



The Relative Competitiveness of Confinement Dairies versus Grazing Dairies

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IN 2000, THE MINNESOTA PROJECT, INCORPORATED WAS THE recipient of a 4-year USDA-NRCS Environmental Quality Incentive Program grant to examine several questions related to the environmental performance and financial feasibility of anaerobic digesters on dairy farms. One objective, of the economic analysis was to compare the economic performance of the 800-cow HaubenschildFamily dairy farms near Princeton, Minnesota in 1999 with a methane digester to a 260-cow low-input grazing dairy farm.

Description of Study

This fact sheet is the comparison of the financial performance of a confinement dairy system and a management intensive rotational grazing (MIRG) system. In a management intensive rotational grazing (MIRG) system, instead of housing the cows in a barn during the winter, they are out-wintered on bedding packs. Bedding packs are either partially or totally composted during the summer prior to spreading on cropland. MIRG systems require less capital investment than confinement systems, especially in terms of manure handling equipment and storage facilities.

Comparisons of major income statement items are done on a per cow basis rather than absolute dollar amount. Larger herds will have more dollars of milk sold than smaller herds based solely on the fact they have more cows. Comparisons of net farm income between the two systems are represented in Table 1. The pattern seen is fairly typical of well-managed confinement and MIRG dairy farms. Confinement dairies tend to have higher gross sales, higher cash expenses, higher depreciation and lower net income than low-input grazing systems. While net farm income per cow was higher on the

Table 1. Income Statement Haubenschild's Dairy and a Low-Input Grazing Dairy

	Haubenschild Farm		Low-Input Grazing Dairy	
	Total	Per Cow	Total	Per Cow
Milk Sales	\$2,923,350	\$3,657.94	\$649,649	\$2,498.65
Electricity Sales	\$39,687	\$49.61		
Gross Farm Income	\$3,335,179	\$4,168.97	\$777,182	\$2,989.16
Fuel and Oil Expense	\$30,032	\$37.54	\$13,806	\$53.10
Utilities	\$30,093	\$37.62	\$13,839	\$53.23
Other Cash Expenses	\$2,489,976	\$3,112.47	\$494,361	\$1,901.39
Total Cash Expenses	\$2,550,101	\$3,187.63	\$522,007	\$2,007.72
Depreciation	\$256,308	\$320.39	\$20,607	\$79.26
Net Farm Income	\$528,770	\$660.96	\$234,567	\$902.18
Rate of Return on Assets		13.6%		15.8%
Rate of Return on Equity		24.0%		20.7%
Asset Turnover Ratio		35.9%		38.2%

MIRG system, total income was higher on the confinement dairy.

Rate of return on assets (ROA), rate of return on equity (ROE) and asset-turnover ratio are on a percentage basis and can be compared directly.

Haubenschild's farm had a higher ROE than the low input farm. When looking at ROA, the low-input farm was higher. The low-input farm has less invested in assets on the farm because of the nature of the operation. Lower revenue

on the grazing operation was offset by the lower asset values resulting in a higher ROA. Similarly the asset-turnover ratio is higher on the low-input dairy farm.