile) and (2) identification of the causes of change in equity that occurred on the farm during the year. The Statement of Owner Equity allows you to determine to what degree the change in equity was caused by (1) earnings from the business, and nonfarm income, in excess of withdrawals being retained in the business (called retained earnings), (2) outside capital being invested in the business or farm capital being removed from the business (called contributed/withdrawn capital) , (3) increases or decreases in the value (price) of assets owned by the business (called change in valuation equity), and (4) the error in the business cash flow accounting.

Retained earnings is an excellent indicator of farm generated financial progress.

STATEMENT OF OWNER EQUITY (RECONCILIATION)
Intensive Grazing Dairy Farms, 2003

Item	27 Grazing Dairy Farms[19]		10 Above Average Farms[19]		10 Below Average Farms[19]	
Beginning of year farm net worth		$ 406,742		$ 382,042		$ 484,762
Net farm income w/o appreciation	$ 44,872		$ 50,092		$ 40,531	
+Nonfarm cash income	+ 9,233		+ 9,614		+ 5,646	
-Personal withdrawals & family expenditures excluding nonfarm borrowings	- 37,200		- 42,937		- 34,387	
RETAINED EARNINGS		+$ 16,905		+$ 16,769		+$ 11,790
Nonfarm noncash transfers to farm	$ 1,852		$ 5,000		$ 0	
+Cash used in business from nonfarm capital	+ 16,833		+ 8,684		+ 29,050	
-Note or mortgage from farm real estate sold (nonfarm)	- 0		- 0		- 0	
CONTRIBUTED/ WITHDRAWN CAPITAL		+$ 18,685		+$ 13,684		+$ 29,050
Appreciation	$ 17,789		$ 13,553		$ 17,901	
-Lost capital	- 5,312		- 1,870		- 5,242	
CHANGE IN VALUATION EQUITY		+$ 12,477		+$ 11,683		+$ 12,659
IMBALANCE/ERROR		- 344		- 128		- 925
End of year net worth[20]		=$454,465		=$424,050		=$537,336
Change in Net Worth						
Without appreciation		$ 29,934		$ 28,455		$ 34,673
With appreciation		$ 47,723		$ 42,008		$ 52,574

[19]See page 1 for a description of these groups of farms.
[20]May not add due to rounding.

Cash Flow Statement

Completing an annual cash flow statement is an important step in understanding the sources and uses of funds for the business. Understanding last year's cash flow is the first step toward planning and managing cash flow for the current and future years.

The annual cash flow statement is structured to show net cash provided by operating activities, investing activities, financing activities and from reserves. All cash inflows and outflows, including beginning and end balances, are included. Therefore, the sum of net cash provided from all four activities should be zero. Any imbalance is the error from incorrect accounting of cash inflows/outflows. You should be aware that all profitability measures may be affected by this error.

ANNUAL CASH FLOW STATEMENT
27 Intensive Grazing Dairy Farms, 2003

Item			Average	
Cash Flow from Operating Activities				
	Cash farm receipts	$ 256,820		
-	Cash farm expenses	200,669		
-	Extraordinary expense	0		
=	Net cash farm income		$ 56,151	
	Personal withdrawals & family expenses including nonfarm debt payments	$ 37,200		
-	Nonfarm income	9,233		
-	Net cash withdrawals from the farm		$ 27,967	
=	Net Provided by Operating Activities			$ 28,184
Cash Flow From Investing Activities				
	Sale of assets: machinery	$ 784		
	+ real estate	0		
	+ other stock & cert.	290		
=	Total asset sales		$ 1,074	
	Capital purchases: expansion livestock	$ 2,027		
	+ machinery	14,727		
	+ real estate	36,671		
	+ other stock& cert.	415		
-	Total invested in farm assets		$ 53,840	
=	Net Provided by Investment Activities			$ -52,766
Cash Flow From Financing Activities				
	Money borrowed (intermediate & long term)	$ 36,003		
+	Money borrowed (short term)	1,266		
+	Increase in operating debt	0		
+	Cash from nonfarm capital used in business	16,833		
+	Money borrowed - nonfarm	0		
=	Cash inflow from financing		$ 54,102	
	Principal payments (intermediate & long term)	$ 28,662		
+	Principal payments (short term)	183		
+	Decrease in operating debt	2,403		
-	Cash outflow for financing		$ 31,248	
=	Net Provided by Financing Activities			$ 22,854
Cash Flow From Reserves				
	Beginning farm cash, checking & savings		$ 7,552	
-	Ending farm cash, checking & savings		5,479	
=	Net Provided from Reserves			$ 2,073
Imbalance (error)				$ 345

Repayment Analysis

A valuable use of cash flow analysis is to compare the debt payments planned for the last year with the amount actually paid. The measures listed below provide a number of different perspectives on the repayment performance of the business. However, the critical question to many farmers and lenders is whether planned payments can be made in 2004. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 2004 debt payments shown below.

FARM DEBT PAYMENTS PLANNED
Same Intensive Grazing Dairy Farms, 2002 & 2003

	Same 23 Grazing			Same 7 Above Average Farms			Same 9 Below Average Farms		
	2003 Payments		Planned	2003 Payments		Planned	2003 Payments		Planned
Debt Payments	Planned	Made	2004	Planned	Made	2004	Planned	Made	2004
Long term	$ 9,867	$ 13.622	$ 13,142	$ 8,981	$ 9,740	$ 9,670	$12,113	$ 19,912	$ 15,225
Intermediate term	19,852	25,924	24,243	10,998	13,225	11,860	27,061	35,204	36,885
Short term	859	328	1,678	1,886	150	2,000	566	561	2,733
Operating (net reduction)	3,319	4,150	424	529	296	1,271	7,967	8,408	0
Accounts Pay. (net reduction)	630	407	88	0	324	2	1,533	787	222
Total	$ 34,527	$ 44,431	$39,575	$ 22,393	$ 23,735	$ 24,803	$49,240	$64,872	$ 55,065
Per cow	$ 326	$ 419		$ 334	$ 354		$ 322	$ 424	
Per cwt. 2003 milk	$ 2.11	$ 2.72		$ 1.76	$ 1.86		$ 2.35	$ 3.10	
Percent of total 2003 farm receipts	12%	16%		10%	11%		14%	18%	
Percent of 2003 milk receipts	15%	20%		13%	14%		17%	22%	

The coverage ratios measure the ability of the farm business to meet its planned debt payment schedule. The ratios show the percentage of payments planned for 2003 (as of December 31, 2002) that could have been made with the amount available for debt service in 2003. Farmers who did not participate in DFBS in 2002 have their 2003 coverage ratios based on planned debt payments for 2004.

COVERAGE RATIOS
Same Intensive Grazing Dairy Farms, 2002 & 2003

Item	Average	Item	Average
Same 23 Grazing Dairy Farms, 2002 & 2003			
(A)=Amount Available for Debt Service	$ 39,103	(A')=Repayment Capacity	$ 48,017
(B)=Debt Payments Planned for 2003	$ 34,527	(B)=Debt Payments Planned for 2003	$ 34,527
(A/B)=Cash Flow Coverage Ratio for 2003	1.13	(A'/B)=Debt Coverage Ratio for 2003	1.39
Same 7 Above Average Farms, 2002 & 2003			
(A)=Amount Available for Debt Service	$ 21,889	(A')=Repayment Capacity	$ 34,275
(B)=Debt Payments Planned for 2003	$ 22,393	(B)=Debt Payments Planned for 2003	$ 22,393
(A/B)=Cash Flow Coverage Ratio for 2003	0.98	(A'/B)=Debt Coverage Ratio for 2003	1.53
Same 9 Below Average Farms, 2002 & 2003			
(A)=Amount Available for Debt Service	$ 52,223	(A')=Repayment Capacity	$ 56,975
(B)=Debt Payments Planned for 2003	$ 49,240	(B)=Debt Payments Planned for 2003	$ 49,240
(A/B)=Cash Flow Coverage Ratio for 2003	1.06	(A'/B)=Debt Coverage Ratio for 2003	1.160

