

Balance Sheet of Wisconsin Dairy Farms - 2000

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Introduction

One of the most important indicators of financial progress in a farm business is the Balance Sheet, sometimes called the Net Worth Statement. The Balance Sheet is a listing of all the assets (items owned), liabilities (debts owed) and equities of a business or individual at the beginning and at the end of a financial year. A financial year can begin on any date and will usually end one calendar year later. However, in rare cases financial years can be shorter than one calendar year. The most common financial year is a calendar year, beginning January 1 and ending December 31.

On a Balance Sheet, assets and liabilities are listed in two broad categories: Current and Non-Current. Current Assets are cash and resources that can be converted into cash within one year, without reducing the productive capacity of the business. Current liabilities are debts that should be paid within one year. They include Accounts Payable and the portion of all other debt scheduled for repayment in the next 12 months.

Non-Current Assets are all assets that are not listed as current assets. They include, but are not limited to, breeding livestock, machinery, equipment, buildings and land. Non-current liabilities are debts that are not due in full over the next 12 months **minus** the portion of that debt due in the next 12 months.

Balance Sheet

Table 1 shows the assets, liabilities and equities per cow in 2000 for the average farm in the study. The cash on hand increased in 2000 even though 2000 was not a good year financially. This is likely due to the Market Loss Payment dairy farmers received in late December 2000. Prepaid Expenses & Purchased Inventories were down almost \$24 per cow (20 percent). This is expected in a below average financial year. However, they would have been at the same level as at the end of 1999 had farm managers been prepared to spend the Market Loss Payment received in late December.

Raised Feed Inventories slipped by \$16 per cow; however, in percentage terms this was less than 3 percent. Overall, Current Assets remained constant from the beginning to the end of 2000.

Non-Current Assets increased by over \$200 per cow to \$7,112 at the end of 2000. All of the Non-Current Assets categories had small gains with Buildings having the largest gain. All Non-Current Assets except Raised Breeding Livestock have basis. Basis is defined as the purchase price minus the sum of all cost (tax) depreciation claimed against an asset. (Note: when you sell an asset you only pay taxes on the sale income in excess of the basis.)

The Total Farm Liabilities increased by over \$160 per cow to \$2,778 at the end of 2000. This Balance Sheet does not include Contingent Liabilities. Contingent liabilities are selling costs and taxes that would occur if the farm business's assets were sold. On another run of the data, the contingent liabilities were shown to be approximately \$1,100 per cow.

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Table 1 - 2000 Balance Sheet (\$/Cow)

	<u>Beg Dollars</u>	<u>End Dollars</u>		
Current Assets				
Cash Accounts	93.59	124.68		
Prepaid Expenses & Purchased Inventories	121.21	97.57		
Raised Feed Inventories	587.10	571.41		
Basis in Resale Livestock Purchased	0.01	1.01		
Accounts Receivable	3.54	4.00		
Market Livestock & Etc.	0.86	0.73		
Total	806.30	799.39		
Non-Current Assets				
			<u>Basis</u>	
			<u>Beg. Dollars</u>	<u>End Dollars</u>
Raised Breeding Livestock	1,531.77	1,582.78		
Purchased Breeding Livestock	391.10	391.17	320.45	326.26
Machinery & Equipment	1,253.43	1,293.68	658.23	671.41
Buildings	1,562.81	1,632.11	1,216.93	1,261.33
Land & House	2,006.21	2,043.66	1,049.38	1,094.76
Other Non-Current Assets	157.22	168.67	91.40	107.15
Total	6,902.54	7,112.07	3,336.39	3,460.92
Total Farm Assets	7,708.84	7,911.47		
Current Liabilities				
Accounts Payable	15.45	21.47		
Current Portion of Non-Current Liabilities	154.69	160.39		
Other Current Liabilities	71.20	84.60		
Total	241.33	266.46		
Non-Current Liabilities				
Intermediate Liabilities	972.12	1,055.80		
Long-Term Liabilities	1,405.61	1,455.95		
Contingent Liabilities	0.00	0.00		
Total	2,377.74	2,511.75		
Total Farm Liabilities	2,619.07	2,778.20		
Non-Farm Assets	335.14	367.71		
Non-Farm Liabilities	23.21	22.69		

Statement of Equities (Net Worth)

	<u>Beginning</u>	<u>Ending</u>	<u>Change</u>
Contributed Capital	1.02	1.68	0.66
Retained Earnings ¹	3,054.36	3,063.20	8.84
Valuation Adjustment	2,034.38	2,068.38	34.00
Total Farm Equities	5,089.77	5,133.26	43.49
Non-Farm Equities	311.93	345.02	33.10
Total Equities	5,401.69	5,478.28	76.59

¹ All current assets and raised breeding livestock are included in retained earnings.

