

Staff Paper

Dairy Grazing Farms in Michigan, 1998

by

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DAIRY GRAZING FARMS IN MICHIGAN, 1998

Michigan Data from Telfarm/MicroTel, and the Farm Credit System
Staff Paper No. 99-20

by

Sherrill B. Nott¹

The purposes of this report are: 1) to provide statistical information about the financial results of dairy farms that intensively grazed their milk cows during 1998 (the body of the paper); and 2) to provide production costs for comparative analysis and forward planning (Table 32, the last page of the paper).

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Professor and Extension Specialist in the Department of Agricultural Economics. Co-workers in the Telfarm/MicroTel project were L. Borton, D. Stein, T. Purdy, R. Betz, W. Schauer, and G. Kole with the assistance of MSU Extension Agents in Michigan. Steve Zimmerman of Farm Credit Service also assisted..

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Data Source

The type of farm in this report is dairy. Farm types were assigned using the 1992 Census of Agriculture's Standard Industrial Classification (SIC) definitions. Basically, any farm with 50 percent or more of value of farm sales from one item becomes a farm of that type. Dairy farms have 50 percent or more of value of combined sales from milk and cull dairy animals. They are also grazing farms because extension field staff told me the farms used rotational grazing with their producing herd during the summer of 1998.

This report is a summary of the financial and production records kept by Michigan dairy farmers who received outside help in keeping and reviewing those records. Farm records were included if a Finan² summary was completed on 1998 data including beginning and ending balance sheets that had both cost basis and market valuations, plus income and expenses. The summary was included if cash discrepancy was less than 10% of gross cash inflow, and if the debt discrepancy was less than \$1,000. The 15 farms that met these criteria were spread throughout Michigan.

Finansum is software that averages and sorts data produced by Finan. It is available from the University of Minnesota. It allows rapid analysis of group averages with alternatives for how the results are presented. I chose to show the average of the high or low 40 percent by net farm income to insure 6 or more farms were in the group. A farm was accepted in the average regardless of whether it was a proprietorship, partnership, limited liability company, or corporation.

Data Variability

The Finansum averages for 15 farms are reported in the following tables. Two size groups follow the results for all farms; the smaller has farms with fewer than 80 cows, the bigger has those with more than 80 cows. Considerable variability exist in the data. Standard deviations are given for a few factors in Table 31 towards the end of the paper.

The 15 grazing dairy farms are not a random sample. Most of them kept their financial records with Michigan State University Extension's Telfarm/MicroTel accounting project, or with Farm Credit Services. The averages may be representative of bigger and better managed rotational grazing farms.

This document may be found and downloaded from the following:

<http://www.msu.edu/user/nott>

² Finan = financial analysis, one of the parts of Finpack, a financial software package from the Center for Farm Financial Management at the University of Minnesota.

Table 1.

Livestock and Crop Production Summary, 1998
Dairy Grazing Farms in Michigan
(Farms sorted by Net Farm Income)

	Average Of All Farms	Average Of Low 40 %	Average Of High 40 %
Dairy			
Number of farms	15	6	6
Avg. number of Cows	98.4	94.7	127.7
Milk produced per Cow	17200	15014	18624
Percent of barn capacity	98.0	97.8	99.0
Avg. milk price per cwt.	15.14	14.91	15.33
ACREAGE SUMMARY			
Total Crop Acres	367	372	427
Crop Acres Owned	240	265	258
Crop Acres Cash Rented	127	107	168
AVERAGE YIELD PER ACRE			
Hay, Alfalfa (ton)	3.69	-	-
Hay, Native Grass (ton)	3.02	-	-
Corn Silage (ton)	12.43	-	-
Corn (bu.)	105.28	-	-
Hay, Mixed Alfalfa/Grass (ton)	3.83	-	-
Hay, Grass (ton)	4.41	-	-
Wheat, Winter (bu.)	36.29	-	-
Oatlage (ton)	1.00	-	-
Barley (bu.)	80.00	-	-

Table 2.

FARM INCOME STATEMENT, 1998
Dairy Grazing Farms in Michigan
(Farms sorted by Net Farm Income)

	Average Of All Farms	Average Of Low 40%	Average Of High 40%
Number of Farms	15	6	6
CASH FARM INCOME			
Corn	782	1928	27
Seed Corn	31	53	25
Mixed Hay	251	43	267
Straw	20	50	-
Winter Wheat	226	357	207
Beef Calves	47	-	117
Milk	256240	211879	364577
Dairy Calves	1632	3825	14
Dairy Replacement Heifers	46	115	-
Dairy Steers	4401	-	10852
Cull breeding livestock	10522	7170	16409
Misc. livestock income	224	-	559
Transition payments	28	70	-
Other government payments	7841	9849	8504
Custom work income	430	-	955
Patronage dividends, cash	2119	1463	3137
Insurance income	2441	317	5723
Other farm income	4892	1133	9552
Gross Cash Farm Income	292172	238252	420924

Table 3.

FARM INCOME STATEMENT, 1998 (Continued)
Dairy Grazing Farms in Michigan
(Farms sorted by Net Farm Income)

Number of Farms	Average Of <u>All Farms</u> 15	Average Of <u>Low 40%</u> 6	Average Of <u>High 40%</u> 6
CASH FARM EXPENSE			
Seed	4420	3263	6183
Fertilizer	12293	10350	18440
Crop chemicals	2613	1896	3922
Crop insurance	13	-	33
Crop miscellaneous	639	64	239
Purchased feed	61589	43786	95678
Breeding fees	2575	727	4625
Veterinary	4100	4290	5105
Livestock supplies	10149	8245	14802
Livestock leases	187	175	-
Livestock marketing	10131	9578	11714
Interest	18978	20008	22157
Fuel & oil	5470	5506	7020
Repairs	18234	18408	21863
Custom hire	4467	1655	9247
Hired labor	27430	30994	29112
Land rent	8295	2560	16797
Machinery & bldg leases	3211	2256	5691
Real estate taxes	4481	4554	5810
Personal property taxes	80	142	47
Farm insurance	4728	5766	4756
Utilities	6904	7072	7978
Dues & professional fees	1789	1000	2976
Miscellaneous	8135	3017	16311
Total cash expense	220911	185312	310506
Net cash farm income	71261	52940	110418
INVENTORY CHANGES			
Crops and feed	-9259	-15947	-9633
Market livestock	1997	-340	5332
Accounts receivable	2473	2266	3153
Prepaid expenses and supplies	1442	2065	1490
Accounts payable	5346	-30	10647
Total inventory change	2000	-11985	10989
Net operating profit	73261	40954	121407
DEPRECIATION AND OTHER CAPITAL ADJUSTMENTS			
Breeding livestock	12817	3959	23035
Machinery and equipment	-13109	-19162	-6647
Buildings and improvements	-4906	-4543	-6842
Other farm capital	-1136	21	-2645
Total depr. and other capital adj	-6335	-19725	6901
Net farm income	66925	21229	128308

Table 4.

