Pork Production Systems with Business Analyses: Low-Investment Feeder Pig Production

Michigan State University
Cooperative Extension Service

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Low-Investment Feeder Pig Production: What It Is and Where It Fits

This enterprise produces pigs (common sale weight, 30 lb to 60 lb) which are sold to producers who feed them until they reach slaughter weight. Success depends upon the manager's willingness and ability to maintain a highly productive breeding herd, to control disease and to develop good markets. In other words, the goal is to produce large litters of high-quality pigs that are of high-health status and to market them in groups that are uniform in type and size.

This publication deals with low-investment feeder pig production, i.e., the relatively small enterprise designed to supplement rural family earnings. It does not discuss the larger, more intensive feeder pig production systems.

Low-investment feeder pig production seems to fit best where the following conditions exist:

1. It fits the producer who has labor for care and management of the sow herd but does not produce enough grain for hog finishing. The enterprise may be appropriate for a part-time farmer or for a producer whose spouse is willing to take on another job but does not want to leave home to do so.
2. It fits in grain-deficit areas on the fringe of feed grain-producing regions.
3. It fits on relatively small or rough farms in feed grain-surplus areas where nearby grain producers provide a market for the pigs.
4. It fits as an interim stage for the capital-short producer launching a new hog production enterprise.

Advantages

- A feeder pig production enterprise can be launched with relatively small capital input.
- The farrowing schedule can be planned to avoid conflict with vacations and holidays.
- Much of the feed and manure handling is avoided. In a farrow-to-finish enterprise, about 70% of feed consumption and manure production occur after the feeder pig stage.
- Feeder pig production generates a regular cash flow and a rapid turnover of the money invested.

Disadvantages

- The price of feeder pigs varies greatly from season to season and over the hog cycle.
- The demands for both husbandry skills and labor are great. Much of the labor is strenuous work.
- The market for feeder pigs is imperfect–i.e., at any given time, the price paid for comparable pigs varies considerably from producer to producer and from sale to sale.
- The economics of feeder pig production often lead to adoption of a tight farrowing schedule, which can make the job very confining.
- Low-investment systems may face greater environmental risks.

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Scheduling Facility Use and Labor

Whereas a farrow-to-finish operation often shares labor with an important cropping enterprise, feeder pig production usually does not. Therefore, in planning production, emphasis is on making full use of a set of buildings and a constant supply of labor instead of trying to work around cropping activities.

Facilities Use

Most low-investment feeder pig producers should not consider farrowing more frequently than every 3 or 4 weeks. A tighter farrowing schedule will only modestly reduce building-use cost, but may greatly increase the threat of disease.

This fact sheet describes a 40-sow operation which follows this management plan:

1. A 10-sow farrowing house is used by 4 groups of 10 sows each, farrowing every 6 weeks. Sows are moved with their litters to a sow-and-pig nursery between 2 and 4 weeks of age, depending on need for the farrowing crates by the next group of sows or the desire to reduce the labor load. For disease control, a minimum of 1 week is provided when the farrowing house is emptied and cleaned.
2. A sow-pig nursery provides pens designed for 2 litters. Pigs are weaned at 4 to 6 weeks of age and later sold directly from the nursery unit.
3. Breeding-gestation quarters are adequate to house every sow in the herd plus a group of replacement gilts.

Labor

Labor requirements for this system (estimated at 26 hours per sow per year) vary little from week to week and month to month (Table 1). The three activities in feeder pig production that may call for extra help are: (1) farrowing and then handling the pigs for iron injections, medication, needle teeth clipping, tail docking and castration; (2) periodic emptying and scrubbing of the farrowing units; and (3) marketing the pigs.

The "sow" is the unit around which the discussion is built. A *sow unit* denotes a mature female in production and includes a "supporting cast" of boars, replacement females and her progeny in various stages of growth. Approximately 15 feeder pigs will be sold per sow unit each year.

The amount of labor used per sow unit varies considerably from farm to farm. Some large, efficient producers using slatted-floor buildings report as little as 10 hours labor per sow per year. Smaller producers with more traditional facilities, use 20 to 30 hours per sow per year. Both figures ignore the indirect labor spent doing such things as planning, keeping records, marketing and maintaining the farmstead.

Suggestions for Marketing Feeder Pigs

Timing of Sales

Price averaging. Producers who market through graded and commingled pig sales and are not price penalized for small consignments can average out market ups and downs by selling often.

