Farm Financial Data Collection Task Force 1987 Report to the Minnesota Legislature



Executive Summary
Part 11

FARM FINANCIAL DATA COLLECTION TASK FORCE

1987 REPORT TO THE MINNESOTA LEGISLATURE

EXECUTIVE SUMMARY PART II

FARM FINANCIAL DATA COLLECTION TASK FORCE 1987 REPORT TO THE MINNESOTA LEGISLATURE

EXECUTIVE SUMMARY

PART II

1987 MINNESOTA FARM FINANCIAL SURVEY

INTRODUCTION

The 1987 Minnesota Farm Financial Survey is a continuation of previous surveys authorized by the Farm Financial Data Collection Task Force of the Minnesota Legislature. The responsibility of the Task Force is to collect data on the farm financial conditions in Minnesota and to report the results of these findings to the State Legislature.

The financial data in this report was obtained from participants in the Technical Institute Farm Management Program and from the Southeastern and Southwestern Minnesota Farm Business Management Associations (Extension Service). A total of 978 farm records from the Technical Institute Program and 236 records from the Extension Service Program were compiled and summarized in this report. For statistical reasons, however, the two sets of data have not been merged together, but are reported individually throughout the Report.

SUMMARY AND CONCLUSIONS

Minnesota farm financial conditions improved substantially in 1987. Cash flow has improved with higher incomes from good crop yields, higher livestock prices and increased Federal support payments. Debt levels have been reduced or rescheduled for repayment at a later time.

CASH FLOW SITUATION

Cash Flow Summary, 1987

An improved financial situation for most Minnesota farm operators for 1987 has been reported by a variety of sources. This report is consistent with those findings. "Cash flow" has improved as a result of good crop yields, improved prices for livestock and poultry products and the heavy intervention of the Federal Government. The combined result of all these influences is higher farm income with greater ease of being able to "make-ends-meet." This can be seen in Tables 1A and 1B, Cash Flow Summary, below. Table 1A contains the Summary for the Technical Institute participants and Table 1B is the Summary of the Extension Service operators.

For the Technical Institute participants, Net Cash Farm Income averaged \$37,157 and varied between an average of \$29,775 for dairy-swine operations to an average of \$55,041 for grain-swine operators. Off-Farm Income contributed another 18.3 percent to Total Cash Income for all farms, and ranged from 13.4 percent for grain-swine to 28.7 percent for grain-beef operators. Total Cash Available, which includes the sale of any farm assets, averaged \$49,875 for all farms and varied between an average of \$37,337 for dairy-swine farmers to an average of \$68,372 for grain-swine operations.

TABLE 1A
TECHNICAL INSTITUTE
CASH FLOW SUMMARY
1987

ITEM	$\frac{A11 \text{ Farms}}{(N = 978)}$	Cash Grain (N = 188)	Grain-Dairy (N = 132)	$\frac{\text{Grain-Beef}}{(N = 69)}$	Grain-Swine (N = 180)	Dairy-Swine (N = 167)
Cash Farm Receipts Cash Production Expenses Net Cash Farm Income Off-Farm Income Total Cash Income Sale of Farm Assets Total Cash Available	\$154,285 117,751 \$ 37,157 8,354 \$ 45,595 4,234 \$ 49,875	\$136,876 105,905 \$ 31,770 11,619 \$ 43,446 4,371 \$ 47,864	\$127,942 91,234 \$ 36,459 5,974 \$ 42,478 3,238 \$ 45,684	\$203,247 176,929 \$ 26,318 10,627 \$ 36,944 5,878 \$ 42,822	\$201,162 146,345 \$ 55,041 8,524 \$ 63,551 4,823 \$ 68,372	\$109,943 80,424 \$ 29,775 5,093 \$ 34,804 2,487 \$ 37,337
"Fixed" Obligations ²	\$ 40,738	\$ 42,782	\$ 33,382	\$ 44,551	\$ 51,618	\$ 30,955
Number of Times "Fixed" Obl By Farm Income, Alone By Total Cash Income By Total Cash Available	igations Cove 0.91 1.12 1.22	0.74 1.02 1.12	1.09 1.27 1.37	0.59 0.83 0.96	1.07 1.23 1.32	0.96 1.12 1.21

¹This table is a summary of all 978 surveys used, but for which all questions were not answered. Hence the columns may not add due to missing observations.

