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An Economic Analysis of Three Confinement Hog Finishing Systems

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Foreword

This report is one in a series on the economic analysis of alternative swine production systems. The other reports of this series evaluate confinement farrow-to-finish production systems, confinement feeder pig production systems, and a one and two-litter farrow-to-finish pasture system. This series of reports has been prepared under Minnesota Experiment Station Project MIN 14-025: "An Economic Analysis of Swine Production Systems in Minnesota."

This publication describes and evaluates three confinement hog finishing systems by calculating annual enterprise budgets and monthly cash flows for each system and then comparing the results. In addition to estimating the profitability and monthly capital requirements for each system, the financial computations are used to evaluate rental payments for hog finishing facilities.

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An Economic Analysis of Three Confinement Hog Finishing Systems

Introduction

The hog finishing operation involves the purchasing of feeder pigs, 8-10 weeks of age and weighing 40-50 pounds (18-23 kgs.), feeding them approximately four months until they reach a market weight of 220-230 pounds (100-110 kgs.), and then selling them as finished slaughter hogs. This enterprise is well suited for the farmer who has a limited labor supply, but a surplus of grain which can be used in hog finishing rations. A wide variation in the systems of producing finished slaughter hogs exists among Upper Midwest farmers. The level of capital investment in facilities and the number of groups fed per year are two basic determinants of the annual total production of finished hogs. The level of capital investment in facilities is used to define and differentiate the finishing systems analyzed here.

This report compares the capital and labor requirements, the profitability, and cash flows of three finishing systems commonly used in the Upper Midwest area of the United States. For purposes of comparison, each system is based on a finishing house of 280 head capacity with 140 pigs bought every other month. The three systems compared in this report are:

A low investment system which has an open-front shed with a concrete apron and conventional manure scraping (OF).

A medium-investment system which has a modified open-front, naturally-ventilated building with a partially-slatted floor over an 8 foot deep manure pit (MOF).

A high investment system which has an enclosed, mechanically-ventilated building with a totally-slatted floor over a full 8 foot deep manure pit (TS).

This report is written primarily for those Upper Midwest farmers analyzing the economic feasibility of starting or expanding a hog finishing enterprise. It is also written for those producers who may have an opportunity of renting out the finishing facilities that they own. The final section of this report develops a method to calculate a reasonable cash rent for the use of finishing facilities.

Method of analysis and assumptions

Annual enterprise budgets and monthly cash flows for each of the three confinement finishing systems are developed sequentially and then compared in a

summary table. All three systems analyzed assume that the capacity of the finishing house is 280 head and 140 feeder pigs are bought every other month. The estimated building dimensions for each system are based on the given building capacity and the recommended space per animal for growing hogs (Table 1).

Table 1. Space requirement standards for finishing hogs.¹

Weight of pig	Solid floors (no slats)	Slatted floors (Partial or total)
40 to 100 pounds	6	4
101 to 150 pounds	8	6
151 to 230 pounds	11	8

¹ Jensen *et al.* (1963) found these space requirements conducive to maximum gains. Somewhat less space may be more economical. Free floor space, excluding space for feeders and waterers.

The type of finishing house and waste disposal system for each production system reflects the appropriate level of capital investment. The designs of the facilities are based on the studies of Ryan (1971a, b), the Midwest Plan Service (1972), Barth, *et al.* (1975) and Sutton *et al.* (1975).

The estimated **investment costs** for the specified buildings, equipment, and machinery are based on average Upper Midwest 1978 turn-key prices (the price for delivery and construction of facilities ready for immediate use). Apparently, all facilities listed are eligible for the 10 percent investment tax credit under 1979 Internal Revenue Service regulations. The estimated investment costs given for each finishing system are net of the investment tax credit. Annual investment costs may differ substantially among producers because of variations in suppliers' discounts, quality, and the use of the producer's own labor and materials.

The time required for the pigs to gain 180 pounds (81.8 kgs.) is divided into a growing stage (40-110 pounds or 18.2-50 kgs.) and a finishing stage (110-220 pounds or 50-100 kgs.). The total number of days required to add the necessary weight ranges from 116 to 131 depending on the type of building and season of the year. An average death loss of 3 percent is assumed in all cases.

The daily feed requirements for hogs and the days on feed assumed in each finishing system are presented in Table 2. The amount of feed required per hog per day is the same for the three building systems during eight months of the year, but increases by a half pound per hog per day for hogs in the open-front

system during the months of December through March. The given feed quantities assume minimum feed wastage occurs and good management practices to control disease are followed. The open-front system assumes that 131 days are required to finish hogs during the months of December through March and 116 days during the rest of the year. The modified open-front and totally-slatted systems assume that 116 days are required to finish hogs during the year, except during the months of June through September when 121 days are needed.

Table 2. Feed consumption by housing system for growing and finishing hogs.

	Pounds/ day	Days	Total feed	ADG pounds /day	Pounds of feed/ pound of gain
<u>Open-front finishing building</u>					
Growing (40 to 110 pounds)					
April-November	4.3	48	206.4	1.46	2.95
December-March	4.8	54	259.2	1.30	3.70
<u>Finishing</u>					
(110 to 220 pounds)					
April-November	6.3	68	428.4	1.62	3.89
December-March	6.8	77	523.6	1.43	4.76
<u>Total growing and finishing</u>					
(180 pounds of gain)					
April-November	5.47	116	634.52	1.55	3.53
December-March	5.98	131	783.38	1.37	4.35
Yearly weighted average	5.64	121	682.44	1.49	3.79
<u>Modified open-front and totally slatted buildings</u>					
Growing (40 to 110 pounds)					
June-September	4.3	50	215.0	1.40	3.07
October-May	4.3	48	206.4	1.46	2.95
<u>Finishing</u>					
(110 to 220 pounds)					
June-September	6.3	71	447.3	1.55	4.07
October-May	6.3	68	428.4	1.62	3.89
<u>Total growing and finishing</u>					
(180 pounds of gain)					
June-September	5.47	121	661.87	1.49	3.68
October-May	5.47	116	634.52	1.55	3.53
Yearly weighted average	5.47	118	645.46	1.53	3.59

The corresponding total feed, average daily gain (ADG) and feed efficiency (pounds of feed per pound of gain) during the growing and finishing phases for each building system are also presented in Table 2. The assumed differences in average daily gain and feed efficiency among building environments are based on the studies of Kadlec, *et al.* (1966) and Fritschen, *et al.* (1974). The feed rations are composed of feed ingredients which comprise a 16 percent protein growing ration and a 13 percent protein finishing ration recommended by Hawton and Meade (1973) (Appendix, Table 18.).

The estimated hours of labor required to finish market hogs vary with the type of building and waste

disposal system and are based on the research of Hinton (1968), Van Arsdall (1965), Sutton, *et al.* (1975), and Barth, *et al.* (1975). The monthly labor hours are estimated for each system, but are not valued in the cost computations because most Upper Midwest producers normally use their own labor and the appropriate opportunity cost to assign varies widely.

Enterprise budgets (projected average annual costs and returns) are calculated for each system to summarize the assumptions and provide a measure of the system's profitability. The annual enterprise budget lists the quantity and value of each product sold, as well as the quantity and value of each input used by the system, during a one-year period. The prices of finished hogs and feeder pigs and the cost of feed inputs used in this report are based on the projected long-run prices given in "Minnesota Farm Planning Prices" (Department of Agricultural and Applied Economics, University of Minnesota, October, 1978).

In the calculation of receipts for the finishing systems, the average annual selling price of slaughter hogs is assumed to be \$40 per hundredweight (cwt.). This price is seasonally adjusted for each marketing month. The estimated monthly price indices are based on the average monthly prices of barrows and gilts at seven central hog markets for 1967-77. These monthly prices, the monthly price indices and their standard deviations are presented in the Appendix, Table 19.

The purchase cost of feeder pigs is a major operating cost for the finishing enterprise. The average annual price of feeder pigs is assumed to be \$38 per head and is seasonally adjusted for each month of purchase. The estimated monthly price indices are based on the average monthly prices of 40-50 pound (18.2-22.7 kgs.) feeder pigs sold in Little Falls, Minnesota, for 1967-77. The monthly prices, their standard deviations, and the price indices are listed in the Appendix, Table 20.

In addition to the cost of feeder pigs, operating costs include the other expenses which vary with the level of production. The costs of the two major feed ingredients, corn and soybean meal (48.5 percent) are assumed to be \$2.10 per bushel and \$8.50 per cwt., respectively. The other feed ingredients used in the rations and their respective costs are listed in the enterprise budgets. All feed is assumed to be custom ground and mixed for \$3.50 per ton. Other operating expenses shown in the enterprise budgets are based on the average costs of the 1977 annual swine reports of the Minnesota farm management associations.

The ownership costs shown include interest, depreciation, insurance, and taxes on the buildings, equipment, and machinery. New buildings and concrete slabs are assumed to have a depreciable life of 15 years. The equipment has an eight-year depreciable

life as well as higher expense rates for repair and maintenance.

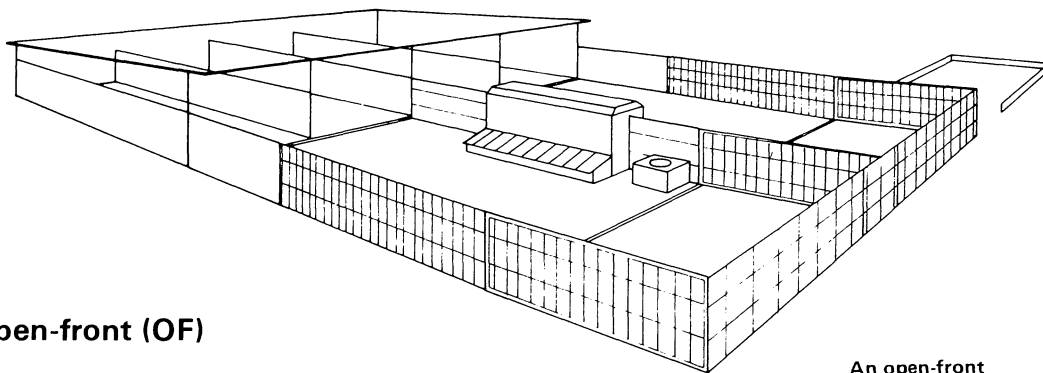
The sensitivity of net returns to changes in certain prices and production levels is tested using the average annual enterprise budgets. The effect of changes in the selling price of hogs and the purchasing costs of pigs on the net returns to labor and management are analyzed for each finishing system. The second sensitivity analysis illustrates the effect of variations in the purchasing prices of feeder pigs and corn on net returns.

The final section of each production system presents a **projected monthly cash flow budget** for the first and second year of operation. The projected monthly cash flow budget projects cash receipts, cash expenses, and the cash difference or current balance on a month-by-month basis throughout the planning period. Monthly cash flows are projected for each production system to estimate: (1) the approximate amount of capital required by month during the start-up period, and (2) the total amount of outside capital required to initiate the enterprise. The projected cash flows for the first year include the estimated investment cost of the facilities and the monthly operating expenses. The projected cash flows for the second year reflect the expected flow of cash receipts and expenditures of the system in full

operation with market hog sales occurring every other month. The cash flow projections are then used to estimate each system's payback period (the number of years required for the enterprise to generate sufficient capital to repay the principal and interest on the investment).

Projecting the monthly costs and returns of the average year into future years assumes that monthly prices, receipts, and expenses remain constant in all future years. In actuality, there would be variation in the monthly cash returns which would alter the payback period. For example, if the operation is initiated in a period of relatively favorable hog prices (due to the phase of the hog cycle), the payback period will be shorter than estimated using average annual prices; while an operation started during periods of unfavorable hog prices will require more years to repay the investment.

The estimated enterprise budgets and cash flows provide a basis to compare the profitability and loan repayment capacity of the given production systems. The analysis also has significant implications for producers who are considering either expanding or renting existing swine facilities. The final section of the report discusses how the estimated budgets can be used to analyze an equitable rental agreement.



An open-front finishing shed with lot.

The low-investment open-front (OF) finishing system

The low-investment finishing system is comprised of an open-front shelter with a concrete floor (80 x 20 feet) which extends into a concrete run and apron (80 x 29 feet). This area, providing 5.7 square feet per head under roof and 6 square feet outdoors, is divided into four pens (20 x 41 feet) and has a recommended capacity of 280 hogs. Bedding is used in the sheltered area during winter and no supplementary heat is included. Manure is handled as a solid using the conventional method of scraping and hauling. A settling basin and earthen detention pond are included to control waste run-off.

Table 3 lists the building, equipment, and machinery that are assumed for this system and their respective estimated investment costs. The estimated costs for this low-investment system are net of the investment tax credit and equal \$27,654 or \$98.76 per hog capacity. If six groups of 140 hogs use this building per year, the net investment cost per hog finished annually is \$32.92 (\$27,654 ÷ 840 hogs).

Annual budget for the average operating year

The annual enterprise budget for the average year of operation is shown in Table 4. Assuming a 3 percent death loss, an average of 816 slaughter hogs weighing 220 pounds each are sold during the year.

Total receipts equal \$71,688.32 and the total weight gain is 1468.8 cwt. (\$48.81 per cwt. of gain).

Feed cost totals \$26,056 (\$17.74 per cwt. of gain) and is based on the consumption of 8,522.7 bushels of corn, 721.3 cwt. of soybean meal (48.5 percent protein), 14,861 pounds of other feed, and a grinding-mixing charge. This annual feed consumption of 282 tons assumes a feed conversion rate of approximately 384 pounds of feed per cwt. gain (282 tons x 2,000 pounds/ton ÷ 1468.8 cwt. of gain) during the average year. This feed conversion rate is better than the average for most open-front systems in the Upper Mid-

Table 3. Facilities investment for the open-front finishing system – 280 hog capacity.

