

Dairy Sheep Profitability Project

*A Review of Wisconsin
Dairy Sheep Operations
2010*

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A review of profitability on dairy sheep operations is a difficult process due to the relatively few dairy sheep flocks producing milk and the ability to obtain accurate records of data necessary to analyze profitability. With that in mind, four Wisconsin dairy sheep operations were asked to submit data using the Dairy Sheep TRANS financial analysis software. The following discussion is based on the data in Tables 1 and 2 on the pages that follow. The data is broken into two groups. The data set on the left contains the average of the four farms. The data on the right contains the data of the top 50% or in this case, only the top two farms.

These four dairy sheep operations exhibited a wide range of profitability from being somewhat profitable (depending on the definition) to being not so profitable and showing substantial losses from the net income from operations, return to labor and return to equity. Thus, it is important to realize that RISK is associated with management and operation of dairy sheep enterprises.

The average of the four farms had 41 productive acres as part of the operation with the more profitable ones (Top 50%) at 54 acres per farm. The average had 225 ewes while the more profitable ones had 330 ewes or a significant 47% more ewes per farm. Total assets on the average farm was \$1,447 per milking ewe while the more profitable ones had only \$1,120 of assets per ewe. The average milk price was \$66.17 and was pretty similar to the \$64.84 milk price of the more profitable operations. Milk sales were \$318 and \$322 per ewe for the average and more profitable respectively. Total cash income was \$424 and \$411 per ewe, respectively.

On the expense side of the equation, all the expense items were lower on the more profitable operations indicating more astute cost control measures to operation of a more profitable farm.

Net cash income was negative in both the average farm (-\$106 per ewe) and the more profitable (-\$20 per ewe) operations. Inventory changes of -\$183/ewe and +\$16,891 were recorded for the average and more profitable, respectively and these were significant, mostly stemming from feed inventory changes and breeding livestock sales. After subtracting a charge for equity ownership and interest at 6%, the average return to labor was -\$40,979 per operation or -\$183 per ewe. For the more profitable farms, the return was still negative at -\$11,186 with losses \$29,793 lower than the average of the operations.

Labor Efficiencies

These dairy sheep operations averaged -\$13.42 per labor hour while the more profitable ones averaged -\$3.25 per labor hour going into the operation. There was 17.82 hours of labor average per ewe while the more profitable farms averaged 15.15 hours of labor per ewe, a significant 17.6% difference that could play a key role in why the more profitable farms could handle 47% more ewes.

Like any dairy operation, labor efficiency plays a large part in profitability and this analysis shows striking differences in all labor efficiency categories. The adjusted gross return per FTE (Full Time Equivalent) was \$55,732 on average and \$77,762 for the more profitable farms. The return to all labor per FTE was -\$23,743 on average but still only \$2,289 for the more profitable farms. The number of ewes per FTE

Laborer (3,000 hours annually) was 125 on average but was 166 or 33% higher on the more profitable farms. Hundredweights sold per FTE were also significantly more on the more profitable farms by 38.8%. This increase in labor efficiency for all these measures was greater percentage wise than even the purchased feed cost differences (24%) between the average farm and the more profitable farms. Thus, the more profitable farms are much more labor efficient than the average farm.

One of the more intriguing pieces of this analysis is the fact that total purchased feed costs were \$273 per ewe on average but only \$220 per ewe for the more profitable operations. The more profitable operations had 47% more ewes on only 31.7% more land and yet their feed costs were \$53 lower per ewe. Errors in feed inventory adjustments from beginning to end of year could be a factor as producers estimated these figures as best they could. However, these feed cost differences are highly significant.

Milk Production Costs and Profitability

The average dairy sheep operation had a gross income of \$66.17 per hundredweight. The gross expenses was \$188.76 for a net cash income of \$-122.60. This is of great concern as even a doubling of the gross income would still not cover the gross expenses of these operations, on average. However, the more profitable farms only had gross expenses per hundredweight of \$89.74 so their net income loss per hundredweight was only \$-24.90. Pounds of milk sold per ewe was 473 for the average of the four farms but 502 pounds of milk per ewe for the more profitable ones or around 6% higher.

Other efficiency and profit factors play a part and can be compared against the average and the more profitable farms in the tables.

Rate of return was -21% on average and -9.6% for the more profitable farms. The operating profit margin was -159% on average and -23.8% for the more profitable farms. Asset turnover ratios were 28% on average and 42.6% for the more profitable farms.

Summary

Dairy Sheep operations face profit risk as this industry continues to try to get its feet on the ground and grow. This profit analysis in 2010 showed highly variable levels of profitability or lack of signifying that many management issues need to be discerned relative to labor efficiency, feed costs and genetic improvement especially to increase both ewes managed per FTE, purchased feed costs and milk produced per ewe.

2010 is one review in time. More dairy sheep profitability review is encouraged in future years to further assist this industry become more viable. Current and potential dairy sheep producers are encouraged to look at their current and potential profitability in order to reduce investment risk as new operations are built and current operations are expanded.