 $^{^2}$ Principal reduction payments, family living expenses plus social security and income taxes. All interest expenses are included in cash production expenses.

 $^{^3}$ Income divided by fixed obligations. This ratio will be "1.0" or greater if these obligations are fully covered.

For the Extension Service participants (Table 1B), Net Cash Farm Income averaged \$56,763 for all farms and varied between \$45,301 for the cash grain group to \$69,151 for grain-swine operations. Off-Farm Income increased the operators Total Cash Income to an average of \$66,416 and Total Cash Available was increased slightly to \$66,823 by the Sale of Farm Assets.

TABLE 1B EXTENSION SERVICE CASH FLOW SUMMARY 1987

ITEM	$\frac{A11 \text{ Farms}}{(N = 236)}$	$\frac{\text{Cash Grain}}{(N = 39)}$	$\frac{\text{Grain-Dairy}}{(N = 28)}$	$\frac{\text{Grain-Beef}}{(N = 25)}$	Grain-Swine (N = 60)
Cash Farm Receipts Cash Production Expenses Net Cash Farm Income Off-Farm Income Total Cash Income Sale of Farm Assets Total Cash Available	\$237,741 180,977 \$ 56,763 9,653 \$ 66,416 407 \$ 66,823	\$158,963 113,662 \$ 45,301 11,960 \$ 57,261	\$201,721 148,854 \$ 52,867 7,920 \$ 60,787 \$ 60,787	\$311,713 254,425 \$ 57,288 9,808 \$ 67,096 3,840 \$ 70,936	\$280,220 211,069 \$ 69,151 9,982 \$ 79,133 \$ 79,133
"Fixed" Obligations 1	\$ 46,456	\$ 35,511	\$ 58,118	\$ 64,239	\$ 47,013
Number of Time "Fixed" Oblig By Farm Income, Alone By Total Cash Income By Total Cash Available	ations Covered ² 1.22 1.43 1.44	1.28 1.61 1.61	0.91 1.05 1.05	0.89 1.04 1.10	1.47 1.68 1.68

¹Principal reduction payments, family living expenses plus social security and income taxes. All interest expenses are included in cash production expenses.

These income figures, however, need to be evaluated in light of the "Fixed" Obligations (annual principal reduction payments, family living expenses and taxes) that have been committed to by the operators and their families. Reported "Fixed" Obligations averaged \$40,738 for the "TI" operators and \$46,456 for the "ES" farmers.

The relationship between income and "Fixed" Obligations is seen in the lower portion of these Tables. This relationship is expressed as a ratio which indicates whether or not "Fixed" Obligations are fully covered by the various measures of income. This ratio will be "1.0" or greater, if these obligations are fully covered. For the 978 "TI" records evaluated, on average, this ratio varied between 0.91 to 1.22 depending upon the income measure used. As seen, only the grain-dairy and grain-swine operators were able to fully cover their fixed obligations with farm income alone. For the "ES" participants, this ratio ranged between 1.22 to 1.44. As seen, the cash grain and grain-swine operations were substantially greater than the grain-dairy and grain-beef farms.

 $^{^2}$ Income divided by fixed obligations. This ratio will be "1.0" or greater if these obligations are fully covered.

Cash Flow Summary, 1986 vs. 1987

The influence of good crop yields and improved livestock prices can be seen in Table 2, below, in comparing 1986 with 1987. For the Technical Institute operators only, on average, Net Cash Farm Income increased 17 percent from \$31,597 to \$37,157. Likewise, Total Cash Income and Total Cash Available increased by a similar percentage. With "Fixed" Obligations remaining relatively constant, the ratio of Income to "Fixed" Obligations improved markedly in a year's time.