ANNUAL CASH FLOW WORKSHEET

Intensive Grazing Dairy Farms, 2003

Item	27 Grazing Dairy Farms		10 Above Average Farms		10 Below Average Farms	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Average no. of cows	100		66		145	
Total cwt. of milk sold		15,637		12,342		20,004
Accrual Operating Receipts						
Milk	$ 2,147	$ 13.73	$ 2,534	$ 13.55	$ 1,938	$ 14.05
Dairy cattle	130	0.83	224	1.20	114	0.82
Dairy calves	66	0.42	24	0.13	96	0.69
Other livestock	9	0.06	5	0.03	6	0.04
Crops	81	0.52	79	0.42	50	0.36
Misc. Receipts	262	1.67	330	1.76	213	1.54
Total	$ 2,696	$ 17.23	$ 3,196	$ 17.09	$ 2,417	$ 17.50
Accrual Operating Expenses						
Hired labor	$ 220	$ 1.40	$ 249	$ 1.33	$ 220	$ 1.60
Dairy grain & concentrate	614	3.93	682	3.65	559	4.05
Dairy roughage	81	0.52	75	0.40	72	0.52
Nondairy feed	1	0.01	0	0.00	1	0.01
Professional nutritional services	1	0.01	0	0.00	0	0.00
Mach. hire, rent & lease	47	0.30	30	0.16	55	0.40
Mach. repair & vehicle expense	133	0.85	164	0.87	111	0.80
Fuel, oil & grease	62	0.39	72	0.39	54	0.39
Replacement livestock	35	0.22	30	0.16	46	0.34
Breeding	33	0.21	47	0.25	27	0.20
Vet & medicine	59	0.38	60	0.32	53	0.39
Milk marketing	144	0.92	197	1.05	135	0.98
Bedding	12	0.08	17	0.09	9	0.06
Milking supplies	49	0.31	52	0.28	49	0.36
Cattle lease	6	0.04	3	0.02	9	0.07
Custom boarding	13	0.08	10	0.05	7	0.05
bST expense	11	0.07	7	0.04	13	0.09
Livestock professional fees	8	0.05	16	0.09	2	0.01
Other livestock expense	33	0.21	49	0.26	25	0.18
Fertilizer & lime	56	0.36	51	0.27	62	0.45
Seeds & plants	24	0.16	31	0.17	16	0.11
Spray & other crop expense	14	0.09	22	0.12	10	0.07
Crop professional fees	0	0.00	0	0.00	0	0.00
Land, bldg., fence repair	34	0.22	47	0.25	27	0.19
Taxes	58	0.37	73	0.39	53	0.39
Real estate rent & lease	50	0.32	17	0.09	62	0.45
Insurance	38	0.25	54	0.29	31	0.22
Utilities	65	0.42	70	0.01	61	0.44
Miscellaneous	26	0.17	38	0.20	21	0.15
Total Less Interest Paid	$ 1,927	$ 12.32	$ 2,158	$ 11.54	$ 1,790	$ 12.98
Net Accrual Operating Income		Total		Total		Total
(without interest paid)		$ 76,923		$ 68,444		$ 90,915
- Change in livestock & crop invent.[21]		11,519		7,880		14,411
- Change in accounts receivable		1,262		2,886		-366
- Change in feed & supply inventory[22]		-327		1,929		-1,205
+ Change in accounts payable[23]		844		-157		1,789
NET CASH FLOW		$ 65,313		$ 55,592		$ 79,864
- Net family withdrawals		- 27,967		- 33,323		- 28,741
Available for Farm		$ 37,346		$ 22,269		$ 51,123
- Farm debt payments		- 42,104		- 23,437		- 63,052
Available for Farm Investment		$ -4,758		$ -1,168		$-11,929
- Capital purchases		$ 53,840		$ 22,783		$ 60,849
Additional Capital Needed		$ 58,598		$ 23,951		$ 72,778

[21]Includes change in advance government receipts. [22]Includes change in prepaid expenses. [23]Excludes change in interest account payable.

Cropping Analysis

The cropping program is an important part of the dairy farm business and often represents opportunities for improved productivity and profitability. A complete evaluation of what the available land resources are, how they are being used, how well crops are producing, and what it costs to produce them is important to evaluating alternative cropping and feed purchasing alternatives.

LAND RESOURCES AND CROP PRODUCTION
Intensive Grazing Dairy Farms, 2003

Item	27 Grazing Dairy Farms			10 Above Average Farms			10 Below Average Farms		
Land	Owned	Rented	Total	Owned	Rented	Total	Owned	Rented	Total
Tillable	144	126	270	128	67	195	171	205	376
Nontillable	41	11	52	38	6	44	38	15	53
Other nontill.	109	15	124	126	20	146	131	19	150
Total	294	152	446	292	93	385	340	239	579
Crop Yields	Farms	Acres[24]	Prod/Acre	Farms	Acres[24]	Prod/Acre	Farms	Acres[24]	Prod/Acre
Hay crop	25	161	3.7 tn DM	9	132	2.2 tn DM	10	198	3.0 tn DM
Corn silage	18	42	15.3 tn	6	31	15.7 tn	7	40	16.0 tn
			5.4 tn DM			5.5 tn DM			5.5 tn DM
Other forage	3	20	1.0 tn DM	2	28	0.9 tn DM	0	0	0.0 tn DM
Total forage	25	193	3.1 tn DM	9	159	2.8 tn DM	10	226	3.3 tn DM
Corn grain	7	35	115 bu	2	21	112 bu	3	35	104 bu
Oats	2	26	33 bu	0	0	0 bu	0	0	0 bu
Wheat	0	0	0 bu	0	0	0 bu	0	0	0 bu
Other crops	2	11		0	0		2	11	
Tillable pasture	21	89		7	59		9	130	
Idle	10	26		2	22		6	25	
Total Tillable Acres	27	270		10	195		10	376	

[24]This column represents the average acreage for the farms producing that crop. For the 27 New York dairy farms, average acreages including those farms not producing were hay crop 149, corn silage 28, corn grain 9, oats 2, wheat 1, tillable pasture 69, and idle 9.

Average crop acres and yields compiled for the region are for the farms reporting each crop. Yields of forage crops have been converted to tons of dry matter using dry matter coefficients reported by the farmers. Grain production has been converted to bushels of dry grain equivalent based on dry matter information provided.

The following crop/dairy ratios indicate the relationship between forage production, forage production resources, and the dairy herd.

CROP/DAIRY RATIOS
Intensive Grazing Dairy Farms, 2003

Item	27 Grazing Dairy Farms[25]	10 Above Average Farms[25]	10 Below Average Farms[25]
Total tillable acres per cow	2.70	2.95	2.59
Total forage acres per cow	1.79	1.68	1.56
Harvested forage dry matter, tons per cow	5.56	6.12	5.15

[25]See page 1 for a description of these groups of farms.

Cropping Analysis (continued)

A number of cooperators have allocated crop expenses among the hay crop, corn, and other crops produced. Fertilizer and lime, seeds and plants, and spray and other crop expenses have been computed per acre and per production unit for hay and corn. Additional expense items such as fuels, labor, and machinery repairs are not included. Intensive grazing was used by all farms reported in the below tables.