The Statement of Equities is not calculated on all balance sheets, so some explanation may be helpful. The Statement of Equities splits the farm manager's equity into four categories whereas other balance sheets may only split the equity into two categories, farm and non-farm.

Separating the farm equity into 3 categories assists in understanding the factors underlying the change in equity. The 3 categories are Contributed Capital, Retained Earnings and Valuation Adjustment.

Contributed Capital is startup capital plus any non-farm money that was added in the years since startup. The "change" column is the change that occurred between the beginning and end of the year.

Retained Earnings are the General Accepted Accounting Principles (GAAP) dollars that the business has earned and not paid to owners or others; but "retained" in the business. As a matter of convention, all current assets and the value of raised breeding livestock are included in retained earnings. *For non-agricultural businesses, this is the key variable in determining their potential.*

Valuation Adjustment is the change (increase or decrease) in the market value in non-depreciable assets **plus** the difference between the market value of depreciable assets and their basis **minus** contingent liabilities. A farm that has most of its change in equity in the Valuation Adjustment category is not changing its equity by profitable farming but rather by wise investing or creative accounting. *Non-farm businesses do not calculate a valuation adjustment because GAAP does not recognize the gain on the value of an asset until it is sold and the selling costs and taxes paid.*

The Statement of Equities of 2000 shows an increase of \$43.49 per cow in farm equity. Of this only \$8.84 was Retained Earnings. Retained Earnings were \$367 per cow in 1998.

Balance Sheet at the End of 2000 by Herd Size

Table 2 shows the ending dollars on the 2000 Balance Sheet (for some balance sheet categories) and some farm profile data by herd size groups. The herd size groupings chosen were: less than or equal to 50, 51 to 75, 76 to 100, 101 to 150, 151 to 250, and greater than 250 cows.

Raised Feed Inventories, as well as Total Current Assets, fell once herd sizes reached 151 cows. Total Current Assets were approximately \$900 per cow until the herd size reached 151 cows, then it fell to approximately \$700 per cow. This is likely due to less crop acres per cow and therefore less ability to carry forward raised feed for a bad crop year.

In Non-Current Assets, the sum of Raised Breeding Livestock and Purchased Breeding Livestock is nearly constant at \$2,100 per cow until herd size reaches 151 cows. It then decreases to \$2,000 per cow. This decrease is likely due to smaller numbers of young stock per cow. While the sum of Raised Breeding Livestock and Purchased Breeding Livestock does not change appreciably, the percentage of that sum that is purchased breeding livestock increases from 9 to 33 percent as the herd size increases. The percentage only increased to 14 for the 51 to 150-herd size groups but jumped to 22.5 percent and 33.5 percent for the 151 to 250 and greater than 250-herd size groups, respectively.

The market value of Machinery & Equipment per cow on dairy farms with 151 or more cows was approximately half of its value per cow on smaller farms. This is likely due to the ability of larger farms using their machinery and equipment more hours per year, therefore requiring less equipment per cow.

The market value of the buildings per cow was relatively constant with a slight increase for herds with greater than 250 cows. Newer facilities are the likely cause.

The market value of the Land & House decreases precipitously as herd size increases. This is due to three factors. First, fewer crop acres per cow as shown on Table 2. Second, a smaller percent of those fewer crop areas per cow are owned. Third, fewer acres of woods and other land are owned per cow.