TABLE 2
TECHNICAL INSTITUTE
CASH FLOW SUMMARY
1986 vs. 1987

<u>ITEM</u>	1986 All Farms (N = 790)	$\frac{1987}{\text{All Farms}}$ $(N = 978)$
Cash Farm Receipts Cash Production Expenses Net Cash Farm Income Off-Farm Income Total Cash Income Sale of Farm Assets Total Cash Available "Fixed" Obligations ²	\$129,708 97,739 31,597 \$ 7,143 38,797 \$ 3,970 42,683 \$ 40,869	\$154,285 117,751 37,157 \$ 8,354 45,595 \$ 4,234 49,875 \$ 40,738
Number of Times "Fixed" Obligations By Farm Income, Alone By Total Cash Income By Total Cash Available	Covered ³ 0.77 0.95 1.04	0.91 1.12 1.22

¹This table is a summary of all surveys used, but for which all questions were not answered. Hence the columns may not add due to missing observations.

²Principal reduction payments, family living expenses plus social security and income taxes. All interest expenses are included in cash production expenses.

³Income divided by fixed obligations. This ratio will be "1.0" or greater if these obligations are fully covered.

Federal Government Payments

The predominant factor in the improved farm income situation, however, has been the level of Federal Government support payments. As seen in Table 3A, below, for the "TI" operators, Government Payments average \$22,407 for all farms and varied between \$2,602 for dairy-swine operators to \$41,105 for cash grain farmers. The dairy-swine operations received the smallest level of Federal payments due to their smaller size and smaller base acreage upon which most support payments are based upon. In terms of the proportion of income received, on average Government Payments accounted for nearly 60 percent of Net Cash Farm Income to \$44.5 percent of Total Cash Available to the operators for 1987.

TABLE 3A
TECHNICAL INSTITUTE
FEDERAL GOVERNMENT PAYMENTS
1987

ITEM	$\frac{All Farms}{(N = 762)}$	<u>Cash Grain</u> (N = 154)	Grain-Dairy (N = 104)	Grain-Beef (N = 51)	Grain-Swine (N = 144)	$\frac{\text{Dairy-Swine}}{(N = 123)}$
Government Payments ¹	\$ 22,407	\$ 41,105	\$ 15,242	\$ 26,087	\$ 26,002	\$ 2,602
Government Payments as a Cash Farm Receipts Net Cash Farm Income Total Cash Income Total Cash Available	Percent of: 14.4 59.7 48.7 44.5	29.1 125.2 91.6 83.1	12.2 42.8 36.7 34.2	13.5 104.3 74.3 64.1	13.0 47.6 41.2 38.3	2.5 9.3 8.0 7.4

¹Government Payments includes deficiency payments, storage payments and other program support payments, excluding dairy buyout payments.

For the participants in the Extension Service Program, Government Payments accounted for a large and significant proportion of income as well. As seen in Table 3B, below, Government Payments averaged \$29,502 for all farms and accounted for over 40 percent of income received for the year.

TABLE 3B EXTENSION SERVICE FEDERAL GOVERNMENT PAYMENTS 1987

ITEM	$\frac{A11 \text{ Farms}}{(N = 236)}$	Cash Grain (N = 39)	Grain-Dairy (N = 28)	$\frac{\text{Grain-Beef}}{(N = 25)}$	Grain-Swine (N = 60)
Government Payments ²	\$ 29,502	\$ 35,388	\$ 23,563	\$ 36,814	\$ 30,007
Government Payments as a Cash Farm Receipts Net Cash Farm Income Total Cash Income Total Cash Available	Percent of: 12.4 52.0 44.4 44.1	22.3 78.1 61.8 61.8	11.7 44.6 38.7 38.7	11.8 64.3 54.9 51.9	10.7 43.4 37.9 37.9

²Government Payments includes deficiency payments, storage payments and other program support payments, excluding dairy buyout payments.

DEBT - ASSET SITUATION

Summary Balance Sheet

A composite Balance Sheet is presented in Tables 5A and 5B, below, for the two sets of operators in this survey. For the Technical Institute operators (Table 5A), Total Assets averaged \$334,525 for all farms and varied from an average of \$247,424 for dairy-swine operators to an average of \$367,432 for grain-beef operations. The higher than average current assets for grain-beef operators reflects the value of feeder stock on hand at the end of the year. Total Liabilities averaged \$174,454 and ranged from an average of \$152,686 for dairy-swine farms to an average of \$234,317 for grain-beef operations. Again, for grain-beef farmers, feeders on hand are reflected by the larger value of current liabilities. Owner Equity varied from an average \$119,049 for dairy-swine farmers to \$170,437 for grain-swine operations and averaged \$160,071 for all farms.