Facility	Description and size	Units	Estimated cost/unit	Total cost
<u>Solid floor, open-front shed with an outside run</u>				
Building (hutch) ¹	80 feet x 20 feet	1,600 square feet	5.00	\$ 8,000.00
Concrete floor and apron	80 feet x 49 feet	3,920 square feet	.70	2,744.00
Feeders	90 bushels, 24-hole fenceline	2	470.00	940.00
Waterers	6-hole, frost proof	2	160.00	320.00
Fencing, gates and posts	Woven wire	225 feet	6.00	1,350.00
Feed bins and delivery system	30 tons, augured	—	—	2,800.00
Total				\$16,154.00
Combination settling basin and holding pond				
				\$ 1,500.00
<u>Equipment and machinery</u>				
Miscellaneous equipment (includes high pressure sprayer, scales, loading chute)				
				\$ 3,000.00
Manure spreader	95 bushels dry			1,500.00
Front end loader				1,000.00
Agitator/filler pump and discharge system				4,500.00
				\$10,000.00
Total facilities investment				\$27,654.00
Investment per hog capacity (280 head)				\$ 98.76
Investment per hog produced annually (840 hogs)				\$ 32.92

¹ Includes site preparation, trenching, water system, and labor.

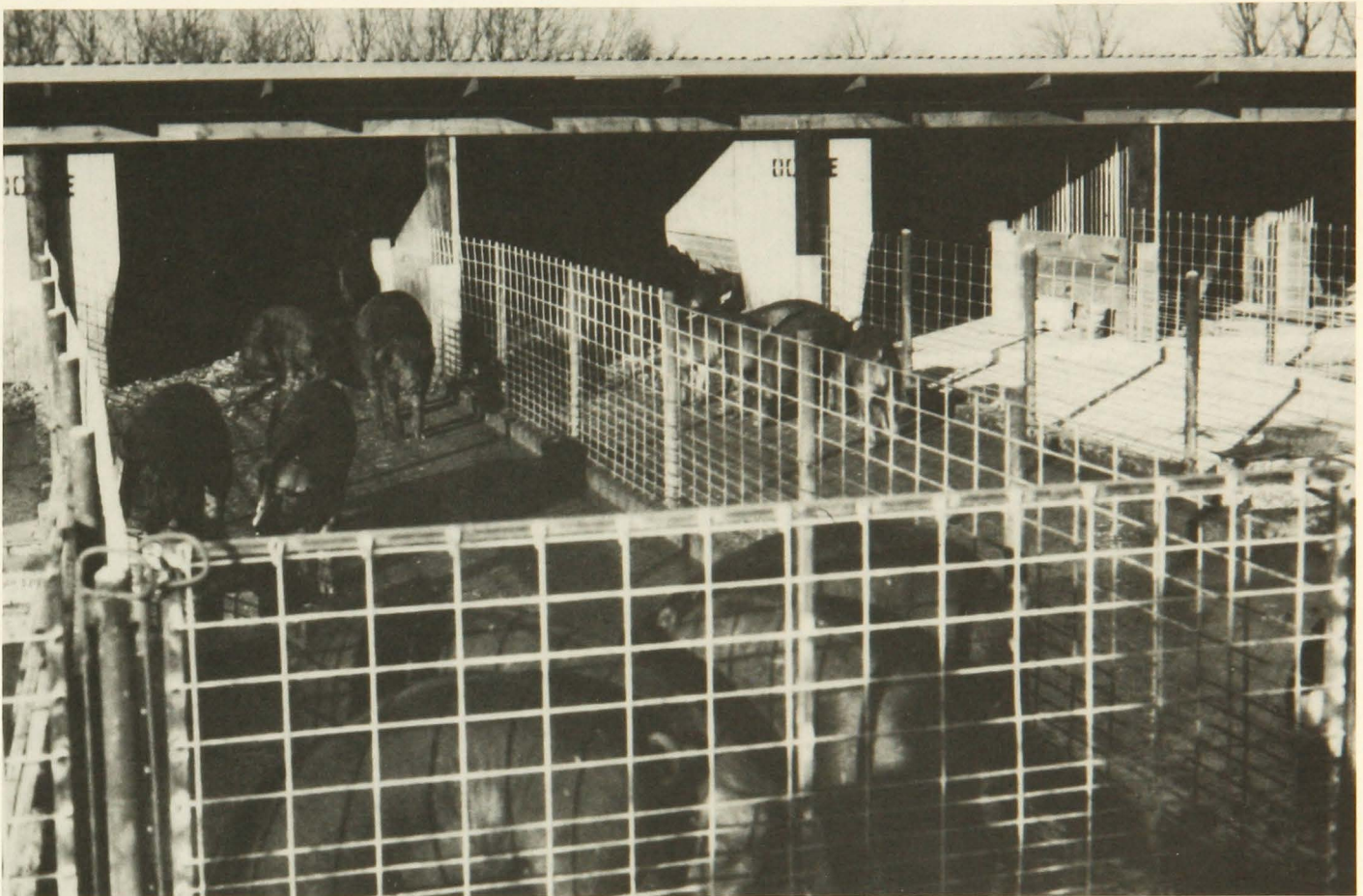
Table 4. Average annual costs and returns for finishing hogs in the open front system for the average year of operation.

Item	Head sold	Weight each	Unit	Price or cost/unit	Quantity	Value or cost	Per cwt. of gain					
1. Gross receipts												
Slaughter hogs	136	2.2	cwt.	39.68	299.2	\$11,872.26						
Slaughter hogs	136	2.2	cwt.	39.00	299.2	11,668.80						
Slaughter hogs	136	2.2	cwt.	38.88	299.2	11,632.90						
Slaughter hogs	136	2.2	cwt.	44.24	299.2	13,236.61						
Slaughter hogs	136	2.2	cwt.	40.88	299.2	12,231.30						
Slaughter hogs	136	2.2	cwt.	36.92	299.2	11,046.46						
Total						\$71,688.32	48.81					
2. Operating costs												
Corn			bu.	2.10	8,522.70	\$17,897.67						
Soybean meal (48.5%)			cwt.	8.50	721.30	6,131.05	17.74					
Supplemental feed			lbs.	.07	14,861.00	1,040.27						
Grinding and mixing			tons	3.50	282.00	987.00						
Insurance			dol.			500.00						
Veterinarian and medicine			dol.			684.00	1.08					
Bedding			tons	30.00	5.60	168.00						
Miscellaneous expense			dol.			240.00						
Feeder pigs			hd.	37.35	140.00	5,229.56	21.78					
Feeder pigs			hd.	43.66	140.00	6,112.68						
Feeder pigs			hd.	41.65	140.00	5,830.72						
Feeder pigs			hd.	36.94	140.00	5,171.04						
Feeder pigs			hd.	35.64	140.00	4,990.16						
Feeder pigs			hd.	33.25	140.00	4,655.00						
Trucking in			hd.	.25	840.00	210.00	1.73					
Trucking out			hd.	.35	816.00	285.60						
Marketing cost			cwt.	1.14	1,795.20	2,046.53						
Tractors (fuel, lubrication, repairs)			dol.			316.13	.52					
Machinery (fuel, lubrication, repairs)			dol.			97.68						
Equipment (fuel, lubrication, repairs)			dol.			348.07						
Interest on operating capital			dol.			931.61	.63					
Total operating costs						\$63,872.77	43.48					
3. Income above operating costs						\$ 7,815.55	5.33					
4. Ownership costs												
Interest on equipment			dol.	.09	10,327.00	\$ 929.43	2.59					
Interest on machinery			dol.	.09	3,568.75	321.19						
Depreciation on equipment			dol.			2,021.58						
Depreciation on machinery			dol.			413.77						
Insurance, taxes on equipment, livestock and machinery			dol.			115.61						
Total ownership costs						\$ 3,801.58						
5. Total costs shown						\$67,674.34	46.07					
6. Net returns above costs shown						\$ 4,013.98	2.74					
Solid floor, open front shed (80 feet x 20 feet) with outside run (80 feet x 29 feet) with combination settling basin and holding pond 280 finishing hog capacity												
Labor hours required by month:												
Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
55	55	101	73	55	55	60	55	55	73	97.5	55	789.5

west since minimal feed wastage, moderate weather conditions, and above average management practices have been assumed.

Nonfeed operating costs include \$31,989.16 (\$21.78 per cwt. of gain) for 840 feeder pigs whose prices have been seasonally adjusted, and \$5,827.62 (\$3.96 per cwt. of gain) for other cash expenses. Operating costs, including feed, total \$63,872.77 (\$43.48 per cwt.). Income above the operating costs shown is \$7,815.55 (\$5.33 per cwt. of gain).

Ownership costs on facilities and machinery total \$3,801.58 (\$2.59 per cwt. of gain) and are based on the data presented in the Appendix, Table 21. The sum of operating and ownership costs is \$67,674.34 (\$46.07 per cwt. of gain). Net returns to labor and management for the low-investment finishing system during the average operating year equal \$4,013.98 (\$2.74 per cwt. of gain). The estimated monthly hours of labor (bottom of Table 5) are not included in the operating costs. The estimated annual total is



789.5 hours or .97 hours per hog. Expected net returns per hour after paying all costs shown are \$5.08.

Sensitivity of net returns to changes in prices

Table 5 illustrates the change in net returns for the low-investment finishing system when the prices of slaughter hogs per cwt. and feeder pigs per head are each varied by \$2. The figures indicate that each \$2 increase (decrease) in the price per cwt. of hogs sold increases (decreases) net returns \$3,590; while each \$2 increase (decrease) in the price per feeder pig bought decreases (increases) net returns \$1,680. To give an example, assume the price of hogs rose from \$39.93 to \$41.93 per cwt. and the price of feeder pigs increased from \$38.08 to \$40.08 per head. Table 6 indicates that annual net returns would increase \$1,910 to total \$5,924 (\$4,014 + 1,910).

Table 6 shows the effect on net returns of a \$2 change in the price of feeder pigs and a 20 cent change in the price of corn per bushel. The figures indicate that each 20 cent increase (decrease) in the price of corn per bushel decreases (increases) net returns \$1,705. The change in net returns with a \$2 change in the cost of feeder pigs is \$1,680, as men-

Table 5. Effect of changes in feeder pig and slaughter hog prices on net returns above costs shown for the open front finishing system.

		Price of slaughter hogs per cwt.				
		\$35.93	\$37.93	\$39.93	\$41.93	\$43.93
		-----Change in net returns (\$)-----				
Price of	\$34.08	-3,821.	-230.	3,360.	6,950.	10,541.
feeder	\$36.08	-5,501.	-1,910.	1,680.	5,270.	8,861.
pigs	\$38.08	-7,181.	-3,590.	0	3,590.	7,181.
per	\$40.08	-8,861.	-5,270.	-1,680.	1,910.	5,501.
head	\$42.08	-10,541.	-6,950.	-3,360.	230.	3,821.

Table 6. Effect of changes in feeder pig and corn prices on net returns above costs shown for the open front finishing system.

		Price of corn per bushel				
		\$1.70	\$1.90	\$2.10	\$2.30	\$2.50
		-----Change in net returns (\$)-----				
Price of	\$34.08	6,769.	5,065.	3,360.	1,655.	-49.
feeder	\$36.08	5,089.	3,385.	1,680.	-25.	-1,729.
pigs	\$38.08	3,409.	1,705.	0	-1,705.	-3,409.
per	\$40.08	1,729.	25.	-1,680.	-3,385.	-5,089.
head	\$42.08	49.	-1,655.	-3,360.	-5,065.	-6,769.

tioned previously. If the price of corn is \$1.90 per bushel and the purchase cost of feeder pigs is \$40.08 per head, net returns would increase \$25 and would total \$4,039 (\$4,014 + 25).

The sensitivity analysis for the low-investment finishing system indicates that a 10 percent rise in the price of slaughter hogs from \$39.93 to \$43.92 per cwt. increases net returns 179 percent. A 10 percent decrease in the prices of feeder pigs from \$38.08 to \$34.27 per head and corn from \$2.10 to \$1.89 per bushel increases net returns 79.7 percent and 44.6 percent, respectively.

Cash flow projections for the first two years of operation

The projected monthly cash flows for the first two years of operation are based on the assumed schedule of buying 140 pigs every other month. The selling of finished hogs is scheduled according to the required number of days specified in Table 2. Payments for housing, equipment, and machinery are made during the first year in the month of initial use. The input figures of monthly receipts and expenses for the first two years of operation are included in the Appendix, Table 22.

The monthly cash flow summaries for the first two years of operation are shown in Table 7. The first and second sections of each year's cash flow summary show total monthly receipts and expenses, respectively. The third section is the flow of funds summary. The first line of this section, cash balance beginning, indicates that a minimum monthly cash balance of \$1,000 is assumed to be kept on hand at the beginning of every month. Line 2, the cash difference between receipts and expenses, is added to line 1 to give the current cash balance at the end of each month (line 3). If expenditures are greater than

receipts and borrowing is necessary, the amount borrowed is shown in line 4. If receipts are greater than expenditures and the difference is greater than the cash balance assumed, payments are made first on the interest accrued (line 6) at the specified interest rate (9 percent) and then on the loan principal (line 5). The cash balance at the end of the month (line 7) is at least equal to the assumed minimum cash balance. The fourth section is the current loan summary. The first, third, and fifth lines of this section show the accumulated borrowing, the accrued interest, and accumulated total debt (borrowing plus interest) carried over from the previous month of operation, respectively. The second, fourth, and sixth lines indicate the monthly accumulated borrowing, accrued interest, and accumulated total debt which the enterprise accrues during the given year.

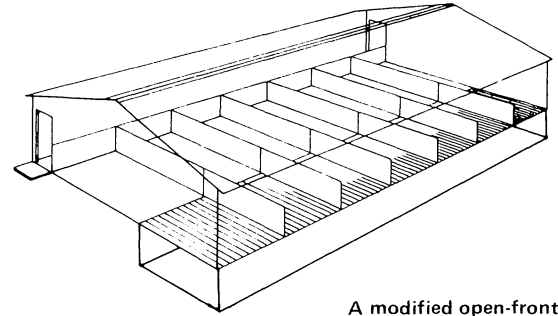
The accumulated borrowing plus accrued interest reaches a maximum debt of \$40,062 in December of the first year. This amount of accumulated total debt is carried over to the beginning of the second year. The accumulated total debt is reduced to \$34,734 at the end of the second year. Approximately \$18,733 is paid on the principal and \$3,343 is paid on interest charges, but additional borrowing of \$13,445 occurs during the year. Assuming the monthly prices, receipts, and expenses for subsequent years are equal to those of the average year of operation, the payback period would be approximately seven years providing that no payments are made for either family or hired labor. Given the same assumptions of constant prices, revenues, and expenditures, but also deducting a \$3.50 per hour labor charge on the estimated 789.5 hours required annually, increases the total payback period to 14 years. If the hourly labor charge increases to \$6 per hour, net returns are insufficient to cover interest payments making it impossible to repay the principal over any length of time.