CROP RELATED ACCRUAL EXPENSES

Intensive Grazing Dairy Farms Reporting, 2003

Item	Total Per Till. Acre	All Corn Per Acre	Corn Silage Per Ton DM	Corn Grain Per Dry Sh. Bu.	Hay Crop Per Acre	Hay Crop Per Ton DM	Pasture Per Till Acre	Pasture Per Total Acre
All Grazing Farms								
No. of farms reporting	27	2			3		4	
Ave. number of acres	270	65			139		34	144
Fert. & lime	$ 20.77	$ 32.00	$ 6.44	$ 0.32	$ 9.88	$ 4.93	$ 52.93	$ 21.48
Seeds & plants	8.98	48.20	9.80	0.45	4.67	1.94	7.43	5.70
Spray & other	5.25	25.02	4.94	0.28	6.91	2.49	0.00	0.00
TOTAL	$ 35.00	$ 105.22	$ 21.18	$ 1.05	$ 21.46	$ 9.36	$ 60.36	$ 27.18
Above Average Grazing Farms								
No. of farms reporting	10	2			2		2	
Ave. number of acres	195	32			148		48	98
Fert. & lime	$ 22.19	$ 19.11	$ 3.47	$ 0.16	$ 11.79	$ 6.04	$ 46.58	$ 32.02
Seeds & plants	9.72	26.60	4.82	0.23	3.50	1.35	7.43	7.43
Spray & other	7.47	16.81	3.05	0.14	10.36	3.74	0.00	0.00
TOTAL	$ 39.38	$ 62.52	$ 11.34	$ 0.53	$ 25.65	$ 11.13	$ 54.01	$ 39.45
Below Average Grazing Farms								
No. of farms Reporting	10	0			0		0	
Ave. number of acres	376	0			0		0	0
Fert. & lime	$ 23.91	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ 0.00
Seeds & plants	6.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spray & other	3.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	$ 33.94	$ 0.00	$ 0.00	0.00	$ 0.00	$ 0.00	$ 0.00	$ 0.00

Most machinery costs are associated with crop production and should be analyzed with the crop enterprise. Total machinery expenses include the major fixed costs (interest and depreciation), as well as the accrual operating costs. Although machinery costs have not been allocated to individual crops, they are shown below per total tillable acre.

ACCRUAL MACHINERY EXPENSES

Intensive Grazing Dairy Farms, 2003

Machinery Expense	27 Grazing Dairy[26] Total Expenses	27 Grazing Dairy[26] Per Till. Acre	10 Above Average Farms[26] Total Expenses	10 Above Average Farms[26] Per Till. Acre	10 Below Average Farms[26] Total Expenses	10 Below Average Farms[26] Per Till. Acre
Fuel, oil & grease	$ 6,170	$ 22.85	$ 4,766	$ 24.44	$ 7,967	$ 21.19
Mach. repair & vehicle exp.	13,262	49.12	10,795	55.36	16,051	42.69
Machine hire, rent & lease	4,741	17.56	1,954	10.02	7,868	20.93
Interest (5%)	5,957	22.06	5,026	25.77	6,841	18.19
Depreciation	14,584	54.01	10,149	52.05	19,833	52.75
Total	$ 44,714	$ 165.60	$ 32,690	$ 167.64	$ 58,560	$ 155.75

[26] See page 1 for a description of these groups of farms.

Dairy Analysis

Analysis of the dairy enterprise can reveal strengths and weaknesses of the dairy farm business. Information on this page should be used in conjunction with DHI and other dairy production information. Changes in dairy herd size and market values that occur during the year are identified in the table below. The change in inventory value without appreciation is attributed to physical changes in herd size and quality. Any change in inventory is included as an accrual farm receipt when calculating all of the profitability measures on pages 19 through 22.

DAIRY HERD INVENTORY

Intensive Grazing Dairy Farms, 2003

	Dairy Cows		Bred Heifers		Open Heifers		Calves	
Item	No.	Value	No.	Value	No.	Value	No.	Value
27 Grazing Dairy Farms[27]								
Beg. year (owned)	97	$ 106,628	26	$ 27,040	32	$ 20,710	13	$ 4,802
+ Change w/o apprec.		604		-295		-111		4,379
+ Appreciation		2,298		596		589		204
End year (owned)	98	$ 109,530	26	$ 27,340	29	$ 21,188	21	$ 9,385
End including leased	100							
Average number	100		72	(all age groups)				
10 Above Average Dairy Farms[27]								
Beg. year (owned)	63	$ 71,020	20	$ 19,531	15	$ 8,963	13	$ 5,392
+ Change w/o apprec.		3,320		1,683		-95		-577
+ Appreciation		3,260		548		310		270
End year (owned)	67	$ 77,600	22	$ 21,762	15	$ 9,178	12	$ 5,084
End including leased	67							
Average number	66		47	(all age groups)				
10 Below Average Dairy Farms[27]								
Beg. year (owned)	139	$ 151,805	39	$ 42,157	47	$ 29,010	16	$ 4,785
+ Change w/o apprec.		350		-5,971		3,470		11,035
+ Appreciation		-330		0		60		0
End year (owned)	142	$ 151,825	34	$ 36,186	43	$ 32,540	34	$ 15,820
End including leased	147							
Average number	145		103	(all age groups)				

[27] See page 1 for a description of these groups of farms.

Total milk sold and milk sold per cow are extremely valuable measures of size and productivity, respectively, on the dairy farm. These measures of milk output are based on pounds of milk marketed during the year.

MILK PRODUCTION

Intensive Grazing Dairy Farms, 2003

Item	27 Grazing Dairy Farms[28]	10 Above Average Dairy Farms[28]	10 Below Average Dairy Farms[28]
Total milk sold, lbs.	1,563,724	1,234,196	2,000,432
Milk sold per cow, lbs.	15,684	18,728	13,768
Average milk plant test, percent butterfat	3.78%	3.75%	3.81%

[28] See page 1 for a description of these groups of farms.

Monitoring and evaluating culling practices and experiences on an annual basis are important herd management tools. Culling rate can have an effect on both milk per cow and profitability.

ANIMALS LEAVING THE HERD

Intensive Grazing Dairy Farms, 2003

	27 Grazing Dairy Farms		10 Above Average Dairy Farms		10 Below Average Dairy Farms	
Item	Number	Percent[29]	Number	Percent[29]	Number	Percent[29]
Cows sold for beef	21	21.0	16	24.2	31	21.4
Cows sold for dairy	1	1.0	1	1.5	2	1.4
Cows died	5	5.0	2	3.0	10	6.9
Culling rate[30]		26.0		27.3		28.3

[29]Percent of average number of cows in the herd. [30]Cows sold for beef plus cows died.

The cost of producing milk has been compiled using the whole farm method and is featured in the following table. Accrual receipts from milk sales can be compared with the accrual costs of producing milk per cow and per hundredweight of milk. Using the whole farm method, operating costs of producing milk are estimated by deducting nonmilk accrual receipts from total accrual operating expenses including expansion livestock purchased. Purchased inputs cost of producing milk are the operating costs plus depreciation. Total costs of producing milk include the operating costs of producing milk plus depreciation on machinery and buildings, the value of unpaid family labor, the value of operators' labor and management, and the interest charge for using equity capital.

ACCRUAL RECEIPTS FROM DAIRY, COSTS OF PRODUCING MILK, AND PROFITABILITY

Intensive Grazing Dairy Farms, 2003

Item	27 Grazing Dairy Farms[31]		10 Above Average Dairy Farms[31]		10 Below Average Dairy Farms[31]	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Accrual Cost of Producing Milk						
Operating costs	$ 1,490	$ 9.53	$ 1,571	$ 8.40	$ 1,452	$ 10.53
Purchased inputs costs	$ 1,698	$ 10.86	$ 1,775	$ 9.49	$ 1,658	$ 12.02
Total Costs	$ 2,352	$ 15.04	$ 2,707	$ 14.48	$ 2,139	$ 15.50
Accrual Receipts From Milk	$ 2,147	$ 13.73	$ 2,534	$ 13.55	$ 1,938	$ 14.05
Net milk receipts	$ 2,003	$ 12.81	$ 2,337	$ 12.49	$ 1,803	$ 13.07
Net Farm Income without Appreciation	$ 449	$ 2.87	$ 759	$ 4.06	$ 280	$ 2.03
Net Farm Income with Appreciation	$ 627	$ 4.01	$ 964	$ 5.16	$ 403	$ 2.92

[31] See page 1 for a description of these groups of farms.