INVENTORY CHANGES, 1998
Dairy Grazing Farms in Michigan
(Farms sorted by Net Farm Income)

	Average Of All Farms	Average Of Low 40%	Average Of High 40%
Number of Farms	15	6	6
Net cash farm income	71261	52940	110418
CROPS AND FEED			
Ending inventory	41981	38266	53210
Beginning inventory	51239	54214	62843
Inventory change	-9259	-15947	-9633
MARKET LIVESTOCK			
Ending inventory	3733	810	8522
Beginning inventory	1736	1150	3189
Inventory change	1997	-340	5332
ACCTS RECEIVABLE & OTHER CURRENT ASSETS			
Ending inventory	10614	6229	18623
Beginning inventory	8141	3963	15471
Inventory change	2473	2266	3153
PREPAID EXPENSES AND SUPPLIES			
Ending inventory	3637	2535	6175
Beginning inventory	2195	470	4685
Inventory change	1442	2065	1490
ACCOUNTS PAYABLE			
Beginning inventory	13386	907	27371
Ending inventory	8040	937	16724
Inventory change	5346	-30	10647
Total inventory change	2000	-11985	10989
Net operating profit	73261	40954	121407

Table 5.

DEPRECIATION AND OTHER CAPITAL ADJUSTMENTS, 1998
Dairy Grazing Farms in Michigan
(Farms sorted by Net Farm Income)

	Average Of All Farms	Average Of Low 40%	Average Of High 40%
Number of Farms	15	6	6
Net operating profit	73261	40954	121407
BREEDING LIVESTOCK			
Ending inventory	170557	148564	232670
Capital sales	2827	1564	3155
Beginning inventory	156868	143483	207162
Capital purchases	3699	2685	5628
Depreciation, capital adj.	12817	3959	23035
MACHINERY AND EQUIPMENT			
Ending inventory	48386	27285	82907
Capital sales	1428	833	2721
Beginning inventory	38784	26912	56407
Capital purchases	24140	20369	35867
Depreciation, capital adj.	-13109	-19162	-6647
BUILDINGS AND IMPROVEMENTS			
Ending inventory	42487	27811	73510
Capital sales	453	-	1132
Beginning inventory	46065	32210	77175
Capital purchases	1781	145	4308
Depreciation, capital adj.	-4906	-4543	-6842
OTHER CAPITAL ASSETS			
Ending inventory	6481	167	13088
Capital sales	1119	332	2266
Beginning inventory	4875	250	11124
Capital purchases	3861	227	6875
Depreciation, capital adj.	-1136	21	-2645
Total depreciation, capital adj.	-6335	-19725	6901
Net farm income	66925	21229	128308

Table 6.

PROFITABILITY AND LIQUIDITY ANALYSIS, 1998
Dairy Grazing Farms in Michigan
(Farms sorted by Net Farm Income)

	Avg. Of All Farms	Avg. Of Low 40%	Avg. Of High 40%	Avg. Of All Farms	Avg. Of Low 40%	Avg. Of High 40%
Number of Farms	15	6	6	15	6	6
PROFITABILITY	----- Cost -----			----- Market -----		
Net farm income	66925	21229	128308	118831	71557	188677
Labor and management earnings	53685	10441	109354	86809	38920	152065
Rate of return on assets	8.2 %	0.7 %	13.2 %	11.5 %	6.8 %	15.4 %
Rate of return on equity	9.3 %	-9.9 %	20.4 %	13.5 %	6.1 %	20.5 %
Operating profit margin	16.6 %	1.5 %	25.2 %	38.3 %	28.8 %	42.6 %
Asset turnover rate	49.4 %	44.5 %	52.1 %	29.9 %	23.5 %	36.2 %
Interest on farm net worth	13241	10788	18954	32022	32637	36612
Farm interest expense	19301	20038	22992	19301	20038	22992
Value of operator lbr and mgmt.	46664	38488	63735	46664	38488	63735
Return on farm assets	39562	2779	87565	91468	53107	147934
Average farm assets	483037	414054	665871	798051	783174	960165
Return on farm equity	20261	-17258	64573	72167	33070	124942
Average farm equity	218687	174835	315907	533701	543956	610201
Value of farm production	238611	184405	347133	238611	184405	347133
				Average Of All Farms	Average Of Low 40%	Average Of High 40%
Number of Farms				15	6	6
LIQUIDITY (Cash)						
Net cash farm income				71261	52940	110418
Net nonfarm income				5865	10177	589
Family living and taxes				40902	29476	59505
Real estate principal payments				7563	9695	7749
Cash available for interm. debt				28661	23945	43753
Average intermediate debt				90927	99445	105817
Years to turnover interm. debt				3.2	4.2	2.4
Expense as a % of income				76 %	78 %	74 %
Interest as a % of income				6 %	8 %	5 %
LIQUIDITY (Accrual)						
Total accrual farm income				287384	224231	419776
Total accrual farm expense				214123	183277	298369
Net accrual operating income				73261	40954	121407
Net nonfarm income				5865	10177	589
Family living and taxes				40902	29476	59505
Real estate principal payments				7563	9695	7749
Available for intermediate debt				30660	11960	54743
Average intermediate debt				90927	99445	105817
Years to turnover interm. debt				3.0	8.3	1.9
Expense as a % of income				75 %	82 %	71 %
Interest as a % of income				7 %	9 %	5 %

Table 7.