Table 7. Monthly cash flows for finishing 280 hogs from feeder pigs (40 pounds) to slaughter hogs (220 pounds) in open front system during start-up year of operation.

Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
I. Cash receipts							Dollars						
Total	0	0	0	0	11633.	0	13237.	0	12231.	0	11046.	0	48147.
II. Cash expenses													
Total	22074.	1505.	10091.	3146.	11192.	2128.	7816.	2064.	11846.	2222.	8889.	2417.	85391.
III. Flow of funds summary							Dollars						
1. Cash balance beginning	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	
2. + Cash difference	-22074.	-1505.	-10091.	-3146.	441.	-2128.	5421.	-2064.	385.	-2222.	2158.	-2417.	-37244.
3. = Current cash balance	-21074.	-505.	-9091.	-2146.	1441.	-1128.	6421.	-1064.	1385.	-1222.	3158.	-1417.	
4. + Money borrowed	22074.	1505.	10091.	3146.	0	2128.	0	2064.	0	2222.	0	2417.	
5. - Payment on loan	0	0	0	0	0	0	4422.	0	0	0	1444.	0	
6. - Interest paid at 9 percent	0	0	0	0	441.	0	999.	0	385.	0	713.	0	
7. = Cash balance ending	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	
IV. Current loan summary							Dollars						
1. - Loan out - Jan. 1													
2. Accumulated borrowing	22074.	23580.	33670.	36816.	36816.	38944.	34522.	36587.	36587.	38809.	37365.	39782.	
3. - Accrued interest - Jan. 1													
4. Accrued interest at 9 percent	0	166.	342.	595.	431.	707.	0	259.	148.	422.	0	280.	
5. - Accrued total debt - Jan. 1													
6. Accumulated total debt	22074.	23745.	34013.	37411.	37247.	39651.	34522.	36846.	36735.	39231.	37365.	40062.	

Monthly cash flows for finishing 280 hogs from feeder pigs (40 pounds) to slaughter hogs (220 pounds) in open front system during second year of operation.

Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
I. Cash receipts							Dollars						
Total	11872.	0	11669.	0	11633.	0	13237.	0	12231.	0	11046.	0	71688.
II. Cash expenses													
Total	8187.	2185.	9683.	2215.	8569.	2140.	7881.	2214.	7885.	2283.	7407.	2408.	63057.
III. Flow of funds summary							Dollars						
1. Cash balance beginning	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	
2. + Cash difference	3686.	-2185.	1986.	-2215.	3063.	-2140.	5356.	-2214.	4346.	-2283.	3640.	-2408.	8631.
3. = Current cash balance	4686.	-1185.	2986.	-1215.	4063.	-1140.	6356.	-1214.	5346.	-1283.	4640.	-1408.	
4. + Money borrowed	0	2185.	0	2215.	0	2140.	0	2214.	0	2283.	0	2408.	13445.
5. - Payment on loan	3107.	0	1419.	0	2485.	0	4782.	0	3811.	0	3129.	0	18733.
6. - Interest paid at 9 percent	578.	0	567.	0	578.	0	574.	0	535.	0	511.	0	3343.
7. = Cash balance ending	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	
IV. Current loan summary							Dollars						
1. \$39,782.00 Loan out - Jan. 1													
2. Accumulated borrowing	36675.	38860.	37441.	39656.	37171.	39311.	34529.	36743.	32932.	35214.	32086.	34493.	
3. \$280.00 Accrued interest - Jan. 1													
4. Accrued interest at 9 percent	0	275.	0	281.	0	279.	0	59.	0	247.	0	241.	
5. \$40,062.00 Accrued total debt - Jan. 1													
6. Accumulated total debt	36675.	39135.	37441.	39937.	37171.	39589.	34529.	37002.	32932.	35461.	32086.	34734.	



A modified open-front finishing building with partially-slatted floor.

The medium-investment modified open front (MOF) finishing system

The medium-investment finishing system includes a modified open-front building (MOF) with a partially slatted floor over an 8 foot deep manure pit. The building (30 x 80 feet) is divided into eight pens – four grower pens (8 x 27 feet) and four finishing pens (12 x 27 feet) for a total capacity of 280 head. The building does not use any bedding or supplementary heat and is naturally ventilated with the opening of adjustable side wall panels. Manure is removed from the pit twice a year using a portable PTO agitator and a 1,500 gallon vacuum liquid manure spreader.

The estimated turn-key costs of the MOF finishing building and the supplementary equipment and machinery are listed in Table 8. The estimated costs are net of the investment tax credit and total \$39,974 or \$142.76 per hog capacity. If six groups of 140 hogs use this building per year, the investment cost per hog finished annually is \$47.59 (\$39,974 ÷ 840 hogs).

Annual budget for the average operating year

The annual enterprise budget for the MOF finishing system during the average year of operation is

shown in Table 9. The buying of feeder pigs and selling of slaughter hogs follows the schedule presented in Table 2 which assumes that 121 days are required to finish hogs in the summer months (June-September) and 116 days during the rest of the year. The 3 percent death loss and total receipts assumed in the open-front system remain the same. Six groups of 136 hogs weighing 220 pounds per head are sold annually. Total receipts are \$71,688.32 and the total weight gain is 1,468.8 cwt. (\$48.81 per cwt. of gain).

Total operating expenses are \$62,805 (\$42.76 per cwt. of gain) which include \$31,989.16 (\$21.78 per cwt. of gain) for 840 40-pound feeder pigs and \$25,033.02 (\$17.04 per cwt. of gain) for feed and its preparation. The yearly feed consumption consists of 8,199.1 bushels of corn, 690.6 cwt. of 48.5 percent soybean meal, and 14,298 pounds of supplementary feed. The average annual feed conversion rate based on 269.7 tons of feed is approximately 367.2 pounds of feed per cwt. of gain (269.7 tons x 2,000 pounds/

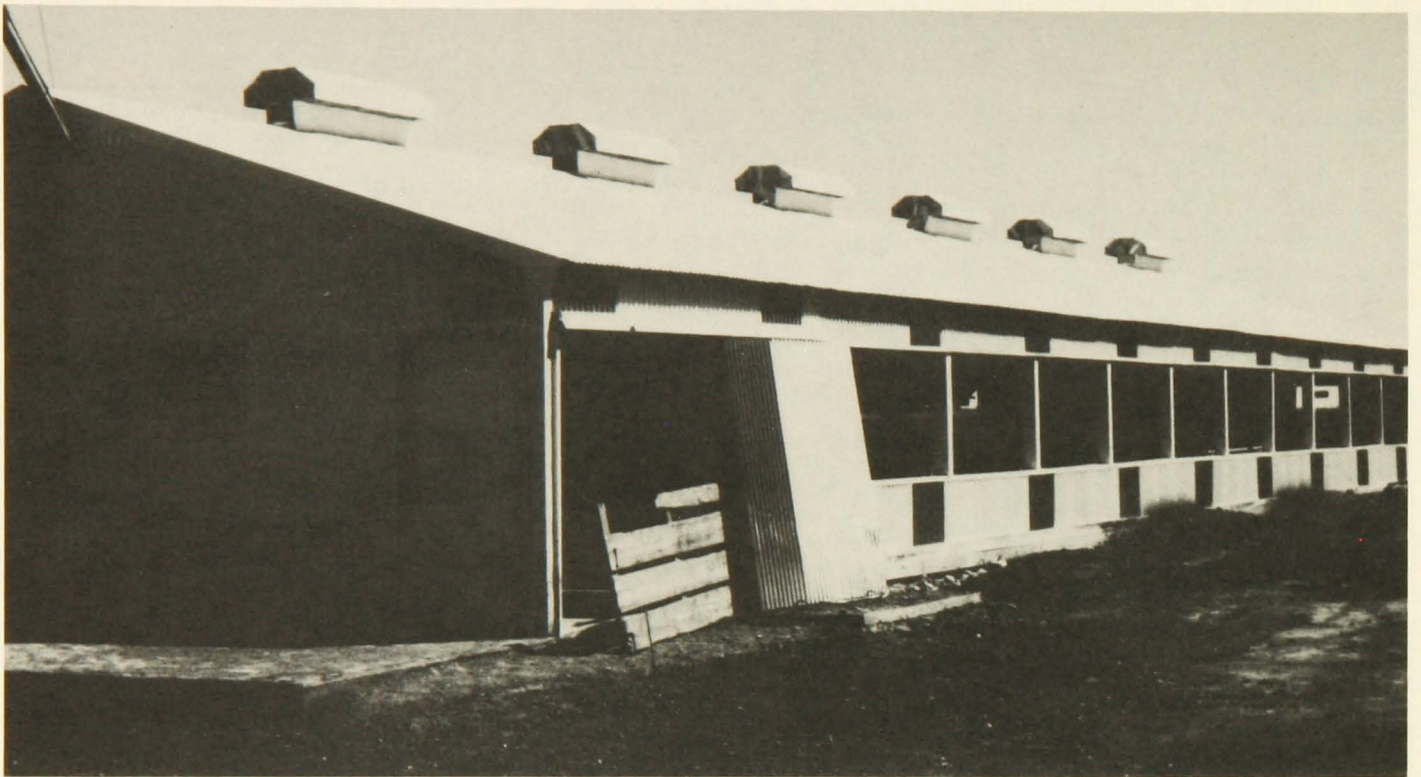
Table 8. Facilities investment for the modified open-front finishing system – 280 hog capacity.

Facility	Description and Size	Units	Estimated cost/unit	Total cost
Modified open front, partially-slatted floor, 8 pens [4 (12 feet x 27 feet) + 4 (8 feet x 27 feet)] 10 feet wide slatted area over 8 feet deep manure pit.				
Building ¹	30 feet x 80 feet	2,400 square feet	\$10.00	\$24,000.00
Feeders	Wooden trough	80 feet	3.00	240.00
Waterers	Nipple	8	12.00	96.00
Fencing	Concrete blocks and wire mesh	252	6.50	1,638.00
Feed bins and delivery system	30 tons, augered	—	—	2,800.00
				\$28,774.00
<u>Equipment machinery</u>				
Miscellaneous equipment (includes high pressure sprayer, scales, loading chute, etc.)				3,000.00
Liquid manure spreader	1,500 gallons			5,000.00
Agitator/filler pump	8 foot, PTO			3,200.00
				\$11,200.00
Total facilities investment				\$39,974.00
Investment per hog capacity (280 hogs)				142.76
Investment per hog produced annually (840 hogs)				47.59

¹ Includes site preparation, water system, and labor.

Table 9. Average annual costs and returns for finishing hogs in the modified open-front system for the average year of operation.

Item	Head sold	Weight each	Unit	Price or cost/unit	Quantity	Value or cost	Per cwt. of gain					
1. Gross receipts												
Slaughter hogs	136	2.2	cwt.	39.68	299.2	\$11,872.26						
Slaughter hogs	136	2.2	cwt.	39.00	299.2	11,668.80						
Slaughter hogs	136	2.2	cwt.	38.88	299.2	11,632.90						
Slaughter hogs	136	2.2	cwt.	44.24	299.2	13,236.61						
Slaughter hogs	136	2.2	cwt.	40.88	299.2	12,231.30						
Slaughter hogs	136	2.2	cwt.	36.92	299.2	11,046.46						
Total						\$71,688.32	\$48.81					
2. Operating costs												
Corn			bu.	2.10	8,199.10	\$17,218.11	17.04					
Soybean meal (48.5%)			cwt.	8.50	690.60	5,870.10						
Supplemental feed			dol.	.07	14,298.00	1,000.86						
Grinding and mixing			tons	3.50	269.70	943.95	.99					
Insurance and taxes			dol.	—	—	500.00						
Veterinarian and medicine			dol.	—	—	684.00						
Electricity and fuel			dol.	—	—	29.00	.99					
Miscellaneous expense			dol.	—	—	240.00						
Feeder pigs			hd.	37.35	140.00	5,229.56						
Feeder pigs			hd.	43.66	140.00	6,112.68	21.78					
Feeder pigs			hd.	41.65	140.00	5,830.72						
Feeder pigs			hd.	36.94	140.00	5,171.04						
Feeder pigs			hd.	35.64	140.00	4,990.16	1.73					
Feeder pigs			hd.	33.25	140.00	4,655.00						
Trucking in			hd.	.25	840.00	210.00						
Trucking out			hd.	.35	816.00	285.60	1.73					
Marketing cost			cwt.	1.14	1,795.20	2,046.53						
Tractors (fuel, lubrication, repairs)			dol.	—	—	168.99						
Machinery (fuel, lubrication, repairs)			dol.	—	—	167.64	.60					
Equipment (fuel, lubrication, repairs)			dol.	—	—	538.10						
Interest on operating capital			dol.	—	—	912.96						
Total operating costs						\$62,805.00	42.76					
3. Income above operating costs						\$ 8,883.32	6.05					
4. Ownership costs												
Interest on equipment			dol.	.09	15,887.00	1,429.83	3.65					
Interest on machinery			dol.	.09	3,441.39	309.72						
Depreciation on equipment			dol.	—	—	2,971.75						
Depreciation on machinery			dol.	—	—	455.07	3.65					
Insurance, taxes on equipment, livestock, and machinery			dol.	—	—	187.97						
Total ownership costs						\$ 5,354.34						
5. Total costs shown						\$68,159.34	46.41					
6. Net returns above costs shown						3,528.98	2.41					
Modified open front (30' x 30') with partially-slatted floor 280 finishing hog capacity												
Labor hours required by month:												
Jan. 51	Feb. 51	Mar. 51	Apr. 86.6	May 51	June 51	July 51	Aug. 51	Sept. 51	Oct. 51	Nov. 87	Dec. 51	Total 683.6



ton ÷ 1,468.8 cwt. gain). This feed conversion rate is approximately 4 percent below that of the OF system and reflects the assumed differences in feed efficiencies presented in Table 2. Other operating costs total \$5,782.82 (\$3.94 per cwt. of gain). Income above operating costs equals \$8,883.32 (\$6.05 per cwt. of gain).