The accrual operating expenses most commonly associated with the dairy enterprise are listed in the table below. Evaluating these costs per unit of production enables an evaluation of the dairy enterprise.

DAIRY RELATED ACCRUAL EXPENSES

Intensive Grazing Dairy Farms, 2003

Item	27 Grazing Dairy Farms		10 Above Average Dairy Farms		10 Below Average Dairy Farms	
	Per Cow	Per Cwt.	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Purchased dairy grain & concentrate	$ 614	$ 3.93	$ 682	$ 3.65	$ 559	$ 4.05
Purchased dairy roughage	81	0.52	75	0.40	72	0.52
Total Purchased Dairy Feed	$ 695	$ 4.45	$ 757	$ 4.05	$ 631	$ 4.57
Purchased grain & conc. as % of milk receipts	29%		27%		29%	
Purchased feed & crop exp.	$ 791	$ 5.06	$ 861	$ 4.61	$ 718	$ 5.21
Purchased feed & crop exp. as % of milk receipts	36%		34%		37%	
Breeding	$ 33	$ 0.21	$ 47	$ 0.25	$ 27	$ 0.20
Veterinary & medicine	59	0.38	60	0.32	53	0.39
Milk marketing	144	0.92	197	1.05	135	0.98
Bedding	12	0.08	17	0.09	9	0.06
Milking supplies	49	0.31	52	0.28	49	0.36
Cattle lease	6	0.04	3	0.02	9	0.07
Custom boarding	13	0.08	10	0.05	7	0.05
bST expense	11	0.07	7	0.04	13	0.09
Livestock professional fees	8	0.05	16	0.09	2	0.01
Other livestock expense	33	0.21	49	0.26	25	0.18

Capital and Labor Efficiency Analysis

Capital efficiency factors measure how intensively the capital is being used in the farm business. Measures of labor efficiency are key indicators of management's success in generating products per unit of labor input.

CAPITAL EFFICIENCY
Intensive Grazing Dairy Farms, 2003

Item	Per Worker	Per Cow	Per Tillable Acre	Per Tillable Acre Owned
27 Grazing Dairy Farms[32]				
Farm capital	$ 231,957	$ 6,286	$ 2,328	$ 4,365
Real estate		2,738		1,902
Machinery & equipment	43,960	1,191	441	
Ratios:				
Asset Turnover Ratio	Operating Expense	Interest Expense		Depreciation Expense
0.46	0.72	0.03		0.07
10 Above Average Dairy Farms[32]				
Farm capital	$ 199,922	$ 7,694	$ 2,604	$ 3,967
Real estate		3,633		1,873
Machinery & equipment	39,574	1,523	515	
Ratios:				
Asset Turnover Ratio	Operating Expense	Interest Expense		Depreciation Expense
0.44	0.66	0.02		0.07
10 Below Average Dairy Farms[32]				
Farm capital	$ 274,946	$ 5,613	$ 2,164	$ 4,759
Real estate		2,500		2,120
Machinery & equipment	46,223	944	364	
Ratios:				
Asset Turnover Ratio	Operating Expense	Interest Expense		Depreciation Expense
0.33	0.76	0.04		0.09

[32] See page 1 for a description of these groups of farms.

Capital and Labor Efficiency Analysis (continued)

LABOR FORCE INVENTORY AND ANALYSIS
Intensive Grazing Dairy Farms, 2003

Labor Force	Months	Age	Years of Educ.	Value of Labor & Mgmt.
27 Grazing Dairy Farms				
Operator number 1	13.1	48	15	$ 28,333
Operator number 2	3.2	48	14	5,259
Family paid	3.8			
Family unpaid	4.7			
Hired	7.7			
Total	32.5	/ 12 = 2.71 Worker Equivalent		
		1.36 Operator/Manager Equivalent		
10 Above Average Dairy Farms				
Total Labor Force	30.4	/ 12 = 2.54 Worker Equivalent		
Operator's Labor		1.35 Operator/Manager Equivalent		
10 Below Average Dairy Farms				
Total Labor Force	35.5	/ 12 = 2.96 Worker Equivalent		
Operator's Labor		1.28 Operator/Manager Equivalent		

Labor Efficiency	27 Grazing Dairy Farms Total	27 Grazing Dairy Farms Per Worker	10 Above Average Dairy Farms Total	10 Above Average Dairy Farms Per Worker	10 Below Average Dairy Farms Total	10 Below Average Dairy Farms Per Worker
Cows, average number	100	37	66	26	145	49
Milk sold, pounds	1,563,724	577,020	1,234,196	485,904	2,000,432	675,822
Tillable acres	270	100	195	77	376	127

Labor Costs	27 Grazing Dairy Farms Per Cow	27 Grazing Dairy Farms Per Cwt.	10 Above Average Dairy Farms Per Cow	10 Above Average Dairy Farms Per Cwt.	10 Below Average Dairy Farms Per Cow	10 Below Average Dairy Farms Per Cwt.
Value of operator(s) labor ($2,200/mo.)	$ 359	$ 2.29	$ 540	$ 2.89	$ 232	$ 1.68
Family unpaid ($2,200/mo.)	102	0.65	112	0.60	68	0.49
Hired	220	1.40	249	1.33	220	1.60
Total Labor	$ 681	$ 4.34	$ 901	$ 4.82	$ 520	$ 3.77
Machinery Cost	$ 447	$ 2.86	$ 495	$ 2.65	$ 404	$ 2.93
Total Labor & Mach.	$ 1,128	$ 7.20	$ 1,396	$ 7.47	$ 924	$ 6.70
Hired labor expense per hired worker equivalent	$ 22,912		$ 18,043		$ 24,413	
Hired labor expense as % of milk sales	10.2%		9.8%		11.4%	

COMPARATIVE ANALYSIS OF THE FARM BUSINESS

Progress of the Farm Business

Comparing your business with average data from regional DFBS cooperators that participated in both of the last two years can be helpful to establishing your goals for these parameters. It is equally important for you to determine the progress your business has made over the past two or three years, to compare this progress to your goals, and to set goals for the future.

PROGRESS OF THE FARM BUSINESS
Same Intensive Grazing Dairy Farms, 2002 & 2003[33]