TABLE 5A TECHNICAL INSTITUTE SUMMARY BALANCE SHEET JANUARY 1, 1988

ITEM	$\frac{A11 \text{ Farms}}{(N = 978)}$	Cash Grain (N = 188)	$\frac{Grain-Dairy}{(N = 132)}$	Grain-Beef (N = 69)	Grain-Swine (N = 180)	Dairy-Swine (N = 167)
ASSETS Current Assets Intermediate Assets Long-Term Assets Total Bus. Assets Personal Assets TOTAL ASSETS	\$ 77,716	\$ 70,718	\$ 55,598	\$134,444	\$ 99,787	\$ 39,845
	64,361	55,988	77,633	63,192	53,495	76,308
	152,028	156,399	132,906	169,796	158,489	131,271
	\$294,105	\$283,105	\$266,137	\$367,432	\$311,771	\$247,424
	40,420	50,436	28,070	36,548	45,051	24,311
	\$334,525	\$333,541	\$294,207	\$403,980	\$356,822	\$271,735
LIABILITIES Current Liabilities Intermediate Liabilities Long-Term Liabilities Total Bus. Liabilities Personal Liabilities TOTAL LIABILITIES	\$ 19,357	\$ 19,828	\$ 10,941	\$ 46,913	\$ 24,127	\$ 5,693
	56,232	50,873	61,506	63,122	47,239	59,724
	97,510	<u>90,211</u>	97,329	123,994	112,323	86,964
	\$173,099	\$160,912	\$169,776	\$234,029	\$183,689	\$152,381
	1,355	<u>1,924</u>	704	288	2,696	305
	\$174,454	\$162,836	\$170,480	\$234,317	\$186,385	\$152,686
EQUITY Business Equity TOTAL EQUITY	\$121,006	\$122,193	\$ 96,361	\$133,403	\$128,082	\$ 95,043
	\$160,071	\$170,705	\$123,727	\$169,663	\$170,437	\$119,049
TOTAL LIAB. & OWNER EQUITY	\$334,525	\$333,541	\$294,207	\$403,981	\$356,822	\$271,734
RATIOS						
Current ¹	4.01	3.57	5.08	2.87	4.14	7.00
Working Capital ²	1.88	1.79	1.84	1.80	2.15	1.78
Debt-Asset ³	0.52	0.49	0.58	0.58	0.52	0.56
Debt-Equity ⁴	1.09	0.95	1.38	1.38	1.09	1.28

Current assets divided by current liabilities.

²Current plus intermediate assets divided by current plus intermediate liabilities. 3Total liabilities divided by total assets.

The Balance Sheet for the participants in the Extension Service program is shown in Table 5B, below. Total Assets ranged from \$408,202 for cash grain operators to \$641,234 for grain-beef farmers, with an average of \$442,202 for all farms. The higher than average current asset value for grain-beef operators, again reflects the value of feeder stock on hand. Total Liabilities averaged \$186,719 for all operations and the Total Equity of all owners averaged \$225,483.

TABLE 5B EXTENSION SERVICE SUMMARY BALANCE SHEET JANUARY 1, 1988

ITEM	$\frac{A11 \text{ Farms}}{(N = 236)}$	Cash Grain (N = 39)	$\frac{\text{Grain-Dairy}}{(N = 28)}$	Grain-Beef (N = 25)	Grain-Swine (N = 60)
ASSETS Current Assets Intermediate Assets Long-Term Assets Total Bus. Assets Personal Assets TOTAL ASSETS	\$154,594	\$117,778	\$123,726	\$261,272	\$165,738
	57,584	38,773	92,835	54,780	60,175
	182,346	179,611	177,798	275,811	184,566
	\$394,524	\$366,162	\$394,360	\$591,863	\$410,479
	47,678	72,040	26,221	49,371	44,639
	\$442,202	\$408,202	\$420,581	\$641,234	\$455,117
LIABILITIES Current Liabilities Intermediate Liabilities Long-Term Liabilities Total Bus. Liabilities Personal Liabilities TOTAL LIABILITIES	\$ 39,456	\$ 38,264	\$ 24,818	\$ 70,160	\$ 37,427
	37,628	32,365	52,408	37,899	33,408
	107,367	85,313	120,438	88,650	123,272
	\$183,678	\$152,096	\$197,664	\$196,709	\$194,107
	3,041	7,422	104		4,689
	\$186,719	\$159,517	\$197,768	\$196,709	\$198,796
EQUITY Business Equity TOTAL EQUITY	\$210,846	\$184,067	\$196,696	\$395,155	\$216,372
	\$255,483	\$248,685	\$222,812	\$444,526	\$256,3 21
TOTAL LIAB. & OWNER EQUITY	\$442,202	\$408,202	\$420,581	\$641,234	\$455,117
RATIOS: Current Ratio ¹ Working Capital Ratio ² Debt-Asset Ratio ³ Debt-Equity Ratio ⁴	3.92 2.75 0.42 0.73	3.08 2.72 0.39 0.64	4.99 2.80 0.47 0.89	3.72 2.92 0.31 0.44	4.43 3.19 0.44 0.78