BALANCE SHEET AT COST VALUES, 1998
Dairy Grazing Farms in Michigan
(Farms sorted by Net Farm Income)

Number of Farms	Average Of All Farms		Average Of Low 40 %		Average Of High 40 %	
	15		6		6	
	Beginning	Ending	Beginning	Ending	Beginning	Ending
ASSETS						
Current Farm Assets						
Cash and checking balance	5815	5754	779	2687	11758	9822
Prepaid expenses & supplies	2195	3637	470	2535	4685	6175
Growing crops	3578	4474	3963	3662	4983	7523
Accounts receivable	3896	6140	-	2567	8821	11100
Hedging accounts	-	-	-	-	-	-
Crops held for sale or feed	51239	41981	54214	38266	62843	53210
Crops under government loan	-	-	-	-	-	-
Market livestock held for sale	1736	3733	1150	810	3189	8522
Other current assets	667	-	-	-	1667	-
Total current farm assets	69126	65719	60575	50527	97946	96353
Intermediate Farm Assets						
Breeding livestock	156868	170557	143483	148564	207162	232670
Machinery and equipment	38784	48386	26912	27285	56407	82907
Other intermediate assets	1285	2777	250	167	2150	3829
Total intermediate farm assets	196937	221720	170646	176016	265719	319405
Long-Term Farm Assets						
Farm land	138259	178467	154916	155407	141802	241598
Buildings and improvements	46065	42487	32210	27811	77175	73510
Other long-term assets	3590	3704	-	-	8975	9260
Total long-term farm assets	187914	224658	187125	183218	227952	324368
Total Farm Assets	453976	512097	418346	409761	591617	740126
Total Nonfarm Assets	15771	15122	12512	11229	12492	12153
Total Assets	469747	527219	430859	420991	604109	752279
LIABILITIES						
Current Farm Liabilities						
Accrued interest	1336	1659	589	618	2444	3279
Accounts payable	12050	6381	318	318	24928	13445
Current notes	16232	10252	27536	7471	13044	17108
Government crop loans	-	-	-	-	-	-
Principal due on term debt	16850	23485	15389	17207	22128	35756
Total current farm liabilities	46468	41777	43832	25615	62543	69589
Intermediate Farm Liabilities						
Intermediate Farm Liabilities	83100	73418	98049	83553	90756	82208
Long-term Farm Liabilities						
Long-term Farm Liabilities	128560	155375	117763	109625	159111	235721
Total Farm Liabilities	258128	270571	259645	218793	312410	387518
Total Nonfarm Liabilities	1963	1620	4250	3583	-	-
Total Liabilities	260091	272191	263895	222376	312410	387518
Net Worth (farm and nonfarm)	209656	255028	166964	198615	291699	364761
Net Worth Change		45371		31650		73062
RATIO ANALYSIS						
Current Farm Liabilities / Assets	67 %	64 %	72 %	51 %	64 %	72 %
Curr. & Inter Farm Liab / Assets	49 %	40 %	61 %	48 %	42 %	37 %
Long Term Farm Liab. / Assets	68 %	69 %	63 %	60 %	70 %	73 %
Total Liabilities / Assets	55 %	52 %	61 %	53 %	52 %	52 %

Table 8.

BALANCE SHEET AT MARKET VALUES, 1998
Dairy Grazing Farms in Michigan
(Farms sorted by Net Farm Income)

Number of Farms	Average Of All Farms		Average Of Low 40 %		Average Of High 40 %	
	15		6		6	
	Beginning	Ending	Beginning	Ending	Beginning	Ending
ASSETS						
Current Farm Assets						
Cash and checking balance	5815	5754	779	2687	11758	9822
Prepaid expenses & supplies	2195	3637	470	2535	4685	6175
Growing crops	3578	4474	3963	3662	4983	7523
Accounts receivable	3896	6140	-	2567	8821	11100
Hedging accounts	-	-	-	-	-	-
Crops held for sale or feed	51239	41981	54214	38266	62843	53210
Crops under government loan	-	-	-	-	-	-
Market livestock held for sale	1736	3733	1150	810	3189	8522
Other current assets	667	-	-	-	1667	-
Total current farm assets	69126	65719	60575	50527	97946	96353
Intermediate Farm Assets						
Breeding livestock	156868	170984	143483	148448	207162	233853
Machinery and equipment	115607	131288	117750	127000	125666	157150
Other intermediate assets	1285	2777	250	167	2150	3829
Total intermediate farm assets	273760	305049	261483	275614	334978	394832
Long-Term Farm Assets						
Farm land	301430	369439	381411	416321	281272	401693
Buildings and improvements	76099	87887	41417	41750	119222	149133
Other long-term assets	22623	24971	17417	19833	22308	22593
Total long-term farm assets	400152	482296	440244	477904	422803	573419
Total Farm Assets	743038	853063	762303	804046	855726	1064604
Total Nonfarm Assets	30456	31151	17297	17022	27625	24070
Total Assets	773494	884215	779600	821068	883352	1088674
LIABILITIES						
Current Farm Liabilities						
Accrued interest	1336	1659	589	618	2444	3279
Accounts payable	12050	6381	318	318	24928	13445
Current notes	16232	10252	27536	7471	13044	17108
Government crop loans	-	-	-	-	-	-
Principal due on term debt	16850	23485	15389	17207	22128	35756
Total current farm liabilities	46468	41777	43832	25615	62543	69589
Intermediate Farm Liabilities						
	83100	73418	98049	83553	90756	82208
Long-term Farm Liabilities						
	128560	155375	117763	109625	159111	235721
Total Farm Liabilities	258128	270571	259645	218793	312410	387518
Total Nonfarm Liabilities	1963	1620	4250	3583	-	-
Total Deferred Liabilities	-	-	-	-	-	-
Total Liabilities	260091	272191	263895	222376	312410	387518
Net Worth (farm and nonfarm)	513403	612024	515706	598692	570942	701156
Net Worth Change		98621		82987		130214
RATIO ANALYSIS						
Current Farm Liabilities / Assets	67 %	64 %	72 %	51 %	64 %	72 %
Curr. & Interm Farm Liab. / Assets	38 %	31 %	44 %	33 %	35 %	31 %
Long Term Farm Liabilities / Assets	32 %	32 %	27 %	23 %	38 %	41 %
Total Liabilities / Assets	34 %	31 %	34 %	27 %	35 %	36 %

Table 9.

STATEMENT OF CASH FLOWS, 1998
Dairy Grazing Farms in Michigan
(Farms sorted by Net Farm Income)

	Average Of All Farms	Average Of Low 40%	Average Of High 40%
Number of Farms	15	6	6
(a) Beginning cash balance (farm & nonfarm)	5948	779	11758
CASH FROM OPERATING ACTIVITIES			
Gross cash farm income	292172	238252	420924
Net nonfarm income (+)	5865	10177	589
Total cash farm expense (-)	220911	185312	310506
Apparent family living expense (-)	40155	28989	59124
Income and social security tax (-)	747	487	381
(b) Cash from operations (=)	36224	33641	51502
CASH FROM INVESTING ACTIVITIES			
Sale of breeding livestock	2827	1564	3155
Sale of machinery & equipment (+)	1428	833	2721
Sale of farm land (+)	-	-	-
Sale of farm buildings (+)	453	-	1132
Sale of other farm assets (+)	1119	332	2266
Sale of nonfarm assets (+)	222	-	555
Purchase of breeding livestock (-)	3699	2685	5628
Purchase of machinery & equip. (-)	24140	20369	35867
Purchase of farm land (-)	38504	-	96260
Purchase of farm buildings (-)	1781	145	4308
Purchase of other farm assets (-)	3861	227	6875
Purchase of nonfarm assets (-)	33	-	83
(c) Cash from investing activities (=)	-65970	-20697	-139194
CASH FROM FINANCING ACTIVITIES			
Money borrowed	82394	16259	184299
Cash gifts and inheritances (+)	12200	30500	-
Principal payments (-)	64909	57795	98543
Dividends paid (-)	-	-	-
Gifts given (-)	-	-	-
(d) Cash from financing activities (=)	29685	-11035	85756
(e) Net change in cash balance (b+c+d)	-61	1908	-1936
Ending cash balance (farm & nonfarm)	5887	2687	9822

Table 10.