Table 2 - 2000 Balance Sheet (\$/Cow) - End Values

Number of cows	>= 50	51 - 75	76 - 100	101 - 150	151 - 250	> 250
Number of Farms	135	196	93	71	39	47
Average Cows per Farm	41.5	62.9	88.3	121.2	188.4	466.9
Milk Sold per Cow (lbs)	18,425	19,773	20,544	20,373	19,989	21,796
Crop Acres per Cow	4.5	4.2	4.3	3.7	2.6	2.1
Total Crop Acres Farmed	187	264	380	448	490	980
Current Assets						
Prepaid Expenses & Purchased Inventories	85	105	111	97	69	110
Raised Feed Inventories	691	687	713	686	511	451
Total Current Assets	863	956	981	879	735	690
Non-Current Assets						
Raised Breeding Livestock	1,907	1,853	1,832	1,814	1,556	1,330
Purchased Breeding Livestock	189	253	258	291	450	669
Machinery & Equipment	1,780	1,890	1,647	1,493	996	825
Buildings	1,747	1,495	1,628	1,464	1,761	1,903
Land & House	4,172	3,588	2,571	2,085	1,273	835
Total Farm Assets	10,857	10,271	9,199	8,232	6,917	6,338
Current Liabilities						
Accounts Payable	23	19	22	34	30	17
Total Farm Liabilities	2,477	2,496	2,665	2,564	3,373	3,343
Change in Equities (Net Worth)						
Retained Earnings	120	84	56	(29)	(55)	(51)
Valuation Adjustment	(43)	14	39	90	47	43
Total Farm Equities	79	98	91	68	(8)	(8)

Total Farm Assets per cow fall approximately \$1,000 for each category increase in herd size. The smallest herd size category (less than or equal to 50 cows) had almost \$11,000 (10,857) in the market value of assets per cow. The largest herd size category (greater than 250 cows) has only \$6,338 in market value of assets per cow. The smallest herds had \$1.71 per cow in assets for each \$1.00 per cow in assets on the largest herds. This means smaller herds must earn a 71 percent higher Return on Assets per cow to have the same whole farm Rate of Return on Assets (ROROA) as the largest herd sizes. This is extremely difficult.

Accounts Payable does not show a trend; however, Total Farm Liabilities remains relatively constant at \$2,500 per cow until herd sizes of 151 cows or greater are reached. From then on it averages approximately \$3,350 per cow.

Equity per cow is over \$8,000 for the herd with 50 or less cows and just under \$3,000 per cow for the herds with greater than 250 cows. The smallest herds have approximately 180 percent more equity per cow than the largest herds. This means smaller herds must earn a 180 percent higher Return on Equity per cow to have the same whole farm Rate of Return on Equity (ROROE) as the largest herd sizes. This is more than extremely difficult -- it approaches impossible.

The change in Total Farm Equities as herd size increases is, again, nearly constant until herd sizes of 151 cows or more are reached. However, the distribution of that total change in equity between equity categories is quite different. The smallest farms had the largest Retained Earnings and the smallest Valuation Adjustment. It was negative. A negative Valuation Adjustment means the market value of assets fell more than the cost value. In other words, the economic depreciation assigned exceeded the cost (tax) depreciation taken. In each of the other herd size categories economic depreciation was less than cost (tax) depreciation; it was less by the amount of the Valuation Adjustment. Farms with a negative Retained Earnings could not have had a positive change in equity if GAAP accounting principles were followed.

Summary

The average ending Total Farm Assets was \$7,911 per cow. The Total Farm Assets were \$10,857 per cow for herds with 50 or fewer cows and \$6,338 per cow for herds with more than 250 cows. The decrease in assets per cow was approximately \$1,000 for each increase in herd size category.

The average ending Total Farm Liabilities was \$2,778 per cow. Total Farm Assets were \$2,477 per cow for herds with 50 or fewer cows and \$3,343 per cow for herds with more than 250 cows.

The Retained Earnings increase in equity was only \$9 per cow in 2000. (It was \$367 per cow just 2 years ago in 1998.) Herds with 50 cows or less had approximately a \$120 per cow increase in Retained Earnings. Herds with 151 or more cows had less than a **negative** \$50 per cow change in Retained Earnings.

More details on the cost of production on the 605 farms studied in 2000 are published in the papers "Milk Production Costs in 2000 on Selected Wisconsin Dairy Farms" and "2000 Financial Benchmarks on Selected Wisconsin Dairy Farms." These papers are available on the Center for Dairy Profitability's website at <http://cdp.wisc.edu>.