Ownership costs on facilities and machinery total \$5,354.34 (\$3.65 per cwt.) and are based on the data shown in the Appendix, Table 23. The sum of operating and ownership costs is \$68,159.34 (\$46.41 per cwt. of gain). The estimated hours of annual labor required for this system are 683.6 (.85 hours per hog). A charge for the hours of labor and management have not been deducted from net returns. The average net returns to labor and management for this medium-investment finishing system during the normal operating year equal \$3,528.98 (\$2.41 per cwt. of gain) or \$5.26 per hour.

Sensitivity of net returns to changes in prices

Table 10 illustrates the change in net returns for the medium-investment finishing system when the prices of slaughter hogs per cwt. and feeder pigs per head are each varied by \$2. The figures indicate that a \$2 increase (decrease) in the price per cwt. of hogs sold increases (decreases) net returns \$3,590; while each \$2 increase (decrease) in the price per feeder pig bought decreases (increases) net returns \$1,680. The figures in this table are exactly the same as shown in Table 6 for the OF system. However, since annual net returns for the MOF system are only \$3,539, a \$41.93 per cwt. hog price and a \$40.08 pig price would result in net returns of \$5,439 (\$3,529 + 1,910).

Table 11 shows the effect of changes in feeder pig and corn prices on net returns. The figures indicate that each 20 cent increase (decrease) in the price of a bushel of corn decreases (increases) net returns \$1,640. The change in net returns with a \$2 change in the cost of feeder pigs is \$1,680 (as presented previously). If the price of corn is \$1.90 per bushel and the purchase cost of feeder pigs is \$40.08 per head, net returns would decrease \$40 and would total \$3,489 (\$3,529 - 40).

Table 10. Effect of changes in feeder pig and slaughter hog prices on net returns above costs shown for the modified open-front finishing system.

		Price of slaughter hogs per cwt.				
		\$35.93	\$37.93	\$39.93	\$41.93	\$43.93
		----- Change in net returns (\$) -----				
Price of	\$34.08	-3,821.	-230.	3,360.	6,950.	10,541.
feeder	\$36.08	-5,501.	-1,910.	1,680.	5,270.	8,861.
pigs	\$38.08	-7,181.	-3,590.	0	3,590.	7,181.
per head	\$40.08	-8,861.	-5,270.	-1,680.	1,910.	5,501.
	\$42.08	-10,541.	-6,950.	-3,360.	230.	3,821.

Table 11. Effect of changes in feeder pig and corn prices on net returns above costs shown for the modified open-front finishing system.

		Price of corn per bushel				
		\$1.70	\$1.90	\$2.10	\$2.30	\$2.50
		----- Change in net returns (\$) -----				
Price of	\$34.08	6,640.	5,000.	3,360.	1,720.	80.
feeder	\$36.08	4,960.	3,320.	1,680.	40.	-1,600.
pigs	\$38.08	3,280.	1,640.	0	-1,640.	-3,280.
per head	\$40.08	1,600.	-40.	-1,680.	-3,320.	-4,960.
	\$42.08	-80.	-1,720.	-3,360.	-5,000.	-6,640.

The sensitivity tables for the medium-investment finishing system indicate that a 10 percent rise in the price of slaughter hogs from \$39.93 to \$43.93 per cwt. increases net returns 203 percent. A 10 percent decrease in the prices of feeder pigs from \$38.08 to \$34.27 per head and corn from \$2.10 to \$1.89 per bushel increases net returns 90.6 percent and 48.8 percent, respectively.

Cash flow projections for the first two years of operation

The projected monthly cash flows for the first two years of operation are based on the assumed schedule of buying 140 pigs every other month. The selling of finished hogs is scheduled according to the required number of days specified in Table 2. Payments for housing, equipment, and machinery are made during the first year in the month of initial use. The input figures of monthly receipts and expenses for the first two years of operation for the MOF system are included in the Appendix, Table 24.

The monthly cash flow summaries for the first two years of operation are shown in Table 12. The assumptions of \$1,000 minimum cash balance, 9 percent interest rate on outstanding debt, method of debt payback, and no labor charge given for the MOF system are the same as for the OF system. The cash flow summaries indicate that the maximum accumulated debt occurs in December of the first year and equals \$53,101. By the end of the second year accumulated total debt decreases to \$47,932 or by \$5,169. Approximately \$18,054 is paid on the principal, \$5,153 is paid on interest charges, and \$13,578 more is borrowed during the second year. Assuming the average annual production of 816 hogs continues in subsequent years, the total payback period would be approximately nine years. This also assumes that no payments are made for labor and that monthly prices, receipts and expenses are equal to those of the average year. A labor charge of \$3.50 per hour on the estimated 683.6 hours required yearly reduces the amount available for repayment of debt and extends the total payback period to approximately 15 years. Increasing the labor/management charge to \$6 per hour extends the total payback period to approximately 33 years.

Table 12. Monthly cash flows for finishing 280 hogs from feeder pigs (40 pounds) to slaughter hogs (220 pounds) in modified open-front system during start-up year of operation

Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
I. Cash receipts							Dollars						
Total	0	0	0	0	11633.	0	13237.	0	12231.	0	11046.	0	48147.
II. Cash expenses													
Total	34656.	1431.	8952.	3233.	9150.	2157.	7888.	2224.	7689.	2257.	15650.	2290.	97577.
III. Flow of funds summary							Dollars						
1. Cash balance beginning	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	
2. + Cash difference	-34656.	-1431.	-8952.	-3233.	2483.	-2157.	5348.	-2224.	4543.	-2257.	-4604.	-2290.	-49430.
3. = Current cash balance	-33656.	-431.	-7952.	-2233.	3483.	-1157.	6348.	-1224.	5543.	-1257.	-3604.	-1290.	
4. + Money borrowed	34656.	1431.	8952.	3233.	0	2157.	0	2224.	0	2257.	4604.	2290.	
5. - Payment on loan	0	0	0	0	1253.	0	4627.	0	3858.	0	0	0	
6. - Interest paid at 9 percent	0	0	0	0	1230.	0	721.	0	685.	0	0	0	
7. = Cash balance ending	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	
IV. Current loan summary							Dollars						
1. - Loan out - Jan. 1													
2. Accumulated borrowing	34656.	36087.	45039.	48272.	47020.	49177.	44550.	46774.	42917.	45173.	49777.	52067.	
3. - Accrued interest - Jan. 1													
4. Accrued interest at 9 percent	0	260.	531.	868.	0	353.	0	334.	0	322.	661.	1034.	
5. - Accrued total debt - Jan. 1													
6. Accumulated total debt	34656.	36347.	45569.	49141.	47020.	49529.	44550.	47108.	42917.	45495.	50438.	53101.	

Monthly cash flows for finishing 280 hogs from feeder pigs (40 pounds) to slaughter hogs (220 pounds) in MOF system during second year of operation.

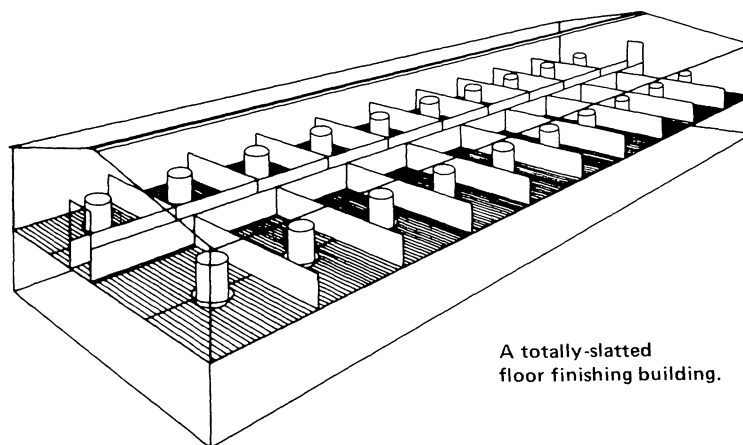
Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
I. Cash receipts							Dollars						
Total	11872.	0	11669.	0	11633.	0	13237.	0	12231.	0	11046.	0	71688.
II. Cash expenses													
Total	7750.	2086.	9364.	2420.	8505.	2261.	7841.	2325.	7636.	2297.	7383.	2189.	62059.
III. Flow of funds summary							Dollars						
1. Cash balance beginning	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	
2. Cash difference	4122.	-2086.	2304.	-2420.	3127.	-2261.	5396.	-2325.	4595.	-2297.	3663.	-2189.	9629.
3. = Current cash balance	5122.	-1086.	3304.	-1420.	4127.	-1261.	6396.	-1325.	5595.	-1297.	4663.	-1189.	
4. + Money borrowed	0	2086.	0	2420.	0	2261.	0	2325.	0	2297.	0	2189.	13578.
5. - Payment on loan	2697.	0	1548.	0	2361.	0	4629.	0	3864.	0	2955.	0	18054.
6. - Interest paid at 9 percent	1425.	0	756.	0	767.	0	766.	0	731.	0	708.	0	5153.
7. = Cash balance ending	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	
IV. Current loan summary							Dollars						
1. \$52,067.00 Loan out - Jan. 1													
2. Accumulated borrowing	49370.	51456.	49908.	52328.	49968.	52229.	47599.	49924.	46061.	48357.	45402.	47591.	
3. \$1,034.00 Accrued interest - Jan. 1													
4. Accrued interest at 9 percent	0	370.	0	374.	0	375.	0	357.	0	345.	0	341.	
5. \$53,101.00 Accrued total debt - Jan. 1													
6. Accumulated total debt	49370.	51826.	49908.	52703.	49968.	52604.	47599.	50281.	46061.	48703.	45402.	47932.	

The high investment totally-slatted floor (TS) finishing system

The high investment finishing system is comprised of an enclosed finishing building with totally-slatted floors over an 8 foot deep manure pit. The TS building is mechanically ventilated and does not require bedding or supplementary heat. The building is divided into 12 pens; six pens (9 x 16 feet) are for growing and six pens (12 x 16 feet) are for finishing. Manure is pumped from the pit biannually using a portable PTO agitator and a 1,500 gallon vacuum liquid manure spreader. The estimated costs of these facilities (Table 13) are net of the investment tax credit and total \$43,338 or \$154.78 per hog capacity. If six groups of 140 hogs use this building per year, the annual cost per hog is \$51.59 ($\$43,338 \div 840$ hogs).

Annual budget for the average year of operation

The enterprise budget for the TS finishing system during the average year of operation is shown in Table 14. With a 3 percent mortality rate, six groups of 136 hogs weighing 220 pounds per head are sold annually. The annual gross receipts total \$71,688.32 and the total weight gain is 1468.8 cwt. (\$48.81 per cwt. of gain).



A totally-slatted floor finishing building.

The yearly cost of purchasing feeder pigs and the feed consumption for the TS system are the same as for the MOF system. The feed conversion rate for both enclosed finishing systems is 367.2 pounds of feed per cwt. of gain. Energy and repair costs for the TS system are higher than for the other two systems because the TS building is assumed to be mechanically ventilated. Other operating costs have been assumed constant, except for the interest on operating capital which reflects the higher energy and repair costs. Total operating costs for the TS system equal \$62,958.08 (\$42.86 per cwt. of gain). Income above operating costs equals \$8,730.24 (\$5.94 per cwt. of gain).

Ownership costs on facilities and machinery are based on the data shown in the Appendix, Table 25 and total \$5,926.45 (\$4.03 per cwt. of gain). Operating and ownership costs total \$68,884.53 (\$46.89 per cwt. of gain). Net returns to labor and management for this high-investment finishing system during the average year equal \$2,803.79 (\$1.92 per cwt. of gain).

Table 13. Facilities investment for the totally-slatted finishing system – 280 hog capacity.

Facility	Description and size	Units	Estimated cost/unit	Total Cost
Totally slatted, enclosed, 12 pens [6 (9 feet x 16 feet) + 6 (12 feet x 16 feet)], 6 feet deep manure pit				
Building ¹	35 feet x 63 feet	2,205 square feet	\$ 11.00	\$24,255.00
Feeders	6 hole per side, fenceline	6	260.00	1,560.00
Waterers	Nipple	12	12.00	144.00
Fencing and gates	Tubular steel rod	286 feet	6.50	1,859.00
Ventilation fans	10 fans	26,000 cubic feet/minute		1,520.00
Feed bins and delivery system	30 tons, augered	—	—	2,800.00
Total				<u>\$32,138.00</u>
Equipment and machinery				
Miscellaneous equipment (includes high pressure sprayer, scales, loading chute, etc.)				\$ 3,000.00
Liquid manure spreader	1,500 gallons, vacuum			5,000.00
Agitator/filler pump	6 feet, PTO			3,200.00
				<u>\$11,200.00</u>
Total facilities investment				\$43,338.00
Investment per hog capacity (280 hogs)				\$ 154.78
Investment per hog produced annually (840 hogs)				\$ 51.59

¹ Includes site preparation, water system, ventilation ducts, and labor.

Table 14. Average annual costs and returns for finishing hogs in the totally-slatted system for the average year of operation.