FINANCIAL GUIDELINES MEASURES, 1998
Dairy Grazing Farms in Michigan
(Farms sorted by Net Farm Income)

	Average Of All Farms		Average Of Low 40 %		Average Of High 40 %	
Number of Farms	15		6		6	
LIQUIDITY	Beginning	Ending	Beginning	Ending	Beginning	Ending
Current ratio	1.49	1.57	1.38	1.97	1.57	1.38
Working capital	22658	23942	16743	24912	35403	26764
SOLVENCY (Market)	Beginning	Ending	Beginning	Ending	Beginning	Ending
Farm debt to asset ratio	35 %	32 %	34 %	27 %	37 %	36 %
Farm equity to asset ratio	65 %	68 %	66 %	73 %	63 %	64 %
Farm debt to equity ratio	53 %	46 %	52 %	37 %	58 %	57 %
PROFITABILITY	Cost	Market	Cost	Market	Cost	Market
Rate of return on farm assets	8.2 %	11.5 %	0.7 %	6.8 %	13.2 %	15.4 %
Rate of return on farm equity	9.3 %	13.5 %	-9.9 %	6.1 %	20.4 %	20.5 %
Operating profit margin	16.6 %	38.3 %	1.5 %	28.8 %	25.2 %	42.6 %
Net farm income	66925	118831	21229	71557	128308	188677
REPAYMENT CAPACITY	Cash	Accrual	Cash	Accrual	Cash	Accrual
Term debt coverage ratio	159 %	166 %	159 %	115 %	173 %	200 %
Capital replacement margin	18407	20407	16008	4023	29374	40363
EFFICIENCY						
Asset turnover rate (market)	29.9 %			23.5 %		36.2 %
Operating expense ratio	67.8 %			72.8 %		65.6 %
Depreciation expense ratio	2.2 %			8.8 %		-1.6 %
Interest expense ratio	6.7 %			8.9 %		5.5 %
Net farm income ratio	23.3 %			9.5 %		30.6 %

LABOR ANALYSIS

	Average Of All Farms	Average Of Low 40 %	Average Of High 40 %
Number of Farms	15	6	6
Total unpaid labor hours	4858	4017	6425
Total hired labor hours	2288	2526	2587
Total labor hours per farm	7146	6543	9012
Value of farm production / hour	33.39	28.18	38.52
Net farm income / unpaid hour	13.78	5.28	19.97

Table 11.

Livestock and Crop Production Summary, 1998
Michigan Grazing Farms, 80 Cows or Less
(Average of All Farms)

	Average Of All Farms
Dairy	
Number of farms	8
Avg. number of Cows	59.6
Milk produced per Cow	16,579
Percent of barn capacity	97.9
Avg. milk price per cwt.	15.07
ACREAGE SUMMARY	
Total Crop Acres	277
Crop Acres Owned	155
Crop Acres Cash Rented	122
AVERAGE YIELD PER ACRE	
Hay, Native Grass (ton)	3.09
Hay, Alfalfa (ton)	3.56
Corn Silage (ton)	10.51
Hay, Mixed Alfalfa/Grass (ton)	2.76
Corn (bu.)	103.76
Barley (bu.)	80.00

Table 12.

FARM INCOME STATEMENT, 1998
Michigan Grazing Farms, 80 Cows or Less
(Average of All Farms)

	Average Of All Farms
Number of Farms	8
 CASH FARM INCOME	
Seed Corn	58
Mixed Hay	238
Beef Calves	88
Milk	148968
Dairy Calves	655
Dairy Replacement Heifers	86
Dairy Steers	7560
Cull breeding livestock	5863
Misc. livestock income	80
Transition payments	53
Other government payments	4476
Custom work income	340
Patronage dividends, cash	1039
Insurance income	869
Other farm income	2090
 Gross Cash Farm Income	 172464

Table 13.

FARM INCOME STATEMENT, 1998 (Continued)
Michigan Grazing Farms, 80 Cows or Less
(Average of All Farms)

	<u>Average Of All Farms</u>
Number of Farms	8
CASH FARM EXPENSE	
Seed	3286
Fertilizer	5050
Crop chemicals	2388
Crop insurance	13
Crop miscellaneous	1198
Purchased feed	35745
Breeding fees	1573
Veterinary	2801
Livestock supplies	5810
Livestock leases	298
Livestock marketing	8016
Interest	12681
Fuel & oil	3394
Repairs	10940
Custom hire	1739
Hired labor	16602
Land rent	5215
Machinery & bldg leases	4028
Real estate taxes	2727
Personal property taxes	136
Farm insurance	3154
Utilities	4813
Dues & professional fees	1406
Miscellaneous	1706
Total cash expense	134719
Net cash farm income	37744
INVENTORY CHANGES	
Crops and feed	-808
Market livestock	1935
Accounts receivable	1763
Prepaid expenses and supplies	-399
Accounts payable	6910
Total inventory change	9401
Net operating profit	47145
DEPRECIATION AND OTHER CAPITAL ADJUSTMENTS	
Breeding livestock	8654
Machinery and equipment	-14871
Buildings and improvements	-1817
Other farm capital	131
Total depr. and other capital adj	-7903
Net farm income	39242

Table 14.

INVENTORY CHANGES, 1998
Michigan Grazing Farms, 80 Cows or Less
(Average of All Farms)

	Average Of All Farms
Number of Farms	8
Net cash farm income	37744
CROPS AND FEED	
Ending inventory	29607
Beginning inventory	30416
Inventory change	-808
MARKET LIVESTOCK	
Ending inventory	2610
Beginning inventory	675
Inventory change	1935
ACCTS RECEIVABLE & OTHER CURRENT ASSETS	
Ending inventory	4355
Beginning inventory	2592
Inventory change	1763
PREPAID EXPENSES AND SUPPLIES	
Ending inventory	569
Beginning inventory	968
Inventory change	-399
ACCOUNTS PAYABLE	
Beginning inventory	14161
Ending inventory	7251
Inventory change	6910
Total inventory change	9401
Net operating profit	47145

Table 15.