Current assets divided by current liabilities.

For both sets of operators, the debt and asset structure is very similar. Long-term debt accounts for 55 percent of total liabilities for the Technical Institute operators and 57 percent for the Extension Service participants. Long-term assets, for the "TI" farmers are 45 percent of total assets and 41 percent for the "ES" operators.

The relationship between assets and liabilities is further highlighted by four different ratios shown in the lower portion of these tables. The Current Ratio shows the ability to pay short-term debt as it comes due during the year. The Working Capital Ratio is a similar measure of the ability to repay short and intermediate debt. As a "rule of

²Current plus intermediate assets divided by current plus intermediate liabilities.

³Total liabilities divided by total assets. ⁴Total liabilities divided by total equity.

thumb" it ought to be in the area of 2:1. The Debt-Asset Ratio reflects the overall financial risk of the farm operator and his ability to repay all outstanding farm debt at a point in time. The larger the ratio, the greater the financial risk. The Debt-Equity Ratio reflects the overall financial risk of the farm business to the farmer and the lender. The higher the ratio, the larger the creditor's claim on the business. A value greater than "1.0" indicates that outside lenders have a greater claim on the farm business than does the "owner" himself.

Distribution of Farm Operators by Debt-Asset Ratio

Farm operators significantly reduced their debt loads in 1987. This is seen in Figure 6, below, for both sets of farm operators. At the beginning of the year 13-15 percent of the operators had a debt-asset ratio of over 100 percent. At the end of the year there were none! In both cases there were significant increases in the 11-40 percent class and the 41-70 percent class.

DISTRIBUTION OF FARM OPERATORS BY DEBT-ASSET RATIO

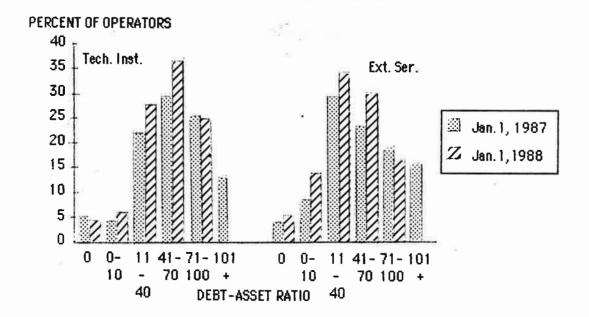


FIGURE 6

Average Debt-To-Asset By Operator Age

As seen in Figure 7, below, debt levels were reduced by all age classes of operators for both sets of data in 1987. The overall average debt-asset ratio was reduced 5 percentage points from 0.57 to 0.52 for the Technical Institute operators and was reduced down to 0.42 for the Extension Service farmers.

AVERAGE DEBT-TO-ASSET RATIO BY OPERATOR AGE

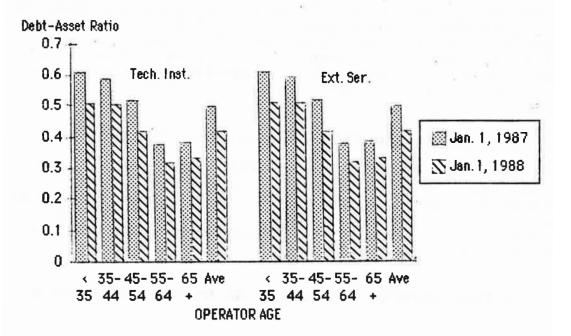


Figure 7

APPENDIX A

OPERATOR CHARACTERISTICS

APPENDIX A

Farm Operator Characteristics

Below are a selected set of descriptive statistics for the Technical Institute and Extension Service program participants. The legend "TI" and "ES" in the graphs stand for the Technical Institute farmers and Extension Service operators, respectively.