Item	Head sold	Weight each	Unit	Price or cost/unit	Quantity	Value cost	Per cwt. of gain					
1. Gross receipts												
Slaughter hogs	136	2.2	cwt.	39.68	299.2	\$11,872.26						
Slaughter hogs	136	2.2	cwt.	39.00	299.2	11,668.80						
Slaughter hogs	136	2.2	cwt.	38.88	299.2	11,632.90						
Slaughter hogs	136	2.2	cwt.	44.24	299.2	13,236.61						
Slaughter hogs	136	2.2	cwt.	40.88	299.2	12,231.30						
Slaughter hogs	136	2.2	cwt.	36.92	299.2	11,046.46						
Total						\$71,688.32	\$48.81					
2. Operating costs												
Corn			bu.	2.10	8,199.10	\$17,218.11	17.04					
Soybean meal (48.5%)			cwt.	8.50	690.60	5,870.10						
Supplemental feed			dol.	.07	14,298.00	1,000.86						
Grinding and mixing			tons	3.50	269.70	943.95						
Insurance and taxes				—	—	500.00	1.04					
Veterinarian and medicine			dol.	—	—	684.00						
Electricity and fuel			dol.	—	—	98.00						
Miscellaneous expense			dol.	—	—	240.00						
Feeder pigs			hd.	37.35	140.00	5,229.56	21.78					
Feeder pigs			hd.	43.66	140.00	6,112.68						
Feeder pigs			hd.	41.65	140.00	5,830.72						
Feeder pigs			hd.	36.94	140.00	5,171.04						
Feeder pigs			hd.	35.64	140.00	4,990.16						
Feeder pigs			hd.	33.25	140.00	4,655.00						
Trucking in			hd.	.25	840.00	210.00	1.73					
Trucking out			hd.	.35	816.00	285.60						
Marketing cost			cwt.	1.14	1,795.20	2,046.53						
Tractors (fuel, lubrication, repairs)			dol.	—	—	168.99	.65					
Machinery (fuel, lubrication, repairs)			dol.	—	—	167.64						
Equipment (fuel, lubrication, repairs)			dol.	—	—	620.08						
Interest on operating capital			dol.	—	—	915.07	.62					
Total operating costs						\$62,958.08	42.86					
3. Income above operating costs						\$ 8,730.24	5.94					
4. Ownership costs												
Interest on equipment			dol.	.09	17,569.00	\$ 1,581.21	4.03					
Interest on machinery			dol.	.09	3,441.39	309.72						
Depreciation on equipment			dol.	—	—	3,381.63						
Depreciation on machinery			dol.	—	—	455.07						
Insurance, taxes on equipment, livestock, and machinery			dol.	—	—	198.83						
Total ownership costs						\$ 5,926.45						
5. Total costs shown						\$68,884.53	46.89					
6. Net returns above costs shown						\$ 2,803.79	1.92					
Enclosed totally-slatted building (35 feet by 63 feet) 280 finishing hog capacity												
Labor hours required by month:												
Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
51	51	51	86.6	51	51	51	51	51	51	87	51	683.6



The hours of labor required annually are estimated to total 683.6 (.85 hours per finished hog). Average expected returns per hour of labor are \$4.10.

Sensitivity of net returns to changes in prices

Since the quantities and prices of slaughter hogs, feeder pigs, and corn assumed for the TS system are equal to those of the MOF system, the sensitivity tables for the TS system are the same as shown in Tables 10 and 11. However, the appropriate changes

in net returns should be added to or deducted from \$2,804 (the net returns for the TS system). The figures shown in Tables 10 and 11, in relation to \$2,804 indicate that a 10 percent rise in the price of slaughter hogs from \$39.93 to \$43.92 per cwt. increases net returns 256 percent, while a 10 percent fall in the prices of feeder pigs from \$38.08 to \$34.27 per head and corn from \$2.10 to \$1.89 per bushel increases net returns 114 percent and 61 percent, respectively.

Cash flow projections for the first two years of operation

The projected monthly cash flows for the high-investment finishing system are based on the same assumptions as the previous two systems. Feeder pigs are bought and slaughter hogs are sold every other month. Investment expenditures made on capital equipment occur during the first year, with a 9 percent interest rate on borrowed money and \$1,000 held as the minimum monthly cash balance. The monthly receipts and expenses for the high-investment system during the first two years of operation are itemized in the Appendix, Table 26.

The monthly cash flow summaries for the first two years of operation are shown in Table 15. These summaries indicate that the maximum accumulated

total debt is \$56,908 which occurs in December of the first year. This figure is carried over to the second year and reduced to \$52,263 at the end of the year. During the second year \$17,549 is paid on principal and \$5,566 on interest charges, but in addition, \$13,051 is borrowed. These figures suggest that if the monthly prices, receipts, and expenses of the average year remained constant in future years, the payback period would be approximately 10 years provided that no labor payments are made. If a labor charge of \$3.50 per hour on the 683.6 hours required annually is deducted, the payback period increases to approximately 18 years. If the labor charge is increased to \$6 per hour, the net returns per period will not be sufficient to cover the interest payments, making it impossible to repay the principal over any length of time.



Table 15. Monthly cash flows for finishing 280 hogs from feeder pigs (40 pounds) to slaughter hogs (220 pounds) in totally slatted system during start-up year of operation.

Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
I. Cash receipts							Dollars						
Total	0	0	0	0	11633.	0	13237.	0	12231.	0	11046.	0	48147.
II. Cash expenses													
Total	38037.	1447.	8969.	3243.	9157.	2164.	7901.	2237.	7699.	2267.	15666.	2306.	101092.
III. Flow of funds summary							Dollars						
1. Cash balance beginning	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	
2. + Cash difference	-38037.	-1447.	-8969.	-3243.	2476.	-2164.	5335.	-2237.	4533.	-2267.	-4620.	-2306.	-52945.
3. = Current cash balance	-37037.	-447.	-7969.	-2243.	3476.	-1164.	6335.	-1237.	5533.	-1267.	-3620.	-1306.	
4. + Money borrowed	38037.	1447.	8969.	3243.	0	2164.	0	2237.	0	2267.	4620.	2306.	
5. - Payment on loan	0	0	0	0	1144.	0	4561.	0	3794.	0	0	0	
6. - Interest paid at 9 percent	0	0	0	0	1333.	0	775.	0	739.	0	0	0	
7. = Cash balance ending	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	
IV. Current loan summary							Dollars						
1. - Loan out - Jan. 1													
2. Accumulated borrowing	38037.	39484.	48452.	51696.	50552.	52716.	48155.	50392.	46598.	48865.	53485.	55791.	
3. - Accrued interest - Jan. 1													
4. Accrued interest at 9 percent	0	285.	581.	945.	0	379.	0	361.	0	349.	716.	1117.	
5. - Accrued total debt - Jan. 1													
6. Accumulated total debt	38037.	39769.	49034.	52640.	50552.	53095.	48155.	50753.	46598.	49214.	54201.	56908.	

Monthly cash flows for finishing 280 hogs from feeder pigs (40 pounds) to slaughter hogs (220 pounds) in totally slatted system during second year of operation.

Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
I. Cash receipts							Dollars						
Total	11872.	0	11669.	0	11633.	0	13237.	0	12231.	0	11046.	0	71688.
II. Cash expenses													
Total	7767.	2102.	9391.	2430.	8512.	2268.	7854.	2338.	7647.	2307.	7399.	2206.	62221.
III. Flow of funds summary							Dollars						
1. Cash balance beginning	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	
2. + Cash difference	4105.	-2102.	2277.	-2430.	3121.	-2268.	5383.	-2338.	4584.	-2307.	3647.	-2206.	9467.
3. = Current cash balance	5105.	-1102.	3277.	-1430.	4121.	-1268.	6383.	-1338.	5584.	-1307.	4647.	-1206.	
4. + Money borrowed	0	2102.	0	2430.	0	2268.	0	2338.	0	2307.	0	2206.	13051.
5. - Payment on loan	2569.	0	1463.	0	2294.	0	4556.	0	3791.	0	2876.	0	17549.
6. - Interest paid at 9 percent	1535.	0	814.	0	826.	0	827.	0	793.	0	771.	0	5566.
7. = Cash balance ending	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	
IV. Current loan summary							Dollars						
1. \$55,791.00 Loan out - Jan. 1													
2. Accumulated borrowing	53222.	55324.	53860.	56291.	53996.	56264.	51708.	54046.	50254.	52561.	49685.	51891.	
3. \$1,117.00 Accrued interest - Jan. 1													
4. Accrued interest at 9 percent	0	399.	0	404.	0	405.	0	388.	0	377.	0	373.	
5. \$56,908.00 Accrued total debt - Jan. 1													
6. Accumulated total debt	53222.	55723.	53860.	56694.	53996.	56669.	51708.	54433.	50254.	52938.	49685.	52263.	

Summary of three finishing systems

Table 16 summarizes the results of the financial computations for the three systems. The investment expense, net of the investment tax credit, for buildings, equipment, and machinery indicate that the total amount invested in the TS system is slightly greater than 1.5 times that for the OF system. The OF system has a feed conversion rate of 384 pounds of feed per cwt. of gain, which is 16.8 pounds higher than that of the two enclosed systems. The average annual net returns to labor and management are \$4,014, \$3,529, and \$2,804 for the OF, MOF, and TS systems, respectively. The OF system requires 106 more labor hours per year than for the other two systems. The average annual returns to labor and management per hour of labor are estimated to equal \$5.08 for the OF system, \$5.16 for the MOF system, and \$4.10 for the TS system.

The maximum accumulated total debt is approximately \$40,062 for the OF system, \$53,101 for the MOF system, and \$56,908 for the TS system. The payback period with no labor charge is shortest for the OF system (seven years). If a labor charge of \$6 per hour is withdrawn, the net returns for both the OF and the TS systems will be insufficient to cover the interest payments, making it impossible to repay the principal over any period of time. The payback period for the MOF system will be approximately 32 years, with a \$6 per hour labor charge and no change in the assumed monthly prices, receipts, and expenses for the average operating year.

This analysis has assumed a constant 3 percent death loss for finishing hogs in all three systems. It might be argued that the average death loss is greater for the OF system because it provides less environmental control. However, disease problems are frequently greater in enclosed buildings. Research on the effect of building systems on death loss is not extensive and no justification could be found to use different mortality rates in the three systems. Likewise, the feed conversion rates assumed in this report are intended to reflect what can be achieved if each system is managed efficiently. Some producers may be able to achieve more efficient feed conversion with the OF system than with the two enclosed systems because they have more experience and a greater understanding of how to manage that system. The mortality and feed conversion rates given in this report assume that comparable managerial ability is used in operating each of the three systems.

The comparison of the above economic variables does not provide an absolute answer on the "best" finishing system to build for all producers. Each individual producer must examine his/her ability and willingness to assume a greater amount of indebtedness, greater labor requirements, and greater possible income variation. The MOF and TS finishing systems may reduce output variation due to changes in the weather, but they may also cause more leg problems for the hogs and be more susceptible to contagious swine diseases. The "right" system for an individual producer depends ultimately on the producer's preferences, managerial ability, and financial situation.

Table 16. Summary of three finishing systems.

	System		
	Open-Front (OF)	Modified-Open Front (MOF)	Totally- Slatted (TS)
<u>Net investment after investment tax credit in new buildings and equipment</u>			
Building and lagoon	\$17,654	\$28,774	\$32,138
Equipment and machinery	10,000	11,200	11,200
Net investment expense	\$27,654	\$39,974	\$43,338
Hogs produced annually (@ 220 lbs.)	816	816	816
Net investment per hog produced	\$ 33.89	\$ 48.99	\$ 53.11
Net investment per cwt. of pork produced	\$ 15.40	\$ 22.27	\$ 24.14
<u>Pounds of feed per cwt. of gain</u>	384.0	367.2	367.2
<u>Average annual net returns to labor and management</u>	\$ 4,014	\$ 3,529	\$ 2,804
<u>Hours of labor required annually</u>	789.5	683.6	683.6
<u>Average annual net returns to labor and management per hour</u>	\$ 5.08	\$ 5.16	\$ 4.10
<u>Total accumulated debt</u>			
Maximum amount (no labor charge)	\$40,062	\$53,101	\$56,908
Month during which maximum debt occurs	12	12	12
<u>Approximate length of payback life in years</u>			
With no labor charge	7	9	10
With labor charge of \$3.50 per hour	14	15	18
With labor charge of \$6.00 per hour	a./	33	a./

a./ Returns per period are not great enough to cover interest (at 9%) and principal payments over any length of time.

Calculation of an equitable cash payment for renting a finishing building

Some farmers have neither the time nor the interest to finish hogs, but own facilities suitable for this enterprise. Frequently these farmers rent their facilities to another farmer who manages the operation and sells slaughter hogs. In this case, both farmers must agree on fair rental payment which should reflect the actual value of the facilities to the enterprise. A fixed cash rent payment and a share of the production are two approaches commonly used in compensating owners for the use of the facilities.

Cash rent payment

Farmers owning swine production facilities incur the ownership costs of depreciation, interest, repairs, taxes (real estate), and insurance (DIRTI) even if the facilities are not used. If the facilities are used, the owners may pay the operating costs of electricity and fuel, and the expenses associated with providing feed and water and removing manure. While "the rental charge" owners should charge for renting facilities is difficult to specify, the minimum payment that the owners would have to receive to cover the operating costs if the facilities were rented and the amount that would be required to cover the ownership costs can be estimated. These estimates provide some guidelines in negotiating a rental payment for the production facilities.

Owners of rented production facilities should receive a rental payment that covers at least the operating costs they incur if the facilities are used. These operating costs would probably include electricity, fuel, the part of maintenance and repairs that is related to use, and any machinery operating expenses (fuel, lubrication, and repairs) associated with use of the facilities. These expenses could be avoided if the facilities were not used and represent the minimum owners must receive to cover the operating costs they incur when the building is used.

However, there is little incentive for owners to rent facilities for an amount which only covers their operating costs, unless there are some intangible benefits such as helping a friend or reducing the chance of vandalism. Most owners would want a rental payment that would cover not only the operating costs, but the fixed cash costs of owning the facilities — insurance and real estate taxes. In addition, owners may also want to cover part or all of the non-cash ownership costs of depreciation and interest.

To give an example of the above analysis, assume that farmer A owns the facilities specified for the MOF finishing system shown in Table 8. Farmer B rents these facilities and finishes hogs to market weight according to the production schedule assumed in the enterprise budget presented in Table 9. The

prices, costs, and quantities given in the budget are assumed to accurately reflect the total receipts and costs for this enterprise.

The budget shows that the annual operating costs for the facilities include \$29.00 for electricity, \$874.73 for fuel, lubrication, and repairs, and \$13.33 for interest on these cash costs. These costs equal \$917.06 and probably represent the minimum yearly rent the owner would accept to rent his facilities. These costs are incurred because the facilities are rented. The ownership costs will be incurred even if the facilities are not used. The annual ownership costs for the facilities are estimated to equal \$5,354.34. Total annual costs for farmer A are \$6,271.40 (\$917.60 + 5,354.34) which would be the annual rent payment which covers all the owner's costs. If the expenses of electricity, fuel and lubrication were excluded, leaving only the DIRTI expenses, the total would be \$6,118.09. Since the estimated total investment in these facilities is \$39,974.00, the DIRTI expenses of \$6,118.09 represents an annual rental charge of approximately 15 percent which is commonly used for estimating rental payments.