DEPRECIATION AND OTHER CAPITAL ADJUSTMENTS, 1998
Michigan Grazing Farms, 80 Cows or Less
(Average of All Farms)

	Average Of All Farms
Number of Farms	8
Net operating profit	47145
BREEDING LIVESTOCK	
Ending inventory	102755
Capital sales	1970
Beginning inventory	93650
Capital purchases	2421
Depreciation, capital adj.	8654
MACHINERY AND EQUIPMENT	
Ending inventory	33549
Capital sales	1672
Beginning inventory	32888
Capital purchases	17204
Depreciation, capital adj.	-14871
BUILDINGS AND IMPROVEMENTS	
Ending inventory	19344
Capital sales	-
Beginning inventory	20770
Capital purchases	392
Depreciation, capital adj.	-1817
OTHER CAPITAL ASSETS	
Ending inventory	2916
Capital sales	578
Beginning inventory	1379
Capital purchases	1985
Depreciation, capital adj.	131
Total depreciation, capital adj.	-7903
Net farm income	39242

Table 16.

PROFITABILITY AND LIQUIDITY ANALYSIS, 1998
Michigan Grazing Farms, 80 Cows or Less
(Average of all farms reporting)

	Average Of All Farms	Average Of All Farms
	-----	-----
Number of Farms	8	8
PROFITABILITY	--- Cost ---	-- Market --
Net farm income	39242	76908
Labor and management earnings	31805	55449
Rate of return on assets	6.6 %	10.8 %
Rate of return on equity	4.2 %	11.9 %
Operating profit margin	12.4 %	37.8 %
Asset turnover rate	53.0 %	28.7 %
Interest on farm net worth	7436	21459
Farm interest expense	13304	13304
Value of operator lbr and mgmt.	34188	34188
Return on farm assets	18358	56024
Average farm assets	279933	517367
Return on farm equity	5053	42719
Average farm equity	120212	357646
Value of farm production	148262	148262
	Average Of All Farms	

Number of Farms	8	
LIQUIDITY (Cash)		
Net cash farm income	37744	
Net nonfarm income	5180	
Family living and taxes	22276	
Real estate principal payments	4992	
Cash available for interm. debt	15656	
Average intermediate debt	61219	
Years to turnover interm. debt	3.9	
Expense as a % of income	78 %	
Interest as a % of income	7 %	
LIQUIDITY (Accrual)		
Total accrual farm income	175353	
Total accrual farm expense	128208	
Net accrual operating income	47145	
Net nonfarm income	5180	
Family living and taxes	22276	
Real estate principal payments	4992	
Available for intermediate debt	25057	
Average intermediate debt	61219	
Years to turnover interm. debt	2.4	
Expense as a % of income	73 %	
Interest as a % of income	8 %	

Table 17.

BALANCE SHEET AT COST VALUES, 1998
Michigan Grazing Farms, 80 Cows or Less
(Average of all farms reporting)

Number of Farms	Average For All Farms	
	Beginning	Ending
ASSETS		
Current Farm Assets		
Cash and checking balance	2866	3044
Prepaid expenses & supplies	968	569
Growing crops	1313	2217
Accounts receivable	1280	2138
Hedging accounts	-	-
Crops held for sale or feed	30416	29607
Crops under government loan	-	-
Market livestock held for sale	675	2610
Other current assets	-	-
Total current farm assets	37516	40185
Intermediate Farm Assets		
Breeding livestock	93650	102755
Machinery and equipment	32888	33549
Other intermediate assets	1379	2916
Total intermediate farm assets	127917	139220
Long-Term Farm Assets		
Farm land	87272	87642
Buildings and improvements	20770	19344
Other long-term assets	-	-
Total long-term farm assets	108042	106986
Total Farm Assets	273475	286391
Total Nonfarm Assets	10817	10979
Total Assets	284292	297371
LIABILITIES		
Current Farm Liabilities		
Accrued interest	756	1379
Accounts payable	13405	5872
Current notes	4682	5760
Government crop loans	-	-
Principal due on term debt	14934	20939
Total current farm liabilities	33777	33951
Intermediate Farm Liabilities	51740	43987
Long-term Farm Liabilities	80000	75988
Total Farm Liabilities	165517	153925
Total Nonfarm Liabilities	994	850
Total Liabilities	166511	154775
Net Worth (farm and nonfarm)	117781	142595
Net Worth Change		24814
RATIO ANALYSIS		
Current Farm Liabilities / Assets	90 %	84 %
Curr. & Interm Farm Liab / Assets	52 %	43 %
Long Term Farm Liab. / Assets	74 %	71 %
Total Liabilities / Assets	59 %	52 %

Table 18.

BALANCE SHEET AT MARKET VALUES, 1998
Michigan Grazing Farms, 80 Cows or Less
(Average of all farms reporting)

Number of Farms	Average For All Farms	
	Beginning	Ending
	8	
ASSETS		
Current Farm Assets		
Cash and checking balance	2866	3044
Prepaid expenses & supplies	968	569
Growing crops	1313	2217
Accounts receivable	1280	2138
Hedging accounts	-	-
Crops held for sale or feed	30416	29607
Crops under government loan	-	-
Market livestock held for sale	675	2610
Other current assets	-	-
Total current farm assets	37516	40185
Intermediate Farm Assets		
Breeding livestock	93650	102755
Machinery and equipment	88631	89428
Other intermediate assets	1379	2916
Total intermediate farm assets	183660	195099
Long-Term Farm Assets		
Farm land	182569	215813
Buildings and improvements	52643	51687
Other long-term assets	35687	39875
Total long-term farm assets	270900	307375
Total Farm Assets	492076	542659
Total Nonfarm Assets	32363	34289
Total Assets	524439	576948
LIABILITIES		
Current Farm Liabilities		
Accrued interest	756	1379
Accounts payable	13405	5872
Current notes	4682	5760
Government crop loans	-	-
Principal due on term debt	14934	20939
Total current farm liabilities	33777	33951
Intermediate Farm Liabilities	51740	43987
Long-term Farm Liabilities	80000	75988
Total Farm Liabilities	165517	153925
Total Nonfarm Liabilities	994	850
Total Deferred Liabilities	-	-
Total Liabilities	166511	154775
Net Worth (farm and nonfarm)	357929	422172
Net Worth Change		64244
RATIO ANALYSIS		
Current Farm Liabilities / Assets	90 %	84 %
Curr. & Interm Farm Liab. / Assets	39 %	33 %
Long Term Farm Liabilities / Assets	30 %	25 %
Total Liabilities / Assets	32 %	27 %

Table 19.