OPERATOR AGE

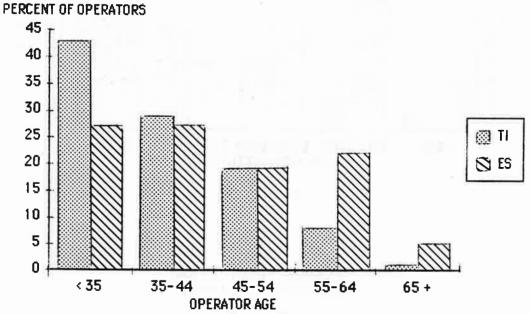


Figure 1

FARM SIZE

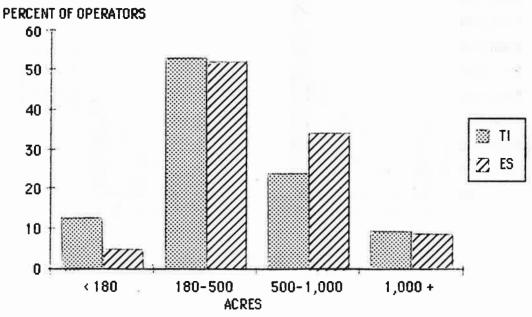


Figure 2

CASH FARM RECEIPTS (Thousands of Dollars)

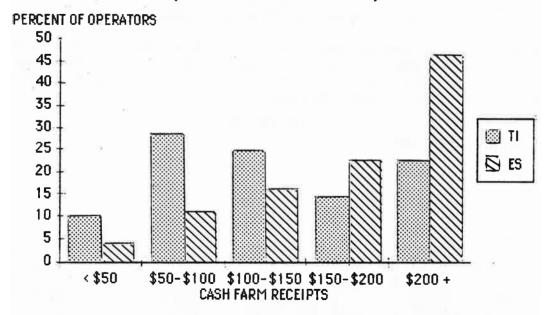


Figure 3

BALANCE SHEET ITEMS (January 1, 1988)

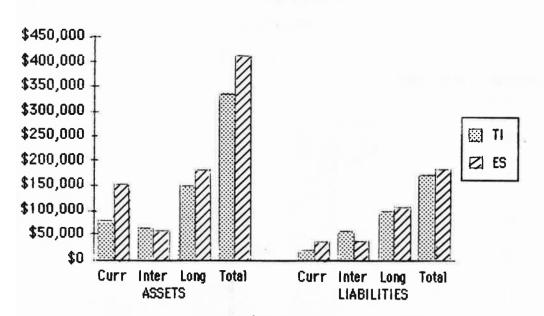


Figure 4

MAJOR FARM ENTERPRISE1

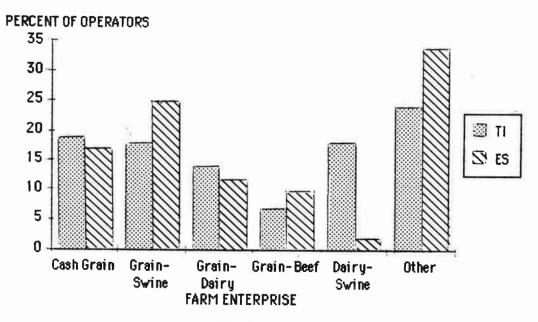


Figure 5

¹Farm operators were grouped together based upon the proportion of total cash farm receipts contributed by the enterprise or enterprise combinations. For this Report, the proportion used for classification purposes was 90 percent.

APPENDIX B

SUMMARY INCOME STATEMENT

APPENDIX B

Summary Income Statement

Of the total 978 Technical Institute records received, 762 were answered completely. These records were used to tabulate an Income Statement for all farms as well as for the five major enterprise groups, as shown in Appendix B, Table 1, below. This Table differs from that of Table 1A of the main report in that all questions were answered, hence the columns will add, and "accrual" items are included in this Income Statement.