A share of the production

A second approach that can be used to compensate the owner of facilities in a rental agreement is for the owner and renter to share the gross receipts from the sale of slaughter hogs in the same proportion as they contribute to production costs. The operating and ownership costs paid by the owner of the facilities are compared to the operating costs of the renter to derive the respective proportions each farmer contributes to production. By dividing the gross returns in the same proportion, a value on the facilities can be estimated. This method of calculating a rental payment on production facilities involves some additional agreements between the two parties such as a "fair" labor and management wage, "acceptable" feed conversion rates, and "reasonable" operating costs.

Table 17 lists the respective costs from the enterprise budget for the MOF finishing system assumed for each farmer. The total costs shown in the budget of \$68,159.34 are divided on a 9.2 percent-90.8 percent split between farmers A and B, respectively. Assuming that farmer B works the estimated 683.6 hours during the year and that both farmers agree that \$5 per hour is a "fair" wage to charge for labor and management, an additional \$3,418 would be included in farmer B's costs. The resulting total costs would then be \$6,271.40 for farmer A and \$65,305.94 for farmer B, or an 8.8 percent-91.2 percent split between farmers A and B respectively.

Annual total receipts from this enterprise are estimated to be \$71,688.32. An 8.8 percent-91.2 percent

Table 17. Cost sharing plan for the modified open-front finishing system with Farmer A renting the facilities to Farmer B.

Operating costs	Cost/unit	Producer A	Producer B
Corn	\$2.10/bu.	—	\$17,218.11
Soybean meal	\$8.50/cwt.	—	5,870.10
Supplemental feed		—	1,000.86
Grinding and mixing		—	943.95
Insurance (feed and livestock)		—	500.00
Veterinarian and medicine		—	684.00
Electricity		\$ 29.00	—
Miscellaneous expense		—	240.00
Feeder pigs		—	31,989.16
Hauling and marketing		—	2,542.13
Machinery and equipment (fuel, lubrication and repairs)		874.73	—
Interest on operating capital		13.33	899.63
Total operating costs		\$ 917.06	\$61,887.94
Ownership costs			
Interest on equipment and machinery		\$1,739.55	—
Depreciation on equipment and machinery		3,426.82	—
Insurance and taxes on equipment and machinery		187.97	—
Total ownership costs		\$5,354.34	0
Total costs shown (\$68,159.34)		\$6,271.40	\$61,887.94
Shares of costs shown (percent)		(9.2)	(90.8)
Total costs including labor and management (\$68,159.34 + \$3,418 = \$71,577.34)		\$6,271.40	\$65,305.94
Shares of total costs (percent)		(8.8)	(91.2)
Total receipts (\$71,688.32)		\$6,308.57	\$65,379.75
Net returns earned		\$ 37.17	\$ 73.81

split would imply that farmer A should receive \$6,308.57 as a return for the facilities, and farmer B should receive \$65,379.75. Given the costs of production including labor and management calculated here, farmers A and B would have an annual net return above costs shown of \$37.17 (\$6,308.57-6,271.40) and \$73.81 (\$65,379.75-65,305.94), respectively.

Since the receipts and operating costs of the finishing enterprise would vary from year to year, some variation in the relative cost proportions and returns would be expected. However, the variation in relative shares would probably be small and the division of total returns would reflect the approximate value of the respective inputs during both good and poor production years. The payment for facilities based on relative cost shares would increase (decrease) during the years of higher (lower) hog prices and lower (higher) feeder pig and feed costs. Using this approach shifts some of the risk of hog feeding to the owner of the building, but also allows the owner to share in larger returns during high income years.

In the average year of operation, the annual cash return to the MOF finishing facilities has been shown to equal \$6,308.57 based on the owner's share of the production costs. This return is only slightly higher than the cash rent calculated on the basis of either the owner's total operating and ownership costs (\$6,271.40) or the DIRT1 expenses (\$6,118.09). Both approaches for calculating a rental payment for the production facilities analyzed here have utilized the annual enterprise budget for the MOF finishing system. Farmers who want to calculate a rental payment for their own production facilities are encouraged to substitute their own numbers in the appropriate places, to estimate their own enterprise budgets, and to follow the guidelines of the two given approaches. The actual rent paid for production facilities will ultimately be determined through negotiation between the parties involved, but specific cost data will be useful input into these negotiations.

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Appendix

Table 18. Growing and finishing rations for hogs and replacement gilts.

Feed ingredient	Ration	
	Growing — percent*	Finishing — percent*
Ground yellow corn ¹	80.5	86.6
Soybean meal solvent (48.5 percent protein) ²	17.0	10.7
Dicalcium phosphate	1.0	1.2
Ground limestone	0.9	0.9
Salt ³	0.3	0.3
Vitamin trace mineral premix	0.3	0.3
Composition		
Protein (percent)	16.0	13.0
Calcium (percent)	.65	.5
Phosphorous (percent)	.50	.5

¹ Ground barley or milo can replace corn in all feed rations.

Add 10 pounds/ton.

² If soybean meal (44 percent) is fed instead of the 48.5 percent, increase the amount of soybean meal (48.5 percent) and reduce the amount of corn by 12 percent.

³ The trace mineralized salt should contain at least .008 percent iodine.

*Based on feed rations recommended by Hawton and Meade (1973).

Table 19. Average monthly prices of barrows and gilts, seven central markets (\$/cwt).

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average for year	Standard Deviation	Coefficient of Variation
1967	19.46	19.38	18.43	17.62	21.83	22.29	22.58	21.04	19.46	18.16	17.36	17.29	19.57	1.93	.10
1968	18.31	19.41	19.87	19.00	18.88	20.43	21.48	20.08	19.93	18.29	17.92	18.76	19.30	1.03	.05
1969	19.77	20.41	20.69	20.38	23.14	25.16	26.05	26.91	25.94	25.53	25.77	26.93	23.89	2.82	.12
1970	27.40	28.25	25.97	24.05	23.53	24.04	25.13	22.12	20.35	17.91	15.69	15.67	22.51	4.27	.19
1971	16.25	19.43	17.13	16.19	17.43	18.36	19.84	19.05	18.91	19.80	19.39	20.98	18.57	1.51	.08
1972	24.84	25.61	23.96	22.89	25.32	26.74	28.57	28.70	28.75	28.18	27.61	30.43	26.77	2.33	.09
1973	32.54	36.23	38.13	35.56	36.35	38.55	46.64	56.68	43.79	42.12	40.97	39.79	40.61	6.37	.16
1974	40.59	39.73	34.88	30.52	26.09	27.40	36.31	37.67	35.79	38.90	38.34	39.93	35.51	4.93	.14
1975	38.93	39.61	39.52	40.69	46.44	51.19	57.17	58.10	61.23	58.52	49.74	48.33	49.12	8.26	.17
1976	48.40	48.85	46.71	47.89	48.89	50.80	48.26	44.00	39.39	32.66	32.05	38.05	43.83	6.62	.15
1977	39.52	40.18	37.53	36.97	41.79	43.86	45.76	44.38	41.40	40.83	39.33	43.99	41.30	2.78	.07
Average for month	29.64	30.64	29.24	28.34	29.97	31.71	34.34	34.43	32.27	30.99	29.47	30.92	31.00	1.92	.06
Standard deviation	10.96	10.64	10.36	10.62	11.32	12.15	13.04	14.56	13.44	13.05	11.46	11.69	11.29	11.64	
Seasonal index	99.2	103.1	97.5	93.6	97.2	102.4	110.6	109.1	102.2	97.2	92.3	95.6	100.00		

Table 20. Average monthly feeder pig prices, Little Falls, Minnesota (\$/head).

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average for year	Standard Deviation	Coefficient of Variation
1968	14.25	15.12	16.45	16.28	15.60	14.45	13.94	14.35	15.31	13.66	13.13	13.66	14.68	1.87	.07
1969	12.44	13.18	16.23	17.28	17.55	17.74	18.00	18.21	19.03	19.97	19.99	23.38	17.81	2.85	.16
1970	24.72	25.44	26.91	24.34	21.50	18.50	16.44	14.25	13.44	11.72	9.84	9.87	18.08	6.34	.35
1971	10.30	12.71	13.94	13.78	14.22	12.62	11.93	12.32	12.47	14.73	14.40	16.03	13.29	1.52	.11
1972	20.75	22.25	22.25	23.25	23.00	22.00	23.00	22.00	23.00	23.00	22.50	23.75	22.56	.78	.03
1973	25.15	29.13	32.50	39.62	30.63	26.65	35.00	38.25	31.40	30.56	31.31	29.91	30.93	3.43	.11
1974	30.62	31.18	28.40	27.18	20.87	14.81	17.57	14.85	15.37	17.45	18.50	22.58	21.66	6.27	.29
1975	25.90	28.16	36.15	36.37	39.10	38.87	40.50	40.37	48.25	50.70	43.16	42.50	39.05	7.25	.19
1976	42.85	46.00	46.25	47.70	45.00	37.80	30.80	28.60	25.60	20.00	19.60	22.75	34.41	11.01	.32
1977	25.31	31.50	34.13	38.00	38.19	33.86	34.90	37.83	35.67	34.85	30.75	31.38	33.86	3.71	.11
Average for month	23.19	25.54	27.27	27.48	26.57	23.73	24.21	24.10	23.95	23.66	22.32	23.58	24.63	1.67	.07
Standard deviation	9.58	10.14	10.23	10.82	10.92	9.96	10.22	11.20	11.56	11.98	10.09	9.45	9.18	10.17	
Seasonal index	98.3	108.1	114.9	114.4	109.6	96.9	97.2	94.3	93.8	92.0	87.5	92.9	100.00		.41

Table 21. Machinery fixed and variable cost per hour low-investment open front system.

Machine	Code	Depreciation	Insurance	Tax	Total Fixed	Repair	Fuel	Lubrication	Variable	Interest	Hour/Time
Tractor (3)	3	2.16	.12	0	2.28	2.90	1.48	.22	2.61	1.78	1.00
Front end loader	97	.82	.04	0	.86	.29	0	0	.29	.53	1.00
Manure spreader 95 bu.	88	1.54	.07	0	1.61	.43	0	0	.43	.99	1.00
Irrigation equipment lo-vol.	98	1.27	.07	0	1.34	2.16	0	0	2.16	1.05	1.00

Annual cost summary for equipment and livestock open front system.

Line No.	Item	Size	Unit	List Price	Depreciation	Interest	Insurance	Taxes	Repairs	Fuel and lubrication	Hours Labor	Total ownership/ year	Total operating/ year	Years Life
21	Finishing house open front	280.00	hd.	10,744.00	895.33	483.48	32.23	32.23	179.07	0	46.20	959.80	179.07	12.00
22	Finishing house open front equipment	280.00	hd.	5,410.00	676.25	243.45	16.23	0	135.25	0	46.20	692.48	135.25	8.00
40	Miscellaneous product equipment	1.00		3,000.00	375.00	135.00	9.00	0	18.75	0	8.00	384.00	18.75	8.00
36	Set basin and pond	1.00		1,500.00	75.00	67.50	4.50	0	15.00	0	10.00	79.50	15.00	20.00

Table 22. Monthly cash flows for finishing 280 hogs from feeder pigs (40 pounds) to slaughter hogs (220 pounds) in open front system during start-up year of operation.

Item	Units	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Cash receipts									Dollars					
Slaughter hogs	1.0	0	0	0	0	11633.	0	0	0	0	0	0	0	11633.
Slaughter hogs	1.0	0	0	0	0	0	0	13237.	0	0	0	0	0	13237.
Slaughter hogs	1.0	0	0	0	0	0	0	0	0	12231.	0	0	0	12231.
Slaughter hogs	1.0	0	0	0	0	0	0	0	0	0	11046.	0	0	11046.
Total		0	0	0	0	11633.	0	13237.	0	12231.	0	11046.	0	48147.
Cash expenses									Dollars					
Corn	1.0	345.	564.	1237.	1386.	1530.	1386.	1436.	1338.	1490.	1428.	1435.	1573.	15148.
Soybean meal 48.5	1.0	165.	270.	459.	496.	633.	479.	503.	68.	0	511.	481.	560.	5026.
Supplemental feed	1.0	20.	33.	72.	81.	82.	81.	84.	78.	87.	83.	83.	91.	873.
Grinding and mixing	1.0	20.	33.	69.	77.	87.	77.	79.	74.	82.	79.	79.	87.	843.
Insurance	1.0	0	0	500.	0	0	0	0	0	0	0	0	0	500.
Veterinarian and medicine	1.0	57.	57.	57.	57.	57.	57.	57.	57.	57.	57.	57.	57.	684.
Bedding	1.0	0	0	0	0	0	0	0	0	168.	0	0	0	168.
Miscellaneous expense	1.0	20.	20.	20.	20.	20.	20.	20.	20.	20.	20.	20.	20.	240.
Feeder pigs	1.0	5230.	0	0	0	0	0	0	0	0	0	0	0	5230.
Feeder pigs	1.0	0	0	6113.	0	0	0	0	0	0	0	0	0	6113.
Feeder pigs	1.0	0	0	0	0	5831.	0	0	0	0	0	0	0	5831.
Feeder pigs	1.0	0	0	0	0	0	0	5171.	0	0	0	0	0	5171.
Feeder pigs	1.0	0	0	0	0	0	0	0	0	4990.	0	0	0	4990.
Feeder pigs	1.0	0	0	0	0	0	0	0	0	0	0	4655.	0	4655.
Trucking in	1.0	35.	0	35.	0	35.	0	35.	0	35.	0	35.	0	210.
Trucking out	1.0	0	0	0	0	48.	0	48.	0	48.	0	48.	0	190.
Marketing cost	1.0	0	0	0	0	341.	0	341.	0	341.	0	341.	0	1364.
Finishing house open front	1.0	16154.	0	0	0	0	0	0	0	0	15.	0	0	16169.
Set basin and pond	1.0	0	0	0	0	1500.	0	0	0	0	0	0	0	1500.
Miscellaneous equipment	1.0	0	500.	500.	1000.	1000.	0	0	0	0	0	0	0	3000.
Manure loader	1.0	0	0	1000.	0	0	0	0	0	0	0	0	0	1000.
Manure spreader	1.0	0	0	0	0	0	0	0	0	0	0	1500.	0	1500.
Irrigation equipment lo-vol	1.0	0	0	0	0	0	0	0	0	4500.	0	0	0	4500.
Tractor (fuel, lubrication, and repairs)		0	0	0	0	0	0	11.	0	0	0	109.	0	121.
Machine (fuel, lubrication, and repairs)		0	0	0	0	0	0	1.	0	0	0	16.	0	17.
Equipment (fuel, lubrication, and repairs)		29.	29.	29.	29.	29.	29.	29.	29.	29.	29.	29.	29.	348.
Total		22074.	1505.	10091.	3146.	11192.	2128.	7816.	2064.	11846.	2222.	8889.	2417.	85391.
Flow of funds summary									Dollars					
Cash balance beginning		1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	
+ Cash difference		-22074.	-1505.	-10091.	-3146.	441.	-2128.	5421.	-2064.	385.	-2222.	2158.	-2417.	-37244.
= Current cash balance		-21074.	-505.	-9091.	-2146.	1441.	-1128.	6421.	-1064.	1385.	-1222.	3158.	-1417.	
+ Money borrowed		22074.	1505.	10091.	3146.	0	2128.	0	2064.	0	2222.	0	2417.	
- Payment on loan		0	0	0	0	0	0	4422.	0	0	0	1444.	0	
- Interest paid at 9 percent		0	0	0	0	441.	0	999.	0	385.	0	713.	0	
= Cash balance ending		1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	
Current loan summary									Dollars					
Loan out - January 1														
Accumulated borrowing		22074.	23580.	33670.	36816.	36816.	38944.	34522.	36587.	36587.	38809.	37365.	39782.	
Accrued interest - January 1														
Accrued interest at 9 percent		0	166.	342.	595.	431.	707.	0	259.	148.	422.	0	280.	
Accrued total debt - January 1														
Accumulated total debt - January 1		22074.	23745.	34013.	37411.	37247.	39651.	34522.	36846.	36735.	39231.	37365.	40062.	