STATEMENT OF CASH FLOWS, 1998
Michigan Grazing Farms, 80 Cows or Less
(Average of All Farms)

	Average Of All Farms
Number of Farms	8
(a) Beginning cash balance (farm & nonfarm)	3116
CASH FROM OPERATING ACTIVITIES	
Gross cash farm income	172464
Net nonfarm income	(+) 5180
Total cash farm expense	(-) 134719
Apparent family living expense	(-) 21098
Income and social security tax	(-) 1178
(b) Cash from operations	(= 20648
CASH FROM INVESTING ACTIVITIES	
Sale of breeding livestock	1970
Sale of machinery & equipment	(+) 1672
Sale of farm land	(+) -
Sale of farm buildings	(+) -
Sale of other farm assets	(+) 578
Sale of nonfarm assets	(+) -
Purchase of breeding livestock	(-) 2421
Purchase of machinery & equip.	(-) 17204
Purchase of farm land	(-) -
Purchase of farm buildings	(-) 392
Purchase of other farm assets	(-) 1985
Purchase of nonfarm assets	(-) 63
(c) Cash from investing activities	(= -17843
CASH FROM FINANCING ACTIVITIES	
Money borrowed	25614
Cash gifts and inheritances	(+) 2125
Principal payments	(-) 30366
Dividends paid	(-) -
Gifts given	(-) -
(d) Cash from financing activities	(= -2627
(e) Net change in cash balance	(b+c+d) 178
Ending cash balance (farm & nonfarm)	3294

Table 20.

FINANCIAL GUIDELINES MEASURES, 1998
Michigan Grazing Farms, 80 Cows or Less
(Average of all farms reporting)

	Average Of All Farms	
Number of Farms	8	
LIQUIDITY	Beginning	Ending
Current ratio	1.11	1.18
Working capital	3739	6235
SOLVENCY (Market)	Beginning	Ending
Farm debt to asset ratio	34 %	28 %
Farm equity to asset ratio	66 %	72 %
Farm debt to equity ratio	51 %	40 %
PROFITABILITY (Cost)		
Rate of return on farm assets	6.6 %	
Rate of return on farm equity	4.2 %	
Operating profit margin	12.4 %	
Net farm income	39242	
REPAYMENT CAPACITY	Cash	Accrual
Term debt coverage ratio	121 %	157 %
Capital replacement margin	5402	14803
EFFICIENCY		
Asset turnover rate (market)	28.7 %	
Operating expense ratio	65.5 %	
Depreciation expense ratio	4.5 %	
Interest expense ratio	7.6 %	
Net farm income ratio	22.4 %	

LABOR ANALYSIS

	Average Of All Farms	
Number of Farms	8	
Total unpaid labor hours	3959	
Total hired labor hours	1589	
Total labor hours per farm	5549	
Value of farm production / hour	26.72	
Net farm income / unpaid hour	9.91	

Table 21.

Livestock and Crop Production Summary, 1998
Michigan Grazing Farms, More Than 80 Cows
(Average of All Farms)

	Average of All Farms
 Dairy	
Number of farms	7
Avg. number of Cows	142.7
Milk produced per Cow	17,497
Percent of barn capacity	98.1
Avg. milk price per cwt.	15.17
 ACREAGE SUMMARY	
Total Crop Acres	471
Crop Acres Owned	338
Crop Acres Cash Rented	133
Crop Acres Share Rented	-
Total Pasture Acres	-
 AVERAGE YIELD PER ACRE	
Hay, Alfalfa (ton)	3.75
Corn (bu.)	105.91
Corn Silage (ton)	13.76
Hay, Native Grass (ton)	2.90
Hay, Mixed Alfalfa/Grass (ton)	5.60
Hay, Grass (ton)	4.41
Wheat, Winter (bu.)	36.29

Table 22.

FARM INCOME STATEMENT, 1998
Michigan Grazing Farms, More Than 80 Cows
(Average of All Farms)

	Average Of All Farms
Number of Farms	7
 CASH FARM INCOME	
Corn	1676
Mixed Hay	266
Straw	43
Winter Wheat	483
Milk	378837
Dairy Calves	2749
Dairy Steers	789
Cull breeding livestock	15845
Misc. livestock income	388
Other government payments	11686
Custom work income	533
Patronage dividends, cash	3355
Insurance income	4237
Other farm income	8094
 Gross Cash Farm Income	 428981

Table 23.

FARM INCOME STATEMENT, 1998 (Continued)
Michigan Grazing Farms, More Than 80 Cows
(Average of All Farms)

	Average Of All Farms
Number of Farms	7
CASH FARM EXPENSE	
Seed	5716
Fertilizer	20571
Crop chemicals	2871
Crop insurance	14
Purchased feed	91126
Breeding fees	3719
Veterinary	5585
Livestock supplies	15108
Livestock leases	60
Livestock marketing	12548
Interest	26175
Fuel & oil	7842
Repairs	26569
Custom hire	7584
Hired labor	39805
Land rent	11815
Machinery & bldg leases	2277
Real estate taxes	6486
Personal property taxes	16
Farm insurance	6527
Utilities	9294
Dues & professional fees	2227
Miscellaneous	15482
Total cash expense	319415
Net cash farm income	109566
INVENTORY CHANGES	
Crops and feed	-18916
Market livestock	2068
Accounts receivable	3286
Prepaid expenses and supplies	3546
Accounts payable	3559
Total inventory change	-6459
Net operating profit	103108
DEPRECIATION AND OTHER CAPITAL ADJUSTMENTS	
Breeding livestock	17574
Machinery and equipment	-11096
Buildings and improvements	-8436
Other farm capital	-2585
Total depr. and other capital adj	-4544
Net farm income	98564

Table 24.

INVENTORY CHANGES, 1998
Michigan Grazing Farms, More Than 80 Cows
(Average of All Farms)

	Average Of All Farms
Number of Farms	7
Net cash farm income	109566
CROPS AND FEED	
Ending inventory	56121
Beginning inventory	75037
Inventory change	-18916
MARKET LIVESTOCK	
Ending inventory	5016
Beginning inventory	2948
Inventory change	2068
ACCTS RECEIVABLE & OTHER CURRENT ASSETS	
Ending inventory	17768
Beginning inventory	14482
Inventory change	3286
PREPAID EXPENSES AND SUPPLIES	
Ending inventory	7144
Beginning inventory	3599
Inventory change	3546
ACCOUNTS PAYABLE	
Beginning inventory	12500
Ending inventory	8941
Inventory change	3559
Total inventory change	-6459
Net operating profit	103108

Table 25.