Net Cash Operating Income averaged \$36,441 for all farms and varied from an average of \$23,077 to an average of \$55,863 for the grainswine group of operators. Deducting depreciation expense, adding the change in value of inventories and extra-ordinary items yields an average Before Tax Return of \$42,665 for all farms. Deducting 1986 income taxes (1987 tax liabilities were not available), adding off-farm income and allowing for family living expenses, yields the funds that represent the Addition to Owner Equity that comes from farm family income. The Addition to Owner Equity are funds that are available to be used for debt reduction, purchase of new assets, or net cash savings.

TABLE 1
TECHNICAL INSTITUTE
SUMMARY INCOME STATEMENT
1987

ITEM	$\frac{A11 \text{ Farms}}{(N = 762)}$	<u>Cash Grain</u> (N = 154)	$\frac{\text{Grain-Dairy}}{(N = 104)}$	$\frac{Grain-Beef}{(N = 51)}$	$\frac{\text{Grain-Swine}}{(N = 144)}$	Dairy-Swine (N = 123)
Operating Receipts Operating Expenses b/f Int. Interest Expense NET CASH OPER. INC. Depreciation Expense Change in Value of Inv.	\$152,577	\$137,595	\$121,177	\$189,536	\$201,690	\$109,980
	102,585	92,962	74,812	151,124	131,009	68,012
	13,551	13,114	12,840	15,335	14,818	10,613
	\$ 36,441	\$ 31,519	\$ 33,525	\$ 23,077	\$ 55,863	\$ 31,355
	\$ 16,886	\$ 13,583	\$ 13,556	\$ 14,722	\$ 28,855	\$ 13,012
	16,150	11,882	9,265	30,620	17,569	12,444
Extra Ordinary Income: Sale of Assets Debt Forgiveness BEFORE TAX RETURN Income Tax Paid (1986) AFTER TAX RETURN Off-Farm Income Withdrawals (Family Living) ADDITION TO OWNER EQUITY	4,373	4,626	3,151	7,019	4,703	2,388
	2,587	4,870	2,783	1,520	2,276	82
	\$ 42,665	\$ 39,314	\$ 35,168	\$ 47,514	\$ 51,556	\$ 33,257
	\$ 2,698	\$ 3,761	\$ 965	\$ 3,698	\$ 4,022	\$ 633
	\$ 39,967	\$ 35,553	\$ 34,203	\$ 43,816	\$ 47,534	\$ 32,624
	\$ 8,638	\$ 12,269	\$ 5,798	\$ 10,728	\$ 8,635	\$ 4,910
	18,906	20,104	17,277	18,760	19,897	16,814
	\$ 29,699	\$ 27,718	\$ 22,724	\$ 35,784	\$ 36,272	\$ 20,720

APPENDIX C

1987 MINNESOTA FARM FINANCIAL SURVEY

MINNESOTA FARM FINANCIAL SURVEY

Minnesota Department of Agriculture January, 1988

	County of Farming Operation 3. Total Acres in the 1987 operation: (Tillable and Nontillable) a. Owned
4.	Report current Asset values and outstanding Debt on January 1, 1987 <u>and</u> January 1, 1988, below:
	ASSETS Current Market Value January 1, 1987 January 1, 1988
٠	Current Farm Business Assets\$ Intermediate Farm Bus. Assets\$ Long-Term Farm Bus. Assets\$ Total Business Assets\$ Personal (Non-Business) Assets\$ Total Assets\$ \$
	LIABILITIES Outstanding Liabilities January 1, 1987 January 1, 1987
	Current Farm Business Debt. \$ Intermediate Farm Bus. Debt. \$ Long-Term Farm Bus. Debt. \$ Total Business Debt. \$ Personal (Non-Business) Debt. \$ Total Debt. \$
5.	<u>Liquidation of Assets.</u> Proceeds from the liquidation of assets in 1987. (Include the sale of real estate, equipment, breeding stock, etc.).
	Real Estate \$
	Non-Real Estate \$
6.	Debt Forgiveness Write-downs or write-offs of principal and interest. A. Principal
	Real Estate \$
	Non-Real Estate \$
	B. Interest Real Estate \$
	Non-Real Estate \$(OVER)