	Same 23 Grazing Dairy Farms		Same 7 Above Average Dairy Farms		Same 9 Below Average Dairy Farms	
Selected Factors	2002	2003	2002	2003	2002	2003
Size of Business						
Average number of cows	102	106	65	67	148	153
Average number of heifers	75	76	50	48	106	108
Milk sold, lbs.	1,646,581	1,635,642	1,244,591	1,273,405	2,113,159	2,092,407
Worker equivalent	2.75	2.74	2.50	2.48	2.98	3.05
Total tillable acres	265	275	175	179	366	388
Rates of Production						
Milk sold per cow, lbs.	16,205	15,469	19,148	18,885	14,310	13,646
Hay DM per acre, tons	2.4	2.3	2.2	2.2	2.9	2.7
Corn silage per acre, tons	12.1	9.9	10.8	9.9	12.9	9.7
Labor Efficiency						
Cows per worker	37	39	26	27	50	50
Milk sold/worker, lbs.	598,757	596,950	497,836	513,470	709,114	686,035
Cost Control						
Grain & conc. purchased as % of milk sales	28%	29%	26%	28%	28%	29%
Dairy feed & crop exp. per cwt. milk	$ 4.95	$ 5.13	$ 4.46	$ 4.79	$ 5.22	$ 5.20
Labor & mach. costs/cow	$ 1,083	$ 1,100	$ 1,445	$ 1,370	$ 878	$ 913
Operating cost of producing cwt. of milk	$ 9.29	$ 9.55	$ 9.07	$ 8.25	$ 9.51	$ 10.51
Capital Efficiency[34]						
Farm capital per cow	$ 5,669	$ 6,794	$ 6,790	$ 6,871	$ 5,203	$ 5,385
Mach. & equip. per cow	$ 1,106	$ 1,423	$ 1,456	$ 1,398	$ 846	$ 884
Asset turnover ratio	0.47	0.48	0.47	0.49	0.47	0.47
Profitability						
Net farm income w/o apprec.	$ 38,414	$ 46,554	$ 32,156	$ 53,395	$ 46,512	$ 43,393
Net farm income w/apprec.	$ 45,541	$ 63,579	$ 46,451	$ 61,135	$ 56,327	$ 62,463
Labor & mgt. income per operator/manager	$ 6,906	$ 10,826	$ 5,750	$ 21,475	$ 10,358	$ 5,269
Rate of return on equity capital w/appreciation	1.0%	5.1%	3.2%	7.6%	2.3%	3.4%
Rate of return on all capital w/appreciation	2.6%	5.0%	3.8%	7.1%	3.9%	4.0%
Financial Summary						
Farm net worth, end year	$ 392,994	$ 401,328	$ 346,462	$ 380,141	$ 476,422	$ 542,740
Debt to asset ratio	0.33	0.29	0.22	0.20	0.39	0.36
Farm debt per cow	$ 1,898	$ 1,913	$ 1,520	$ 1,373	$ 2,059	$ 1,978

[33]Farms participating both years.
[34]Average for the year.

RECEIPTS AND EXPENSES PER COW AND PER CWT.

Same 23 Intensive Grazing Dairy Farms, 2002 & 2003

	2002		2003	
Item	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Average Number of Cows	102		106	
Cwt. Of Milk Sold		16,466		16,356
ACCRUAL OPERATING RECEIPTS				
Milk	$ 2,087	$ 12.93	$ 2,116	$ 13.71
Dairy cattle	188	1.16	121	0.78
Dairy calves	40	0.25	69	0.45
Other livestock	15	0.09	11	0.07
Crops	-19	-0.12	82	0.53
Miscellaneous receipts	287	1.78	257	1.66
Total Receipts	$ 2,597	$ 16.09	$ 2,656	$ 17.20
ACCRUAL OPERATING EXPENSES				
Hired labor	$ 208	$ 1.29	$ 220	$ 1.43
Dairy grain & concentrate	578	3.58	610	3.96
Dairy roughage	89	0.55	89	0.58
Nondairy feed	2	0.01	1	0.01
Professional nutritional services	NA[35]	NA[35]	1	0.01
Machine hire/rent/lease	52	0.32	50	0.32
Mach. repair & vehicle exp.	138	0.85	130	0.84
Fuel, oil & grease	50	0.31	61	0.39
Replacement livestock	1	0.01	33	0.22
Breeding	29	0.18	32	0.21
Veterinary & medicine	50	0.31	57	0.37
Milk marketing	127	0.79	136	0.88
Bedding	13	0.08	11	0.07
Milking supplies	53	0.33	47	0.31
Cattle lease	2	0.01	6	0.04
Custom boarding	30	0.19	13	0.09
bST expense	12	0.07	12	0.08
Livestock professional fees	NA[35]	NA[35]	7	0.05
Other livestock expense	41	0.26	27	0.18
Fertilizer & lime	80	0.49	57	0.37
Seeds & plants	29	0.18	22	0.14
Spray/other crop expense	23	0.14	12	0.08
Crop professional fees	NA[35]	NA[35]	0	0.00
Land, building, fence repair	41	0.26	31	0.20
Taxes	49	0.30	52	0.34
Real estate rent/lease	54	0.33	53	0.34
Insurance	40	0.25	38	0.25
Utilities	58	0.36	64	0.41
Interest paid	111	0.68	91	0.59
Other professional fees	NA[35]	NA[35]	6	0.04
Miscellaneous	37	0.23	19	0.12
Total Operating Expenses	$ 1,997	$ 12.37	$ 1,991	$ 12.90
Expansion Livestock	13	0.08	22	0.15
Extraordinary Expense	NA[35]	NA[35]	0	0.00
Machinery Depreciation	131	0.81	141	0.91
Real Estate Depreciation	79	0.49	62	0.40
Total Expenses	$ 2,220	$ 13.75	$ 2,216	$ 14.36
Net Farm Income Without Appreciation	$ 377	$ 2.33	$ 440	$ 2.84

[35]NA = Not available in 2002 data. Expense was included in other categories.

RECEIPTS AND EXPENSES PER COW AND PER CWT.

Same 7 Above Average Intensive Grazing Dairy Farms, 2002 & 2003

	2002		2003	
Item	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Average Number of Cows	65		67	
Cwt. Of Milk Sold		12,446		12,734
ACCRUAL OPERATING RECEIPTS				
Milk	$ 2,465	$ 12.87	$ 2,548	$ 13.41
Dairy cattle	131	0.69	224	1.18
Dairy calves	55	0.29	24	0.13
Other livestock	0	0.00	10	0.05
Crops	-23	-0.12	75	0.39
Miscellaneous receipts	336	1.76	356	1.87
Total Receipts	$ 2,965	$ 15.49	$ 3,237	$ 17.03
ACCRUAL OPERATING EXPENSES				
Hired labor	$ 276	$ 1.44	$ 268	$ 1.41
Dairy grain & concentrate	644	3.36	705	3.71
Dairy roughage	95	0.50	101	0.53
Nondairy feed	0	0.00	0	0.00
Professional nutritional services	NA[36]	NA[36]	0	0.00
Machine hire/rent/lease	26	0.14	29	0.15
Mach. repair & vehicle exp.	201	1.05	170	0.89
Fuel, oil & grease	56	0.29	69	0.36
Replacement livestock	0	0.00	30	0.16
Breeding	44	0.23	54	0.28
Veterinary & medicine	66	0.35	60	0.31
Milk marketing	173	0.91	175	0.92
Bedding	7	0.04	9	0.05
Milking supplies	41	0.21	47	0.25
Cattle lease	0	0.00	4	0.02
Custom boarding	7	0.04	7	0.04
bST expense	7	0.04	10	0.05
Livestock professional fees	NA[36]	NA[36]	17	0.09
Other livestock expense	54	0.28	36	0.19
Fertilizer & lime	55	0.29	56	0.30
Seeds & plants	31	0.16	25	0.13
Spray/other crop expense	29	0.15	23	0.12
Crop professional fees	NA[36]	NA[36]	0	0.00
Land, building, fence repair	71	0.37	37	0.19
Taxes	65	0.34	65	0.34
Real estate rent/lease	32	0.17	20	0.10
Insurance	46	0.24	55	0.29
Utilities	65	0.34	70	0.37
Interest paid	96	0.50	73	0.38
Other professional fees	NA[36]	NA[36]	13	0.07
Miscellaneous	45	0.24	27	0.14
Total Operating Expenses	$ 2,235	$ 11.67	$ 2,258	$ 11.88
Expansion Livestock	2	0.01	0	0.00
Extraordinary Expense	NA[36]	NA[36]	0	0.00
Machinery Depreciation	154	0.80	140	0.74
Real Estate Depreciation	80	0.42	42	0.22
Total Expenses	$ 2,471	$ 12.90	$ 2,440	$ 12.84
Net Farm Income Without Appreciation	$ 495	$ 2.58	$ 797	$ 4.19

[36]NA = Not available in 2002 data. Expense was included in other categories.