DEPRECIATION AND OTHER CAPITAL ADJUSTMENTS, 1998
Michigan Grazing Farms, More Than 80 Cows
(Average of All Farms)

	Average Of All Farms
Number of Farms	7
Net operating profit	103108
BREEDING LIVESTOCK	
Ending inventory	248046
Capital sales	3805
Beginning inventory	229117
Capital purchases	5160
Depreciation, capital adj.	17574
MACHINERY AND EQUIPMENT	
Ending inventory	65343
Capital sales	1150
Beginning inventory	45522
Capital purchases	32067
Depreciation, capital adj.	-11096
BUILDINGS AND IMPROVEMENTS	
Ending inventory	68936
Capital sales	970
Beginning inventory	74974
Capital purchases	3369
Depreciation, capital adj.	-8436
OTHER CAPITAL ASSETS	
Ending inventory	10554
Capital sales	1737
Beginning inventory	8871
Capital purchases	6006
Depreciation, capital adj.	-2585
Total depreciation, capital adj.	-4544
Net farm income	98564

Table 26.

PROFITABILITY AND LIQUIDITY ANALYSIS, 1998
Michigan Grazing Farms, More Than 80 Cows
(Average of all farms reporting)

	Average Of All Farms	Average Of All Farms
	-----	-----
Number of Farms	7	7
PROFITABILITY	--- Cost ---	-- Market --
Net farm income	98564	166743
Labor and management earnings	78690	122649
Rate of return on assets	8.9 %	11.8 %
Rate of return on equity	11.4 %	14.4 %
Operating profit margin	18.7 %	38.6 %
Asset turnover rate	47.8 %	30.6 %
Interest on farm net worth	19874	44094
Farm interest expense	26154	26154
Value of operator lbr and mgmt.	60922	60922
Return on farm assets	63796	131976
Average farm assets	715155	1118831
Return on farm equity	37642	105822
Average farm equity	331231	734907
Value of farm production	341866	341866
	Average Of All Farms	

Number of Farms	7	
LIQUIDITY (Cash)		
Net cash farm income	109566	
Net nonfarm income	6648	
Family living and taxes	62189	
Real estate principal payments	10502	
Cash available for interm. debt	43523	
Average intermediate debt	124879	
Years to turnover interm. debt	2.9	
Expense as a % of income	74 %	
Interest as a % of income	6 %	
LIQUIDITY (Accrual)		
Total accrual farm income	415418	
Total accrual farm expense	312311	
Net accrual operating income	103108	
Net nonfarm income	6648	
Family living and taxes	62189	
Real estate principal payments	10502	
Available for intermediate debt	37064	
Average intermediate debt	124879	
Years to turnover interm. debt	3.4	
Expense as a % of income	75 %	
Interest as a % of income	6 %	

Table 27.

BALANCE SHEET AT COST VALUES, 1998
Michigan Grazing Farms, More Than 80 Cows
(Average of all farms reporting)

Number of Farms	Average For All Farms	
	Beginning	Ending
	7	
ASSETS		
Current Farm Assets		
Cash and checking balance	9185	8851
Prepaid expenses & supplies	3599	7144
Growing crops	6168	7053
Accounts receivable	6886	10714
Hedging accounts	-	-
Crops held for sale or feed	75037	56121
Crops under government loan	-	-
Market livestock held for sale	2948	5016
Other current assets	1429	-
Total current farm assets	105251	94900
Intermediate Farm Assets		
Breeding livestock	229117	248046
Machinery and equipment	45522	65343
Other intermediate assets	1178	2617
Total intermediate farm assets	275817	316006
Long-Term Farm Assets		
Farm land	196530	282267
Buildings and improvements	74974	68936
Other long-term assets	7693	7937
Total long-term farm assets	279196	359140
Total Farm Assets	660264	770046
Total Nonfarm Assets	21432	19856
Total Assets	681697	789902
LIABILITIES		
Current Farm Liabilities		
Accrued interest	1999	1979
Accounts payable	10501	6963
Current notes	29431	15386
Government crop loans	-	-
Principal due on term debt	19041	26394
Total current farm liabilities	60972	50722
Intermediate Farm Liabilities	118940	107054
Long-term Farm Liabilities	184056	246104
Total Farm Liabilities	363969	403880
Total Nonfarm Liabilities	3071	2500
Total Liabilities	367040	406380
Net Worth (farm and nonfarm)	314657	383522
Net Worth Change		68866
RATIO ANALYSIS		
Current Farm Liabilities / Assets	58 %	53 %
Curr. & Interm Farm Liab / Assets	47 %	38 %
Long Term Farm Liab. / Assets	66 %	69 %
Total Liabilities / Assets	54 %	51 %

Table 28.

BALANCE SHEET AT MARKET VALUES, 1998
Michigan Grazing Farms, More Than 80 Cows
(Average of all farms reporting)

Number of Farms	Average For All Farms	
	Beginning	Ending
	7	
ASSETS		
Current Farm Assets		
Cash and checking balance	9185	8851
Prepaid expenses & supplies	3599	7144
Growing crops	6168	7053
Accounts receivable	6886	10714
Hedging accounts	-	-
Crops held for sale or feed	75037	56121
Crops under government loan	-	-
Market livestock held for sale	2948	5016
Other current assets	1429	-
Total current farm assets	105251	94900
Intermediate Farm Assets		
Breeding livestock	229117	248960
Machinery and equipment	146435	179129
Other intermediate assets	1178	2617
Total intermediate farm assets	376731	430706
Long-Term Farm Assets		
Farm land	437271	545012
Buildings and improvements	102905	129257
Other long-term assets	7693	7937
Total long-term farm assets	547869	682206
Total Farm Assets	1029851	1207812
Total Nonfarm Assets	28277	27565
Total Assets	1058127	1235377
LIABILITIES		
Current Farm Liabilities		
Accrued interest	1999	1979
Accounts payable	10501	6963
Current notes	29431	15386
Government crop loans	-	-
Principal due on term debt	19041	26394
Total current farm liabilities	60972	50722
Intermediate Farm Liabilities	118940	107054
Long-term Farm Liabilities	184056	246104
Total Farm Liabilities	363969	403880
Total Nonfarm Liabilities	3071	2500
Total Deferred Liabilities	-	-
Total Liabilities	367040	406380
Net Worth (farm and nonfarm)	691087	828997
Net Worth Change		137909
RATIO ANALYSIS		
Current Farm Liabilities / Assets	58 %	53 %
Curr. & Interm Farm Liab. / Assets	37 %	30 %
Long Term Farm Liabilities / Assets	34 %	36 %
Total Liabilities / Assets	35 %	33 %

Table 29.