Table 22 (continued). Monthly cash flows for finishing 280 hogs from feeder pigs (40 pounds) to slaughter hogs (220 pounds) in open front system during second year of operation.

Item	Units	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
								Dollars						
Cash receipts														
Slaughter hogs	1.0	11872.	0	0	0	0	0	0	0	0	0	0	0	11872.
Slaughter hogs	1.0	0	0	11669.	0	0	0	0	0	0	0	0	0	11669.
Slaughter hogs	1.0	0	0	0	0	11633.	0	0	0	0	0	0	0	11633.
Slaughter hogs	1.0	0	0	0	0	0	0	13237.	0	0	0	0	0	13237.
Slaughter hogs	1.0	0	0	0	0	0	0	0	0	12231.	0	0	0	12231.
Slaughter hogs	1.0	0	0	0	0	0	0	0	0	0	0	11046.	0	11046.
Total		11872.	0	11669.	0	11633.	0	13237.	0	12231.	0	11046.	0	71688.
								Dollars						
Cash expenses														
Corn	1.0	1700.	1411.	1605.	1382.	1542.	1382.	1491.	1432.	1515.	1428.	1443.	1565.	17898.
Soybean meal 48.5	1.0	536.	507.	546.	495.	493.	495.	507.	513.	479.	511.	490.	558.	6131.
Supplemental feed	1.0	99.	82.	93.	80.	90.	80.	87.	83.	88.	83.	84.	91.	1040.
Grinding and mixing	1.0	93.	78.	89.	77.	84.	77.	82.	79.	83.	79.	79.	87.	987.
Insurance and taxes	1.0	0	0	583.	0	0	0	0	0	33.	0	0	0	616.
Veterinarian and medicine	1.0	57.	57.	57.	57.	57.	57.	57.	57.	57.	57.	57.	57.	684.
Bedding	1.0	0	0	0	0	0	0	0	0	168.	0	0	0	168.
Miscellaneous expense	1.0	20.	20.	20.	20.	20.	20.	20.	20.	20.	20.	20.	20.	240.
Feeder pigs	1.0	5230.	0	0	0	0	0	0	0	0	0	0	0	5230.
Feeder pigs	1.0	0	0	6113.	0	0	0	0	0	0	0	0	0	6113.
Feeder pigs	1.0	0	0	0	0	5831.	0	0	0	0	0	0	0	5831.
Feeder pigs	1.0	0	0	0	0	0	0	5171.	0	0	0	0	0	5171.
Feeder pigs	1.0	0	0	0	0	0	0	0	0	4990.	0	0	0	4990.
Feeder pigs	1.0	0	0	0	0	0	0	0	0	0	0	4655.	0	4655.
Trucking in	1.0	35.	0	35.	0	35.	0	35.	0	35.	0	35.	0	210.
Trucking out	1.0	48.	0	48.	0	48.	0	48.	0	48.	0	48.	0	286.
Marketing cost	1.0	341.	0	341.	0	341.	0	341.	0	341.	0	341.	0	2047.
Tractor (fuel, lubrication, and repairs)		0	0	109.	43.	0	0	11.	0	0	43.	109.	0	316.
Machinery (fuel, lubrication, and repairs)		0	0	16.	32.	0	0	1.	0	0	32.	16.	0	98.
Equipment (fuel, lubrication, and repairs)		29.	29.	29.	29.	29.	29.	29.	29.	29.	29.	29.	29.	348.
Total		8187.	2185.	9683.	2215.	8569.	2140.	7881.	2214.	7885.	2283.	7407.	2408.	63057.
								Dollars						
Flow of funds summary														
Cash balance beginning		1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.
+ Cash difference		3686.	-2185.	1986.	-2215.	3063.	-2140.	5356.	-2214.	4346.	-2283.	3640.	-2408.	8631.
= Current cash balance		4686.	-1185.	2986.	-1215.	4063.	-1140.	6356.	-1214.	5346.	-1283.	4640.	-1408.	
+ Money borrowed		0	2185.	0	2215.	0	2140.	0	2014.	0	2283.	0	2408.	
- Payment on loan		3107.	0	1419.	0	2485.	0	4782.	0	3811.	0	3129.	0	
- Interest paid at 9 percent		578.	0	567.	0	578.	0	574.	0	535.	0	511.	0	
= Cash balance ending		1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	
								Dollars						
Current loan summary														
\$39,782.00 Loan out - January 1														
Accumulated borrowing		36675.	38860.	37441.	39656.	37171.	39311.	34529.	36743.	32932.	35214.	32086.	34493.	
\$280.00 Accrued interest - January 1														
Accrued interest at 9 percent		0	275.	0	281.	0	279.	0	259.	0	247.	0	241.	
\$40,062.00 Accrued total debt - January 1														
Accumulated total debt		36675.	39135.	37441.	39937.	37171.	39589.	34529.	37002.	32932.	35461.	32086.	34734.	

Table 23. Machinery fixed and variable cost per hour for modified open-front finishing system.

Machine	Code	Depreciation	Insurance	Tax	Total Fixed	Repair	Fuel	Lubrication	Variable	Interest	Hour/Time
Tractor (3)	3	2.16	.12	0	2.28	.90	1.48	.22	2.61	1.78	1.00
Agitator/filler pump	91	6.31	.23	0	6.55	.61	0	0	.61	3.49	1.00
Manure spreader vac 1500	90	5.22	.22	0	5.44	3.20	0	0	3.20	3.28	1.00

Annual cost summary for equipment and livestock for modified open-front system.

Line No.	Item	Size	Unit	List Price	Depreciation	Interest	Insurance	Taxes	Repairs	Fuel and lubrication	Hours Labor	Total ownership/ year	Total operating/ year	Years Life
23	Finishing house modified open front	280.00	hd.	24,000.00	2,000.00	1,080.00	72.00	72.00	400.00	0	41.20	2,144.00	400.00	12.00
24	Finishing house modified open front equipment	280.00	hd.	4,774.00	596.75	214.83	14.32	0	119.35	0	41.20	611.07	119.35	8.00
40	Miscellaneous product equipment	1.00		3,000.00	375.00	135.00	9.00	0	18.75	0	8.00	384.00	18.75	8.00

Table 24. Monthly cash flows for finishing 280 hogs from feeder pigs (40 pounds) to slaughter hogs (220 pounds) in modified open-front system during start-up year of operation.

Item	Units	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Cash receipts		Dollars												
Slaughter hogs	1.0	0	0	0	0	11633.	0	0	0	0	0	0	0	11633.
Slaughter hogs	1.0	0	0	0	0	0	0	13237.	0	0	0	0	0	13237.
Slaughter hogs	1.0	0	0	0	0	0	0	0	0	12231.	0	0	0	12231.
Slaughter hogs	1.0	0	0	0	0	0	0	0	0	0	0	11046.	0	11046.
Total		0	0	0	0	11633.	0	13237.	0	12231.	0	11046.	0	48147.
Cash expenses		Dollars												
Corn	1.0	309.	505.	1153.	1323.	1219.	1382.	1517.	1432.	1429.	1459.	1432.	1489.	14650.
Soybean meal 48.5	1.0	148.	242.	395.	633.	415.	495.	497.	508.	556.	509.	485.	507.	5390.
Supplemental feed	1.0	18.	29.	67.	77.	71.	80.	88.	83.	83.	85.	83.	87.	851.
Grinding and mixing	1.0	18.	29.	64.	77.	67.	77.	67.	77.	83.	79.	79.	82.	799.
Insurance	1.0	0	0	500.	0	0	0	0	0	0	0	0	0	500.
Veterinarian and medicine	1.0	57.	57.	57.	57.	57.	57.	57.	57.	57.	57.	57.	57.	684.
Electricity and fuel	1.0	3.	3.	3.	2.	2.	2.	2.	2.	2.	2.	3.	3.	29.
Miscellaneous expense	1.0	20.	20.	20.	20.	20.	20.	20.	20.	20.	20.	20.	20.	240.
Feeder pigs	1.0	5230.	0	0	0	0	0	0	0	0	0	0	0	5230.
Feeder pigs	1.0	0	0	6113.	0	0	0	0	0	0	0	0	0	6113.
Feeder pigs	1.0	0	0	0	0	5831.	0	0	0	0	0	0	0	5831.
Feeder pigs	1.0	0	0	0	0	0	0	5171.	0	0	0	0	0	5171.
Feeder pigs	1.0	0	0	0	0	0	0	0	0	4990.	0	0	0	4990.
Feeder pigs	1.0	0	0	0	0	0	0	0	0	0	0	4655.	0	4655.
Trucking in	1.0	35.	0	35.	0	35.	0	35.	0	35.	0	35.	0	210.
Trucking out	1.0	0	0	0	0	48.	0	48.	0	48.	0	48.	0	190.
Marketing cost	1.0	0	0	0	0	341.	0	341.	0	341.	0	341.	0	1364.
Finishing house MOF	1.0	28774.	0	0	0	0	0	0	0	0	0	0	0	28774.
Miscellaneous equipment	1.0	0	500.	500.	1000.	1000.	0	0	0	0	0	0	0	3000.
Manure spreader	1.0	0	0	0	0	0	0	0	0	0	0	5000.	0	5000.
Agitator/filler pump	1.0	0	0	0	0	0	0	0	0	0	0	3200.	0	3200.
Tractor (fuel, lubrication, and repairs)		0	0	0	0	0	0	0	0	0	0	84.	0	84.
Machinery (fuel, lubrication, and repairs)		0	0	0	0	0	0	0	0	0	0	84.	0	84.
Equipment (fuel, lubrication, and repairs)		45.	45.	45.	45.	45.	45.	45.	45.	45.	45.	45.	45.	538.
Total		34656.	1431.	8952.	3233.	9150.	2157.	7888.	2224.	7689.	2257.	15650.	2290.	97577.
Flow of funds summary		Dollars												
Cash balance beginning		1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	
+ Cash difference		-34656.	-1431.	-8952.	-3233.	2483.	-2157.	5348.	-2224.	4543.	-2257.	-4604.	-2290.	-49430.
= Current cash balance		-33656.	-431.	-7952.	-2233.	3483.	-1157.	6348.	-1224.	5543.	-1257.	-3604.	-1290.	
+ Money borrowed		34656.	1431.	8952.	3233.	0	2157.	0	2224.	0	2257.	4604.	2290.	
- Payment on loan		0	0	0	0	1253.	0	4627.	0	3858.	0	0	0	
- Interest paid at 9 percent		0	0	0	0	1230.	0	721.	0	685.	0	0	0	
= Cash balance ending		1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	
Current loan summary		Dollars												
- Loan out - January 1														
Accumulated borrowing		34656.	36087.	45039.	48272.	47020.	49177.	44550.	46774.	42917.	45173.	49777.	52067.	
- Accrued interest - January 1														
Accrued interest at 9 percent		0	260.	531.	868.	0	353.	0	334.	0	322.	661.	1034.	
- Accrued total debt - January 1														
Accumulated total debt		34656.	36347.	45569.	49141.	47020.	49529.	44550.	47108.	42917.	45495.	50438.	53101.	

Table 24 (continued). Monthly cash flows for finishing 280 hogs from feeder pigs (40 pounds) to slaughter hogs (220 pounds) in modified open-front system during second year of operation.