RECEIPTS AND EXPENSES PER COW AND PER CWT.
Same 9 Below Average Intensive Grazing Dairy Farms, 2002 & 2003

	2002		2003	
Item	Per Cow	Per Cwt.	Per Cow	Per Cwt.
Average Number of Cows	148		153	
Cwt. Of Milk Sold		21,132		20,924
ACCRUAL OPERATING RECEIPTS				
Milk	$ 1,864	$ 13.06	$ 1,923	$ 14.06
Dairy cattle	186	1.30	110	0.80
Dairy calves	42	0.29	97	0.71
Other livestock	29	0.20	6	0.04
Crops	9	0.07	50	0.36
Miscellaneous receipts	263	1.84	202	1.48
Total Receipts	$ 2,394	$ 16.77	$ 2,388	$ 17.45
ACCRUAL OPERATING EXPENSES				
Hired labor	$ 208	$ 1.45	$ 219	$ 1.60
Dairy grain & concentrate	525	3.68	552	4.03
Dairy roughage	77	0.54	75	0.55
Nondairy feed	2	0.02	1	0.01
Professional nutritional services	NA[37]	NA[37]	0	0.00
Machine hire/rent/lease	55	0.38	58	0.42
Mach. repair & vehicle exp.	107	0.75	108	0.79
Fuel, oil & grease	43	0.30	55	0.40
Replacement livestock	2	0.01	44	0.32
Breeding	22	0.16	25	0.19
Veterinary & medicine	37	0.26	49	0.36
Milk marketing	115	0.81	135	0.99
Bedding	15	0.10	9	0.06
Milking supplies	61	0.43	48	0.35
Cattle lease	3	0.02	10	0.07
Custom boarding	38	0.26	8	0.05
bST expense	13	0.09	13	0.10
Livestock professional fees	NA[37]	NA[37]	2	0.02
Other livestock expense	30	0.21	21	0.15
Fertilizer & lime	103	0.72	62	0.45
Seeds & plants	25	0.17	15	0.11
Spray/other crop expense	15	0.11	7	0.05
Crop professional fees	NA[37]	NA[37]	0	0.00
Land, building, fence repair	26	0.18	26	0.19
Taxes	40	0.28	49	0.36
Real estate rent/lease	57	0.40	63	0.46
Insurance	36	0.25	29	0.21
Utilities	51	0.36	59	0.43
Interest paid	131	0.92	101	0.74
Other professional fees	NA[37]	NA[37]	5	0.03
Miscellaneous	36	0.25	15	0.11
Total Operating Expenses	$ 1,876	$ 13.14	$ 1,862	$ 13.62
Expansion Livestock	12	0.09	40	0.29
Extraordinary Expense	NA[37]	NA[37]	0	0.00
Machinery Depreciation	114	0.80	134	0.98
Real Estate Depreciation	78	0.54	68	0.50
Total Expenses	$ 2,080	$ 14.57	$ 2,104	$ 15.39
Net Farm Income Without Appreciation	$ 314	$ 2.20	$ 284	$ 2.06

[37]NA = Not available in 2002 data. Expense was included in other categories.

Grazing Farm Business Chart

The Farm Business Chart is a tool, which can be used in analyzing your business. Compare your business by drawing a line through or near the figure in each column, which represents your current level of performance. The five figures in each column represent the average of each 20 percent or quintile of farms included in the regional summary. Use this information to identify business areas where more challenging goals are needed.

FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS

27 Intensive Grazing Dairy Farms, 2003

Size of Business			Rate of Production			Labor Efficiency	
Worker Equiv-alent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
(14)[38]	(12)	(12)	(12)	(11)	(11)	(14)	(14)
4.37	231	3,233,530	21,726	3.3	20	57	861,699
3.03	88	1,566,925	18,524	2.8	18	33	595,992
2.20	65	1,123,220	16,382	2.3	15	29	509,665
1.97	49	966,491	14,919	2.0	13	25	424,533
1.56	41	593,853	12,386	1.6	8	19	286,202

Cost Control					
Grain Bought Per Cow	% Grain is of Milk Receipts	Machinery Costs Per Cow	Labor & Machinery Costs per Cow	Feed & Crop Expenses Per Cow	Feed & Crop Expenses Per Cwt. Milk
(12)	(12)	(14)	(14)	(12)	(12)
$485	24%	$292	$805	$593	$3.78
568	25	423	1,200	728	4.27
634	27	483	1,308	853	4.74
775	30	537	1,528	959	5.52
922	44	751	1,954	1,123	7.18

Value and Cost of Production			Profitability			
Milk Receipts Per Cow	Oper. Cost Milk Per Cwt.	Total Cost Production Per Cwt.	Net Farm Income w/Apprec.	Net Farm Inc. w/o Apprec.	Labor & Mgt. Inc. Per Oper.	Change in Net Worth w/Apprec.
(12)	(12)	(12)	(4)	(4)	(4)	(8)
$2,890	$7.17	$12.72	$135,336	$91,558	$50,856	$140,438
2,493	8.10	13.58	71,657	50,877	18,576	57,231
2,223	8.77	14.47	47,525	38,069	6,685	27,795
2,001	9.75	16.38	36,795	28,804	-3,835	7,696
1,701	11.80	21.22	5,884	4,738	-20,824	-15,000

[38]Page number of the participant's DFBS where the factor is located.

SUPPLEMENTARY INFORMATION

Each year DFBS cooperators volunteer to complete supplementary data collection forms looking at selected management aspects of the business or specific research areas being studied. This is in addition to the normal DFBS data collection form. Two areas that were examined this year were the source of dairy replacements and the breakdown of the milk income and marketing expenses. Following is a summary of this information.

SOURCE OF DAIRY REPLACEMENTS
48 New York Dairy Farms, 2003

Animals Entering Herd	Average
Number calving in 2003 for first time	185
Animals purchased, percent[39]	6%
Animals raised by farm, percent[40]	94%
Current Heifer Inventory	
Raised on dairy, percent	79%
Raised by a custom grower, percent	21%

[39]Animals purchased are animals purchased from a different farm and were not the farm's genetics.
[40]Animals raised by farm are animals that were born on the farm and entered the herd, which includes animals raised by the farm or custom grower.

On the average farm, 185 animals calved for the first time in 2003. The breakdown of these animals for source was 6 percent purchased and 94 percent raised by the farm. Of the current heifer inventory, 79 percent were raised on the dairy and 21 percent were being raised by a custom grower. There is increased interest in evaluating the dairy replacement enterprise.

Milk Income and Marketing Expense Breakdown

Starting January 1st, 2000, the Northeast switched to multiple components pricing, which changed the format of the milk check and how farmers received payment for their milk. To examine the breakdown of the gross milk income and the marketing expenses, 21 intensive grazing farms filled out a detailed form for all the different sources of income for milk sales and the milk marketing expenses on an accrual basis. This information is reported in the following two tables. The tables are divided into six different areas, each representing a different area of income or expenses.

The first section looks at the value of the milk components on a per cwt. basis. The second area looks at the Producer Price Differential. The third area looks at the premiums a farm receives. Any premiums not specifically noted as quality or volume related are included in market premiums. The fourth area looks at the expenses associated with marketing milk. A new line item in this section is the expenses associated with utilizing forward contracting or hedging programs to market milk, such as commission or broker fees. The fifth area is income from the compact program or from forward contracting or hedging programs. The sixth area is the patronage dividends or refunds from the milk cooperatives. Equity purchased in the milk cooperative utilizing a monthly deduction from the milk check or a percent of the patronage dividend is treated as a capital purchase and is not a milk marketing expense. The cumulative total for these six areas is the net price received on farms. Your net farm price can be found on page 12 of your farm's DFBS report.

The table on page 41 reports the averages for these different areas. The table on page 42 contains the range for each of the individual lines of the report. This table is in farm business chart format with each item sorted independently and ranked by fifths. Numbers for the different areas will not add to the totals for that quintile or to the net price received because the highest farms for each item were averaged, not the same farms throughout the six areas. This table shows the range of income and expenses received by farms for all the different areas.