Credits: This author would like to thank the dairy sheep operations who participated in this financial analysis. In addition, much appreciation needs to be given to Dr. Claire Mikolayunas, UW-Extension Sheep Specialist, for her initiation and thoughtful review of this Dairy Sheep Profitability Project.

Table 1.

Dairy Sheep Records, 2010	Average 4 Farms	Per Ewe		Dairy Sheep Records 2010	Top 50% 2 Farms	Top 50% Per Ewe
Productive Crop Acres	41	0.18		Productive Crop Acres	54	0.10
Average Number of Ewes	225	1.00		Average Number of Ewes	330	
Total Assets on Farm	\$324,798	\$1,447		Total Assets on Farm	\$369,451	\$1,120
Milk Price	\$66.17			Milk Price	\$64.84	
Milk Hundred weight Equiv.	1,462	6.51		Milk Hundred weight Equiv.	2,332	7.07
Milk Hundredweights	1,086	4.84		Milk Hundredweights	1,639	4.97
Milk Sales	\$71,297	\$318		Milk Sales	\$106,294	\$322
Cull Ewe Sales	\$2,291	\$10		Cull Ewe Sales	\$4,582	\$14
Lamb Sales	\$13,158	\$59		Lamb Sales	\$19,266	\$58
Crop Sales	\$0	\$0		Crop Sales	\$0	\$0
Other Income	\$8,477	\$38		Other Income	\$5,441	\$16
Total Cash Income	\$95,223	\$424	/cwt.eq.	Total Cash Income	\$135,582	\$411
Veterinary, Medicine	\$2,384	\$11	\$1.63	Veterinary, Medicine	\$2,152	\$7
Dairy Supplies	\$4,827	\$22	\$3.30	Dairy Supplies	\$6,218	\$19
Breeding Fees	\$307	\$1	\$0.21	Breeding Fees	\$0	\$0
Feed Purchased	\$61,353	\$273	\$41.97	Feed Purchased	\$72,647	\$220
Repairs	\$5,772	\$26	\$3.95	Repairs	\$6,044	\$18
Seed, Chem, Fert	\$2,106	\$9	\$1.44	Seed, Chem, Fert	\$2,502	\$8
Fuel, Gas, and Oil	\$922	\$4	\$0.63	Fuel, Gas, and Oil	\$1,079	\$3
Utilities	\$5,911	\$26	\$4.04	Utilities	\$7,805	\$24
Interest Paid (included in equity charge)	\$0	\$0	\$0.00	Interest Paid (in equity charge)	\$0	\$0
Labor Hired	\$18,186	\$81	\$12.44	Labor Hired	\$24,324	\$74
Rent, Lease and Hire	\$1,949	\$9	\$1.33	Rent, Lease and Hire	\$2,387	\$7
Property Taxes	\$2,451	\$11	\$1.68	Property Taxes	\$3,124	\$9
Farm Insurance	\$2,833	\$13	\$1.94	Farm Insurance	\$3,216	\$10
Other Cash Expense	\$10,085	\$45	\$6.90	Other Cash Expense	\$10,615	\$32
Total Cash Expense	\$119,082	\$530	\$81.46	Total Cash Expense	\$142,112	\$431
Net Cash Income	-\$23,859	(\$106)	-\$16.32	Net Cash Income	-\$6,530	(\$20)
Inventory Change	\$808	\$4	\$0.55	Inventory Change	\$16,891	\$51
Net Farm Income	-\$23,051	(\$103)	-\$15.77	Net Farm Income	\$10,362	\$31
Equity@ 6%	\$17,928	\$80	\$12.26	Equity@ 6%	\$21,548	\$65
Return to Labor	-\$40,979	(\$183)	-\$28.03	Return to Labor	-\$11,186	(\$34)
Inventory Adjustments--Feed	-\$2,958	(\$13)	-\$2.02	Inventory Adjustments--Feed	\$4,055	\$12
Supplies and Other	\$1,500	\$7	\$1.03	Supplies and Other	\$3,000	\$9
Breeding Livestock	\$2,163	\$10	\$1.48	Breeding Livestock	\$8,650	\$26
Income Change	\$704	\$3	\$0.48	Income Change	\$15,705	\$48
Prepaid Expenses	\$0	\$0	\$0.00	Prepaid Expenses	\$0	\$0
Accounts Payable	\$0	\$0	\$0.00	Accounts Payable	\$0	\$0
Machinery & Equipment	\$1,500	\$7	\$1.03	Machinery & Equipment	\$0	\$0
Land and Buildings	\$6,250	\$28	\$4.28	Land and Buildings	\$0	\$0
Other Adjustments	\$2,468	\$11	\$1.69	Other Adjustments	\$4,937	\$15
Expense Change	-\$10,218	(\$46)	-\$6.99	Expense Change	-\$4,937	(\$15)
Capital Purchases Minus Sales Adj.	\$10,115	\$45	\$6.92	Capital Purchases Minus Sales Adj.	\$3,750	\$11
Depreciation COST	\$18,621	\$83	\$12.74	Depreciation COST	\$2,736	\$8
Depreciation FM Value	\$5,593	\$25	\$3.83	Depreciation FM Value	\$3,140	\$10
Unpaid Labor Cost	\$37,500	\$167	\$25.65	Unpaid Labor Cost	\$45,000	\$136
Unpaid Labor Hours	4,000	17.82 hrs/ewe		Unpaid Labor Hours	\$5,000	15.15
Labor Full Time Equivalent	\$1.83	Total Labor		Labor Full Time Equivalent	2.17	
Labor Earnings Per Hour	-\$13.42			Labor Earnings Per Hour	(\$3.25)	-\$0.01

Table 2.