STATEMENT OF CASH FLOWS, 1998
Michigan Grazing Farms, More Than 80 Cows
(Average of All Farms)

	Average Of All Farms
Number of Farms	7
(a) Beginning cash balance (farm & nonfarm)	9185
CASH FROM OPERATING ACTIVITIES	
Gross cash farm income	428981
Net nonfarm income	(+) 6648
Total cash farm expense	(-) 319415
Apparent family living expense	(-) 61934
Income and social security tax	(-) 255
(b) Cash from operations	(= 54025
CASH FROM INVESTING ACTIVITIES	
Sale of breeding livestock	3805
Sale of machinery & equipment	(+) 1150
Sale of farm land	(+) -
Sale of farm buildings	(+) 970
Sale of other farm assets	(+) 1737
Sale of nonfarm assets	(+) 476
Purchase of breeding livestock	(-) 5160
Purchase of machinery & equip.	(-) 32067
Purchase of farm land	(-) 82509
Purchase of farm buildings	(-) 3369
Purchase of other farm assets	(-) 6006
Purchase of nonfarm assets	(-) -
(c) Cash from investing activities	(= -120973
CASH FROM FINANCING ACTIVITIES	
Money borrowed	147286
Cash gifts and inheritances	(+) 23714
Principal payments	(-) 104387
Dividends paid	(-) -
Gifts given	(-) -
(d) Cash from financing activities	(= 66613
(e) Net change in cash balance	(b+c+d) -334
Ending cash balance (farm & nonfarm)	8851

Table 30.

FINANCIAL GUIDELINES MEASURES, 1998
Michigan Grazing Farms, More Than 80 Cows
(Average of all farms reporting)

	Average Of All Farms	
Number of Farms	7	
LIQUIDITY	Beginning	Ending
Current ratio	1.73	1.87
Working capital	44279	44178
SOLVENCY (Market)	Beginning	Ending
Farm debt to asset ratio	35 %	33 %
Farm equity to asset ratio	65 %	67 %
Farm debt to equity ratio	55 %	50 %
PROFITABILITY (Cost)		
Rate of return on farm assets	8.9 %	
Rate of return on farm equity	11.4 %	
Operating profit margin	18.7 %	
Net farm income	98564	
REPAYMENT CAPACITY	Cash	Accrual
Term debt coverage ratio	190 %	172 %
Capital replacement margin	33270	26811
EFFICIENCY		
Asset turnover rate (market)	30.6 %	
Operating expense ratio	68.9 %	
Depreciation expense ratio	1.1 %	
Interest expense ratio	6.3 %	
Net farm income ratio	23.7 %	

LABOR ANALYSIS

	Average Of All Farms	
Number of Farms	7	
Total unpaid labor hours	5886	
Total hired labor hours	3086	
Total labor hours per farm	8972	
Value of farm production / hour	38.10	
Net farm income / unpaid hour	16.75	

Standard Deviations

It is generally accepted that whole farm data collected from accounting systems is quite variable. The nonrandom panel data in this paper illustrates this. Table 31 gives the results of five selected measures from the grazing farms. The means and deviations were computed in a spreadsheet.³

Table 31. **Grazing Farm Means and Standard Deviations**
Michigan, 1998

<u>Selected Measures</u>		<u>All Farms</u>	<u>Less Than 80 Cows</u>	<u>More Than 80 Cows</u>
Number of farms		15	8	7
Total crop acres *				
	Mean	394	277	550
	Standard deviation	199	117	178
Number of cows				
	Mean	98	60	143
	Standard deviation	54	14	48
Milk sold per cow				
	Mean	16,587	16,452	16,740
	Standard deviation	3,068	2,966	3,173
Milk price per cwt.				
	Mean	\$15.18	\$15.16	\$15.20
	Standard deviation	\$0.70	\$0.75	\$0.63
Net farm income				
	Mean	\$66,926	\$39,242	\$98,564
	Standard deviation	\$59,154	\$21,770	\$71,273

Table note: The means in this table are not always the same means as reported in the tables preceding it. The crop acres means * were calculated by dropping out the one farm that reported no acres in crops; they operated grazing and machine harvested acres, but chose not to report them. The mean of the milk sold per cow in this table was not weighted. In the previous tables the milk per cow is a weighted mean; the total milk in the panel was divided by the total number of cows.

Per Unit Income and Expense

Table 32 below gives the per cow cash income and cash expense items for the 15 panel dairy grazing farms in Michigan during 1998. One of the 15 did not report any crop acres, so the expense items per crop acre are based on the remaining 14 farms that averaged 393.97 acres per farm. These included owned acres plus land either cash or share rented.

Consider Tables 1 and 2. Notice that at least some of the farms sold cash crops. Several grew corn and/or corn silage. These crops likely cause unit costs to be higher than they would be on farms where no corn was grown.

³Corel's Quattro Pro. Functions: mean = @AVG; standard deviation = @STD.

Table 32. **Average Income and Expense Items, Michigan, 1998**
Per Cow and Per Acre, Dairy Grazing Farms

Number of Cows	98.40	
Total Crop Acres	393.97	<u>Your Farm</u>
Income Items per Cow:		
Milk sold	\$2,604	_____
Cull cows, bulls	107	_____
Dairy steers	45	_____
Dairy calves	17	_____
Other cash income	196	_____
Expense Items per Cow:		
Purchased feed	\$626	_____
Breeding fees	26	_____
Veterinary	42	_____
Livestock supplies	103	_____
Livestock leases	2	_____
Livestock marketing	103	_____
Interest	193	_____
Fuel and oil	56	_____
Repairs	185	_____
Custom hire	45	_____
Hired labor	279	_____
Land rent	84	_____
Leases	33	_____
Real estate taxes	46	_____
Farm insurance	48	_____
Utilities	70	_____
Dues, prof. fees	18	_____
Miscellaneous	83	_____
Machinery depreciation	134	_____
Building depreciation	54	_____
Expense Items per Crop Acre:		
Seed	\$11.22	_____
Fertilizer	31.20	_____
Crop chemicals	6.63	_____
Crop insurance	0.03	_____
Crop miscellaneous	1.62	_____