For your individual farm, compare your accrual numbers following this same format to look at how you compare to other farms in your region and to identify possible areas to generate additional revenue.

AVERAGE[41] MILK INCOME AND MARKETING REPORT
21 Intensive Grazing Dairy Farms, 2003

	Pounds	Percent	Price/Pound	Total	$/Cwt of Milk
BASE FARM PRICE					
Butterfat	61,369.05	3.77%	$ 1.216	$ 74,630.30	$ 4.58
Protein	51,156.38	3.14%	$ 2.403	$122,913.00	$ 7.55
Solids	91,590.57	5.63%	$ 0.013	$ 1,147.67	$ 0.07
Total Component Contribution					$12.20
PPD	1,628,008.00			$ 15,292.86	$ 0.94
Base Farm Price					$ 13.14
Premiums					
Quality				$ 2,711.43	$ 0.17
Volume				$ 1,447.29	$ 0.09
Market Premiums				$ 5,614.24	$ 0.34
Total Premiums					$ 0.60
BASE FARM PRICE + PREMIUM					$ 13.74
Deductions					
Promo				$ 2,554.00	$ 0.16
Hauling + Stop Charges				$ 11,891.67	$ 0.73
Market Fees & Coop Dues				$ 1,135.14	$ 0.07
Total Deductions					$ 0.96
BASE FARM PRICE + PREMIUMS - DEDUCTIONS					$ 12.78
Marketing Programs					
Futures Contracts, Forward Contracting, Etc.				$ 526.24	$ 0.03
Total Marketing Income					$ 0.03
Patronage Dividends				$ 844.10	$ 0.05
NET PRICE RECEIVED ON FARM, ALL SOURCES					**$ 12.86**
PPD - Hauling, per cwt.					$ 0.21
PPD - Hauling + Market Premiums, per cwt.					$ 0.55

[41]Each calculation of an average is independent of all others. Therefore, math operations on the detail will not result in the totals. However, detail in the "$/Cwt of Milk" column will result in the totals.

MILK PRICE INFORMATION BY QUINTILE[42, 43]
(Each Category Sorted Independently)
21 Intensive Grazing Dairy Farms, 2003

	Lowest Quintile	←			Highest Quintile
Butterfat, %	3.47	3.67	3.72	3.79	4.08
Protein, %	2.93	2.98	3.03	3.11	3.37
Other Solids, %	5.09	5.61	5.65	5.67	5.88
Butterfat, $ per Cwt.	4.17	4.46	4.55	4.64	4.84
Protein, $ per Cwt.	6.69	6.96	7.10	7.39	8.09
Other solids, $ per Cwt.	0.03	0.05	0.07	0.08	0.18
Total Component Value per Cwt.	**$11.06**	**$11.46**	**$11.72**	**$12.04**	**$12.95**
PPD, $ per Cwt.	0.59	0.75	0.91	1.09	1.64
Base Farm Price per Cwt.	**$12.10**	**$12.44**	**$12.77**	**$13.24**	**$13.83**
Quality, $ per Cwt.	.00	.03	.16	.27	.48
Volume, $ per Cwt.	-.01	.00	.00	.07	.24
Market premium, $ per Cwt.	-.02	.03	.13	.24	.76
Total Premium, $ per Cwt.	**.19**	**.35**	**.46**	**.53**	**.97**
Base Farm Price + Premiums per Cwt.	**$12.41**	**$12.78**	**$13.37**	**$13.86**	**$14.53**
Promotion, $ per Cwt.	.12	.15	.15	.15	.20
Hauling, $ per Cwt.	.29	.54	.66	.89	1.33
Market fees & coop dues per Cwt.	.00	.05	.07	.09	.12
Total Marketing Expenses per Cwt.	**$ .51**	**$ .77**	**$ .88**	**$1.13**	**$1.54**
Base + Premiums – Deductions per Cwt.	**$11.43**	**$11.97**	**$12.29**	**$12.78**	**$13.52**
Futures contract, forward contracting, $ per Cwt.	.00	.00	.00	.00	.06
Total Marketing Income, $ per Cwt.	**$ .00**	**$ .00**	**$ .00**	**$ .00**	**$ .06**
Patronage Dividends, $ per Cwt.	**$ .00**	**$ .00**	**$ .00**	**$ .00**	**$ .30**
Net Price Received From All Sources, $ per Cwt.	**$11.42**	**$12.11**	**$12.46**	**$12.85**	**$13.58**
PPD - hauling, $ per Cwt.	**-0.04**	**0.16**	**0.27**	**0.32**	**0.51**
PPD - hauling + mkt premiums, $ per Cwt.	**0.12**	**0.28**	**0.40**	**0.54**	**1.06**

[42]Each calculation of an average is independent of all others. Therefore, math operations on the detail will not result in the totals.

[43]Holstein and Jersey herds are included.

IDENTIFY AND SET GOALS

If businesses are to be successful, they must have direction. Written goals help provide businesses with an identifiable direction over both the long and short term. Goal setting is as important on a dairy farm as it is in other businesses. Written goals are a tool which farm operators can use to ensure that the business continues to move in the desired direction. Goals should be SMART:

1. Goals should be **S**pecific.

2. Goals should be **M**easurable.

3. Goals should be **A**chievable but challenging.

4. Goals should be **R**ewarding.

5. Goals should be **T**imed with a designated date by which the goal will be achieved.

Goal setting on a dairy farm should be a process for writing down and agreeing on goals that you have already given some thought to. It is also important to remember that once you write out your goals they are not cast in concrete. If a change takes place which has a major impact on the farm business, the goals should be reworked to accommodate that change. Refer to your goals as often as necessary to keep the farm business progressing.

It is important to identify both objectives (long-range) and goals (short-range) when looking at the future of your farm business.

A suggested format for writing out your goals is as follows:

a. Begin with a mission statement which describes why the business exists based on the preferences and values of the owners.

b. Identify 4-6 objectives.

c. Identify SMART goals.

Worksheet for Setting Goals

I. Mission and Objectives

_____

_____

_____

_____

_____

_____

_____

_____

Worksheet for Setting Goals (Continued)

II. Goals

What	How	When	Who is Responsible

Summarize Your Business Performance

The Farm Business Chart on page 39 can be used to help identify strengths and weaknesses of your farm business. Identify three major strengths and three areas of your farm business that need improvement.

Strengths:	Needs improvement:

GLOSSARY AND LOCATION OF COMMON TERMS

Accounts Payable - Open accounts or bills owed to feed and supply firms, cattle dealers, veterinarians and other providers of farm services and supplies.

Accounts Receivable - Outstanding receipts from items sold or sales proceeds not yet received, such as the payment for December milk sales received in January.

Accrual Expenses - (defined on page 17)

Accrual Receipts - (defined on page 18)

Annual Cash Flow Statement - (defined on page 26)

Appreciation - (defined on page 19)

Asset Turnover Ratio - The ratio of total farm income to total farm assets, calculated by dividing total accrual operating receipts plus appreciation by average total farm assets.

Balance Sheet - A "snapshot" of the business financial position at a given point in time, usually December 31. The balance sheet equates the value of assets to liabilities plus net worth.

bST Usage - An estimate of the percentage of herd, on average, that was injected with bovine somatotropin during the year.

Capital Efficiency - The amount of capital invested per production unit. Relatively high investments per worker with low to moderate investments per cow imply efficient use of capital.

Cash From Nonfarm Capital Used in the Business - Transfers of money from nonfarm savings or investments to the farm business where it is used to pay operating expenses, make debt payments and/or capital purchases.