Dairy Sheep Records, 2010	Average 4 Farms	Per Ewe	Dairy Sheep Records 2010	Top 50% 2 Farms	Top 50% Per Ewe
Gross Income per Cwt. Eq.	\$66.17		Gross Income per Cwt. Eq.	\$64.84	\$0.20
Gross Expense per Cwt. Eq.	\$188.76		Gross Expense per Cwt. Eq.	\$89.74	\$0.27
Net Income per cwt.	-\$122.60		Net Income per cwt.	(\$24.90)	-\$0.08
Cash Income--	\$95,223	\$424	Cash Income--	\$135,582	\$411
Adjusted Income	\$704	\$3	Adjusted Income	\$15,705	\$48
Total Income	\$95,927	\$427	Total Income	\$151,287	\$458
Cash Costs (w/o interest)	\$119,082	\$530	Cash Costs (w/o interes	\$142,112	\$431
Adjusted Costs	-\$104	\$0	Adjusted Costs	(\$1,187)	(\$4)
Overhead Costs	\$55,428	\$247	Overhead Costs	\$66,548	\$202
Total Costs	\$174,406	\$777	Total Costs	\$207,473	\$629
RETURN OVER COSTS	-\$78,479	-\$350	RETURN OVER COSTS	(\$56,186)	(\$170)
Adj. Gross Return per FTE Labor.....	\$51,732		Adj. Gross Return per FTE Labor....	\$77,762	
Return to All Labor per FTE Labor.....	-\$23,743		Return to All Labor per FTE Labor....	\$2,289	
Number of Does per FTE Labor.....	125		Number of Does per FTE Labor....	166.25	
Cwts. of Milk Sold per FTE Labor.....	607		Cwts. of Milk Sold per FTE Labor....	843	
Pounds of Milk Sold per Doe.....	473		Pounds of Milk Sold per Doe.....	502	
Productive Crop Acres per Doe.....	0		Productive Crop Acres per Doe.....	0.17	
Capital Cost per Doe.....	\$129		Capital Cost per Doe.....	\$78	
All Labor Costs per Doe.....	\$277		All Labor Costs per Doe.....	\$208	
Fixed Cost per Doe (DIRTI)	\$191		Fixed Cost per Doe (DIRTI)	\$119	
Capital Invested per Doe.....	\$1,687		Capital Invested per Doe.....	\$1,092	
Net Farm Income per Crop Acre.....	(\$979)		Net Farm Income per Crop Acre.....	\$164	
Lbs. Milk Produced per Crop Acre.....	2468		Lbs. Milk Produced per Crop Acre.....	3,022	
Adj. Gross Cash Income/Crop Acre.....	\$2,107		Adj. Gross Cash Income/Crop Acre.....	\$2,789	
Machinery Investment/Crop Acre	\$573		Machinery Investment/Crop Acre	\$405	
Fuel, Gas and Oil Cost/Crop Acre.....	\$24		Fuel, Gas and Oil Cost/Crop Acre.....	\$22	
Repair Cost per Crop Acre.....	\$161		Repair Cost per Crop Acre.....	\$117	
Fert/Chem/Seed Cost/Crop Acre.....	\$56		Fert/Chem/Seed Cost/Crop Acre.....	\$50	
Livestock over Total Investment %	23%		Livestock over Total Investment	27%	
Cash Exp./Cash Inc.w/o Labor&Int.....	121%		Cash Exp./Cash Inc.w/o Labor&Int..	87%	
All Labor as Percent of Total Costs.....	31%		All Labor as Percent of Total Costs..	33%	
Fixed Cost as Percent of Total Cost.....	20%		Fixed Cost as Percent of Total Cost..	18%	
**Net Farm Income From Operations	(\$23,051)		**Net Farm Income From Operati	\$10,362	
**Rate of Return on Assets.....	-21%	IOWA STATE UNIVERSITY Cooperative Extension	**Rate of Return on Assets.....	-9.6%	
**Rate of Return on Equity.....	-21%		**Rate of Return on Equity.....	-9.6%	
**Operating Profit Margin.....	-159%		**Operating Profit Margin.....	-23.8%	
**Asset Turnover Ratio.....	28% Dairy Sheep TRANS 2007		**Asset Turnover Ratio.....	42.6%	
**Operating Expense Ratio.....	188% by Dr. Larry Tranel		**Operating Expense Ratio.....	92.7%	
**Depreciation Expense Ratio.....	10% Dairy Field Specialist		**Depreciation Expense Ratio.....	2.2%	
**Net Farm Income Ratio.....	-98%		**Net Farm Income Ratio.....	5.0%	
			Estimated % Interest Paid		
Dairy TRANS Profit Status is.....					
Dairy TRANS Performance Rating					

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