Item	Units	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Cash receipts		Dollars												
Slaughter hogs	1.0	11872.	0	0	0	0	0	0	0	0	0	0	0	11872.
Slaughter hogs	1.0	0	0	11669.	0	0	0	0	0	0	0	0	0	11669.
Slaughter hogs	1.0	0	0	0	0	11633.	0	0	0	0	0	0	0	11633.
Slaughter hogs	1.0	0	0	0	0	0	0	13237.	0	0	0	0	0	13237.
Slaughter hogs	1.0	0	0	0	0	0	0	0	0	12231.	0	0	0	12231.
Slaughter hogs	1.0	0	0	0	0	0	0	0	0	0	0	11046.	0	11046.
Total		11872.	0	11669.	0	11633.	0	13237.	0	12231.	0	11046.	0	71688.
Cash expenses		Dollars												
Corn	1.0	1348.	1351.	1443.	1474.	1452.	1484.	1442.	1534.	1374.	1516.	1368.	1433.	17218.
Soybean meal 48.5	1.0	472.	457.	502.	488.	511.	487.	513.	502.	490.	493.	488.	469.	5870.
Supplemental feed	1.0	78.	79.	84.	86.	84.	86.	84.	89.	80.	88.	80.	83.	1001.
Grinding and mixing	1.0	75.	75.	80.	81.	81.	80.	84.	76.	83.	76.	76.	79.	944.
Insurance and taxes	1.0	0	0	595.	0	0	0	0	0	72.	0	0	0	667.
Veterinarian and medicine	1.0	57.	57.	57.	57.	57.	57.	57.	57.	57.	57.	57.	57.	684.
Electricity and fuel	1.0	3.	3.	3.	2.	2.	2.	2.	2.	2.	2.	3.	3.	29.
Miscellaneous expense	1.0	20.	20.	20.	20.	20.	20.	20.	20.	20.	20.	20.	20.	240.
Feeder pigs	1.0	5230.	0	0	0	0	0	0	0	0	0	0	0	5230.
Feeder pigs	1.0	0	0	6113.	0	0	0	0	0	0	0	0	0	6113.
Feeder pigs	1.0	0	0	0	0	5831.	0	0	0	0	0	0	0	5831.
Feeder pigs	1.0	0	0	0	0	0	0	5171.	0	0	0	0	0	5171.
Feeder pigs	1.0	0	0	0	0	0	0	0	0	4990.	0	0	0	4990.
Feeder pigs	1.0	0	0	0	0	0	0	0	0	0	0	4655.	0	4655.
Trucking in	1.0	35.	0	35.	0	35.	0	35.	0	35.	0	35.	0	210.
Trucking out	1.0	48.	0	48.	0	48.	0	48.	0	48.	0	48.	0	286.
Marketing cost	1.0	341.	0	341.	0	341.	0	341.	0	341.	0	341.	0	2047.
Tractor (fuel, lubrication, and repairs)		0	0	0	84.	0	0	0	0	0	0	84.	0	169.
Machinery (fuel, lubrication, and repairs)		0	0	0	84.	0	0	0	0	0	0	84.	0	168.
Equipment (fuel, lubrication, and repairs)		45.	45.	45.	45.	45.	45.	45.	45.	45.	45.	45.	45.	538.
Total		7750.	2086.	9364.	2420.	8505.	2261.	7841.	2325.	7636.	2297.	7383.	2189.	62059.
Flow of funds summary		Dollars												
Cash balance beginning		1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	
+ Cash difference		4122.	-2086.	2304.	-2420.	3127.	-2261.	5396.	-2325.	4595.	-2297.	3663.	-2189.	9629.
= Current cash balance		5122.	-1086.	3304.	-1420.	4127.	-1261.	6396.	-1325.	5595.	-1297.	4663.	-1189.	
+ Money borrowed		0	2086.	0	2420.	0	2261.	0	2325.	0	2297.	0	2189.	
- Payment on loan		2697.	0	1548.	0	2361.	0	4629.	0	3864.	0	2955.	0	
- Interest paid at 9 percent		1425.	0	756.	0	767.	0	766.	0	731.	0	708.	0	
= Cash balance ending		1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	
Current loan summary		Dollars												
\$52,067.00 Loan out - January 1														
Accumulated borrowing		49370.	51456.	49908.	52328.	49968.	52229.	47599.	49924.	46061.	48357.	45402.	47591.	
\$1,034.00 Accrued interest - January 1														
Accrued interest at 9 percent		0	370.	0	374.	0	375.	0	357.	0	345.	0	341.	
\$53,101.00 Accrued total debt - January 1														
Accumulated total debt		49370.	51826.	49908.	52703.	49968.	52604.	47599.	50281.	46061.	48703.	45402.	47932.	

Table 25. Machinery fixed and variable cost per hour for high investment totally-slatted system.

Machine	Code	Depreciation	Insurance	Tax	Total Fixed	Repair	Fuel	Lubrication	Variable	Interest	Hour/Time
Tractor (3)	3	2.16	.12	0	2.28	.90	1.48	.22	2.61	1.78	1.00
Agitator/filler pump	91	6.31	.23	0	6.55	.61	0	0	.61	3.49	1.00
Manure spreader vac 1500	90	5.22	.22	0	5.44	3.20	0	0	3.20	3.28	1.00

Annual cost summary for equipment and livestock high investment totally-slatted system.

Line No.	Item	Size	Unit	List Price	Depreciation	Interest	Insurance	Taxes	Repairs	Fuel and lubrication	Hours Labor	Total ownership/year	Total operating/year	Years Life
25	Finishing house totally-slatted	280.00	hd.	24,255.00	2,021.25	1,091.47	72.76	72.76	404.25	0	41.20	2,166.78	404.25	12.00
26	Finishing house totally-slatted equipment	280.00	hd.	7,883.00	985.38	354.73	23.65	0	197.07	0	41.20	1,009.02	197.07	8.00
40	Miscellaneous product equipment	1.00		3,000.00	375.00	135.00	9.00	0	18.75	0	8.00	384.00	18.75	8.00

Table 26. Monthly cash flows for finishing 280 hogs from feeder pigs (40 pounds) to slaughter hogs (220 pounds) in totally slatted system during start-up year of operation.

Item	Units	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Cash receipts														
								Dollars						
Slaughter hogs	1.0	0	0	0	0	11633.	0	0	0	0	0	0	0	11633.
Slaughter hogs	1.0	0	0	0	0	0	0	13237.	0	0	0	0	0	13237.
Slaughter hogs	1.0	0	0	0	0	0	0	0	0	12231.	0	0	0	12231.
Slaughter hogs	1.0	0	0	0	0	0	0	0	0	0	0	11046.	0	11046.
Total		0	0	0	0	11633.	0	13237.	0	12231.	0	11046.	0	48147.
Cash expenses														
								Dollars						
Corn	1.0	309.	505.	1153.	1323.	1219.	1382.	1517.	1432.	1429.	1459.	1432.	1489.	14650.
Soybean meal 48.5	1.0	148.	242.	395.	633.	415.	495.	497.	508.	556.	509.	485.	507.	5390.
Supplemental feed	1.0	18.	29.	67.	77.	71.	80.	88.	83.	83.	85.	83.	87.	851.
Grinding and mixing	1.0	18.	29.	64.	77.	67.	77.	67.	77.	83.	79.	79.	82.	799.
Insurance and taxes	1.0	0	0	500.	0	0	0	0	0	0	0	0	0	500.
Veterinarian and medicine	1.0	57.	57.	57.	57.	57.	57.	57.	57.	57.	57.	57.	57.	684.
Electricity and fuel	1.0	13.	12.	13.	5.	2.	2.	8.	8.	5.	5.	12.	13.	98.
Miscellaneous expense	1.0	20.	20.	20.	20.	20.	20.	20.	20.	20.	20.	20.	20.	240.
Feeder pigs	1.0	5230.	0	0	0	0	0	0	0	0	0	0	0	5230.
Feeder pigs	1.0	0	0	6113.	0	0	0	0	0	0	0	0	0	6113.
Feeder pigs	1.0	0	0	0	0	5831.	0	0	0	0	0	0	0	5831.
Feeder pigs	1.0	0	0	0	0	0	0	5171.	0	0	0	0	0	5171.
Feeder pigs	1.0	0	0	0	0	0	0	0	0	4990.	0	0	0	4990.
Feeder pigs	1.0	0	0	0	0	0	0	0	0	0	0	4655.	0	4655.
Trucking in	1.0	35.	0	35.	0	35.	0	35.	0	35.	0	35.	0	210.
Trucking out	1.0	0	0	0	0	48.	0	48.	0	48.	0	48.	0	190.
Marketing cost	1.0	0	0	0	0	341.	0	341.	0	341.	0	341.	0	1364.
Finishing house	1.0	32138.	0	0	0	0	0	0	0	0	0	0	0	32138.
Miscellaneous equipment	1.0	0	500.	500.	1000.	1000.	0	0	0	0	0	0	0	3000.
Vacuum manure spreader	1.0	0	0	0	0	0	0	0	0	0	0	5000.	0	5000.
Agitator/filler pump	1.0	0	0	0	0	0	0	0	0	0	0	3200.	0	3200.
Tractor (fuel, lubrication and repairs)		0	0	0	0	0	0	0	0	0	0	84.	0	84.
Machinery (fuel, lubrication and repairs)		0	0	0	0	0	0	0	0	0	0	84.	0	84.
Equipment (fuel, lubrication, and repairs)		52.	52.	52.	52.	52.	52.	52.	52.	52.	52.	52.	53.	620.
Total		38037.	1447.	8969.	3243.	9157.	2164.	7901.	2237.	7699.	2267.	15666.	2306.	101092.
Flow of funds summary														
								Dollars						
Cash balance beginning		1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	
+ Cash difference		-38037.	-1447.	-8969.	-3243.	2476.	-2164.	5335.	-2237.	4533.	-2267.	-4620.	-2306.	-52945.
= Current cash balance		-37037.	-447.	-7969.	-2243.	3476.	-1164.	6335.	-1237.	5533.	-1267.	-3620.	-1306.	
+ Money borrowed		38037.	1447.	8969.	3243.	0	2164.	0	2237.	0	2267.	4620.	2306.	
- Payment on loan		0	0	0	0	1144.	0	4561.	0	3794.	0	0	0	
- Interest paid at 9 percent		0	0	0	0	1333.	0	775.	0	739.	0	0	0	
= Cash balance ending		1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	
Current loan summary														
								Dollars						
- Loan out - January 1														
Accumulated borrowing		38037.	39484.	48452.	51696.	50552.	52716.	48155.	50392.	46598.	48865.	53485.	55791.	
- Accrued interest - January 1														
Accrued interest at 9 percent		0	285.	581.	945.	0	379.	0	361.	0	349.	716.	1117.	
- Accrued total debt - January 1														
Accumulated total debt		38037.	39769.	49034.	52640.	50552.	53095.	48155.	50753.	46598.	49214.	54201.	56908.	

Table 26 (continued). Monthly cash flows for finishing 280 hogs from feeder pigs (40 pounds) to slaughter hogs (220 pounds) in totally slatted system during second year of operation.

Item	Units	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Cash receipts		Dollars												
Slaughter hogs	1.0	11872.	0	0	0	0	0	0	0	0	0	0	0	11872.
Slaughter hogs	1.0	0	0	11669.	0	0	0	0	0	0	0	0	0	11669.
Slaughter hogs	1.0	0	0	0	0	11633.	0	0	0	0	0	0	0	11633.
Slaughter hogs	1.0	0	0	0	0	0	0	13237.	0	0	0	0	0	13237.
Slaughter hogs	1.0	0	0	0	0	0	0	0	0	12231.	0	0	0	12231.
Slaughter hogs	1.0	0	0	0	0	0	0	0	0	0	0	11046.	0	11046.
Total		11872.	0	11669.	0	11633.	0	13237.	0	12231.	0	11046.	0	71688.
Cash expenses		Dollars												
Corn	1.0	1348.	1351.	1443.	1474.	1452.	1484.	1442.	1534.	1374.	1516.	1368.	1433.	17218.
Soybean meal 48.5	1.0	472.	457.	502.	488.	511.	487.	513.	502.	490.	493.	488.	469.	5870.
Supplemental feed	1.0	78.	79.	84.	86.	84.	86.	84.	89.	80.	88.	80.	83.	1001.
Grinding and mixing	1.0	75.	75.	80.	81.	81.	80.	84.	76.	83.	76.	76.	79.	944.
Insurance add taxes	1.0	0	0	605.	0	0	0	0	0	73.	0	0	0	678.
Veterinarian and medicine	1.0	57.	57.	57.	57.	57.	57.	57.	57.	57.	57.	57.	57.	684.
Electricity and fuel	1.0	13.	12.	13.	5.	2.	2.	8.	8.	5.	5.	12.	13.	98.
Miscellaneous expense	1.0	20.	20.	20.	20.	20.	20.	20.	20.	20.	20.	20.	20.	240.
Feeder pigs	1.0	5230.	0	0	0	0	0	0	0	0	0	0	0	5230.
Feeder pigs	1.0	0	0	6113.	0	0	0	0	0	0	0	0	0	6113.
Feeder pigs	1.0	0	0	0	0	5831.	0	0	0	0	0	0	0	5831.
Feeder pigs	1.0	0	0	0	0	0	0	5171.	0	0	0	0	0	5171.
Feeder pigs	1.0	0	0	0	0	0	0	0	0	4990.	0	0	0	4990.
Feeder pigs	1.0	0	0	0	0	0	0	0	0	0	0	4655.	0	4655.
Trucking in	1.0	35.	0	35.	0	35.	0	35.	0	35.	0	35.	0	210.
Trucking out	1.0	48.	0	48.	0	48.	0	48.	0	48.	0	48.	0	286.
Marketing cost	1.0	341.	0	341.	0	341.	0	341.	0	341.	0	341.	0	2047.
Tractor (fuel, lubrication, and repairs)		0	0	0	84.	0	0	0	0	0	0	84.	0	169.
Machinery (fuel, lubrication and repairs)		0	0	0	84.	0	0	0	0	0	0	84.	0	168.
Equipment (fuel, lubrication and repairs)		52.	52.	52.	52.	52.	52.	52.	52.	52.	52.	52.	52.	620.
Total		7767.	2102.	9391.	2430.	8512.	2268.	7854.	2338.	7647.	2307.	7399.	2206.	62221.
Flow of funds summary		Dollars												
Cash balance beginning		1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	
+ Cash difference		4105.*	-2102.	2277.	-2430.	3121.	-2268.	5383.	-2338.	4584.	-2307.	3647.	-2206.	9467.
= Current cash balance		5105.	-1102.	3277.	-1430.	4121.	-1268.	6383.	-1338.	5584.	-1307.	4647.	-1206.	
+ Money borrowed		0	2102.	0	2430.	0	2268.	0	2338.	0	2307.	0	2206.	
- Payment on loan		2569.	0	1463.	0	2294.	0	4556.	0	3791.	0	2876.	0	
- Interest paid at 9 percent		1535.	0	814.	0	826.	0	827.	0	793.	0	771.	0	
= Cash balance ending		1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.	1000.		
Current loan summary		Dollars												
\$55,791.00 Loan out — January 1														
Accumulated borrowing		53222.	55324.	53860.	56291.	53996.	56264.	51708.	54046.	50254.	52561.	49685.	51891.	
\$1,117.00 Accrued interest — January 1														
Accrued interest at 9 percent		0	399.	0	404.	0	405.	0	388.	0	377.	0	373.	
\$56,908.00 Accrued total debt — January 1														
Accumulated total debt		53222.	55723.	53860.	56694.	53996.	56669.	51708.	54433.	50254.	52938.	49685.	52263.	