Cash Flow Coverage Ratio - (defined on page 27)

Cash Paid - (defined on page 16)

Cash Receipts - (defined on page 18)

Change in Accounts Payable - (defined on page 17)

Change in Accounts Receivable - (defined on page 18)

Change in Inventory - (defined on page 18)

Cost of Term Debt – A weighted average of the cost of borrowed capital to the farm. Calculate by multiplying end of year principal of each loan that is borrowed by the interest rate for each loan at that time. Add up each amount that is calculated for each loan and then divide by total amount of borrowed funds. Do not include accounts payable, operating debt or advanced government receipts. This information is found on pages 8 & 9 of the data entry form.

Culling Rate – (defined on page 31)

Current Portion - (defined on page 22)

Current Ratio – Measures the extent to which current farm assets, if liquidated, would cover current farm liabilities. Calculated as current farm assets at end year divided by current farm liabilities at end year.

Dairy (farm) - A farm business where dairy farming is the primary enterprise, operating and managing this farm is a full-time occupation for one or more people and cropland is owned.

Dairy Cash-Crop (farm) - Operating and managing this farm is the full-time occupation of one or more people, cropland is owned but crop sales exceed 10 percent of accrual milk receipts.

Debt Coverage Ratio – (defined on page 27)

Debt Per Cow - Total end-of-year debt divided by end-of-year number of cows.

Debt to Asset Ratios - (defined on page 24)

Depreciation Expense Ratio – Machinery and building depreciation divided by total accrual receipts.

Dry Matter - The amount or proportion of dry material that remains after all water is removed. Commonly used to measure dry matter percent and tons of dry matter in feed.

Equity Capital - The farm operator/manager's owned capital or farm net worth.

Expansion Livestock - Purchased dairy cattle and other livestock that cause an increase in herd size from the beginning to the end of the year.

Farm Debt Payments as Percent of Milk Sales - Amount of milk income committed to debt repayment, calculated by dividing planned debt payments by total milk receipts. A reliable measure of repayment ability, see page 27.

Farm Debt Payments Per Cow - Planned or scheduled debt payments per cow represent the repayment plan scheduled at the beginning of the year divided by the average number of cows for the year.

Financial Lease - A long-term non-cancelable contract giving the lessee use of an asset in exchange for a series of lease payments. The term of a financial lease usually covers a major portion of the economic life of the asset. The lease is a substitute for purchase. The lessor retains ownership of the asset.

Hired Labor Expense per Hired Worker Equivalent – The total cost to the farm per hired worker equivalent. Divide accrual hired labor expense by number of hired plus family paid worker equivalents.

Hired Labor Expense as % of Milk Sales – The percentage of the gross milk receipts that is used for labor expense. Divide accrual hired labor expense by accrual milk sales.

Income Statement - A complete and accurate account of farm business receipts and expenses used to measure profitability over a period of time such as one year or one month.

Interest Expense Ratio – Accrual interest expense divided by total accrual receipts.

Labor and Management Income - (defined on page 21)

Labor and Management Income Per Operator - The return to the owner/manager's labor and management per full-time operator.

Labor Efficiency - Production capacity and output per worker.

Leverage Ratio – (defined on page 24)

Liquidity - Ability of business to generate cash to make debt payments or to convert assets to cash.

Net Farm Income - (defined on page 19)

Net Farm Income from Operations Ratio – (defined on page 22)

Net Milk Receipts – Accrual milk receipts less milk marking expense.

Net Worth - The value of assets less liabilities equal net worth. It is the equity the owner has in owned assets.

Operating Costs of Producing Milk - (defined on page 32)

Operating Expense Ratio – Total accrual expenses less interest and machinery and building depreciation, divided by total accrual receipts.

Operator Resources/cwt. - The total value of labor contributed to the farm from all owner/operators. This measure is calculated by multiplying the number of months of labor provided by all owner/operators by $2,200 and dividing by the number of cwt. produced during the year.

Opportunity Costs - The cost or charge made for using a resource based on its value in its most likely alternative use. The opportunity cost of a farmer's labor and management is the value he/she would receive if employed in his/her most qualified alternative position.

Other Livestock Expenses - All other dairy herd and livestock expenses not included in more specific categories. Other livestock expenses include DHIC, registration fees and transfers.

Part-Time Dairy (farm) - Dairy farming is the primary enterprise, cropland is owned but operating and managing this farm is not a full-time occupation for one or more people.

Personal Withdrawals and Family Expenditures Including Nonfarm Debt Payments - All the money removed from the farm business for personal or nonfarm use including family living expenses, health and life insurance, income taxes, nonfarm debt payments, and investments.

Profitability - The return or net income the owner/manager receives for using one or more of his or her resources in the farm business. True "economic profit" is what remains after deducting all the costs including the opportunity costs of the owner/manager's labor, management, and equity capital.

Purchased Inputs Cost of Producing Milk - (defined on page 32)

Renter - Farm business owner/operator owns no tillable land and commonly rents all other farm real estate.

Repayment Analysis - An evaluation of the business' ability to make planned debt payments.

Replacement Livestock - Dairy cattle and other livestock purchased to replace those that were culled or sold from the herd during the year.

Return on Equity Capital - (defined on page 22)

Return on Total Capital - (defined on page 22)

Solvency - The extent or ability of assets to cover or pay liabilities. Debt/asset and leverage ratios are common measures of solvency.

Total Costs of Producing Milk - (defined on page 32)

Total Labor Cost/cwt. - The total cost of all labor used on the farm on a per cwt. basis. The value of unpaid labor at $2,200 per month plus the value of operator(s) labor at $2,200 per month plus total hired labor expense divided by the number of cwt. produced.

Whole Farm Method - A procedure used to calculate costs of producing milk on dairy farms without using enterprise cost accounts. All non-milk receipts are assigned a cost equal to their sale value and deducted from total farm expenses to determine the costs of producing milk.

Working Capital – A theoretical measure of the amount of funds available to purchase inputs and inventory items after the sale of current farm assets and payment of all current farm liabilities. Calculated as current farm assets at end year less current farm liabilities at end year.

INDEX

OTHER A.E.M. EXTENSION BULLETINS

EB No	Title	Fee (if applicable)	Author(s)
2004-13	A New Producer Milk Marketing Contract©: Costs, Risks, Benefits, and Feasibility of a Cooperative Financing Model	($12.00)	Richards, S.
2004-12	Using Crop Insurance: Profiles of 13 farmers who use crop insurance as a risk management tool	($12.00)	Richards, S., Sheils, C., Jacobs, E., Ashton, J., McGonigal, J., and J. Forrett
2004-11	Dairy Farm Business Summary, Western and Central Plain Region, 2003	($12.00)	Knoblauch, W., Putnam, L., Karszes, J., Hanchar, J., Murphy, J. and J. Barry
2004-10	Dairy Farm Business Summary, Northern Hudson Region, 2003	($12.00)	Conneman, G., Putnam, L., Wickswat, C., Buxton, S. and J. Karszes
2004-09	Dairy Farm Business Summary, New York Large Herd Farms, 300 Cows or Larger, 2003	($16.00)	Karszes, J., Knoblauch, W. and L. Putnam
2004-08	Starting An Ag Business? A Preplanning Guide	($7.00)	Richards, S.
2004-07	Doing Business in New York State: Structures and Strategies		Anderson, B., Henehan B. and C. Sullivan
2004-06	A Compilation of Smart Marketing Articles November 2001 - November 2003		Uva, W.
2004-05	Harvesting Change: A Planning Workbook for Apple Growers	($57.00)	Sheils, C. and A. DeMarree
2004-04	Harvesting Change: New York Apple Growers Share Their Decision-Making Strategies	($17.00)	Sheils, C., Gott, D., DesCartes, M., McGonigal, J., Staehr, E and R. Maltz
2004-03	Do I Need Crop Insurance? Self evaluation crop insurance as a risk management tool in New York State	($12.00)	Richards, S.
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