Size of group. Usually, the number of pigs in a group affects their value. For producers who sell directly to feeders rather than through graded sales, a group of pigs can demand a premium because they are healthy, uniform pigs from a single source. However, for prospective buyers to also benefit, there must be enough pigs in the group to supply their needs.

Season. The seasonal pattern in feeder pig prices is strong and dependable. On average, feeder pigs tend to reach yearly highs in March-April and lows in November-December. See Figure 1. The March-April high in feeder pig prices places a premium on pigs born in mid-winter.

Figure 1. Monthly feeder pig prices in dollars per hundredweight MFA Tel-O-Auction, 1982-93 averages.

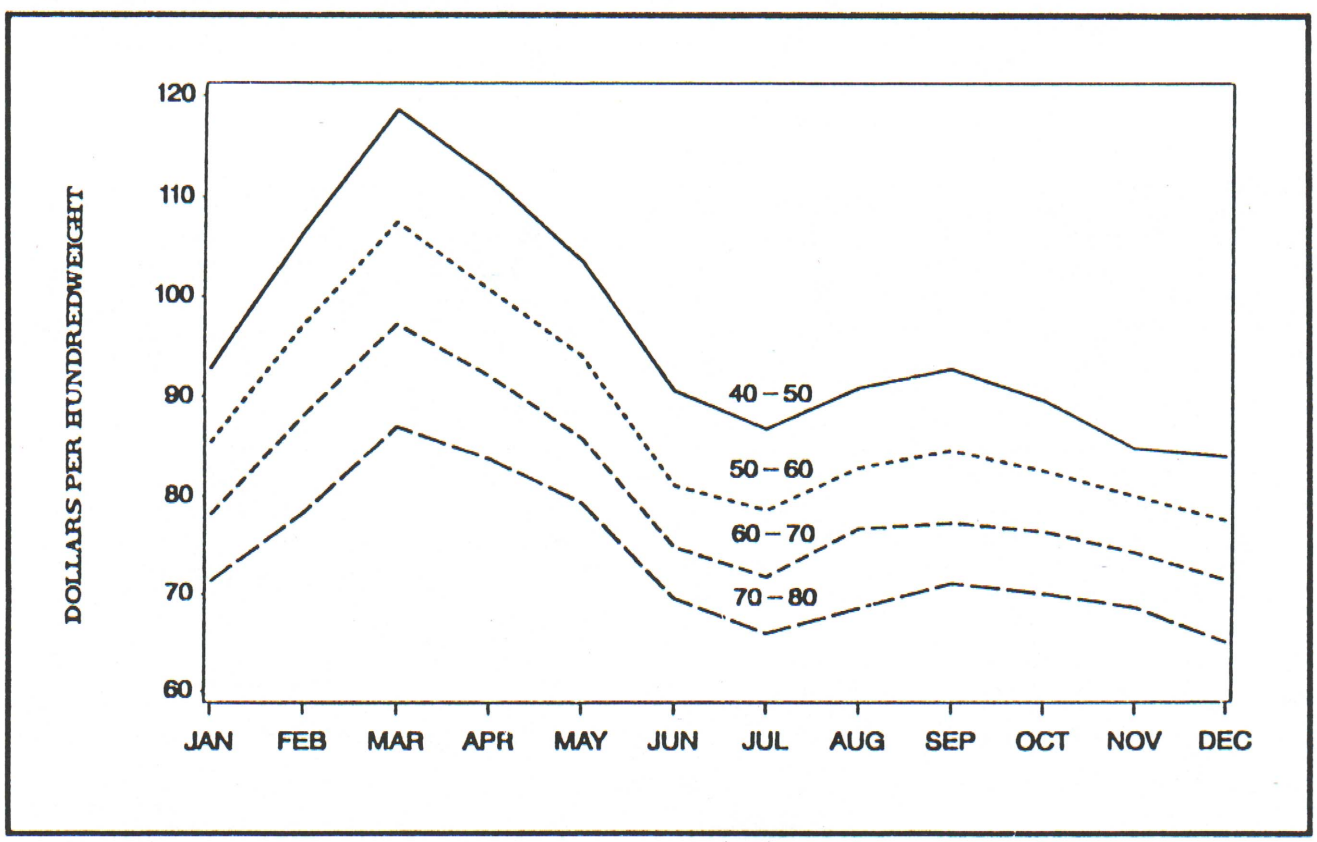

Table 1. Calendar of management activities for a feeder pig production operation.

Stage	Days from breeding	Management practice
Pre-breeding	-30	Place gilts in gilt pool and vaccinate for parvo, lepto, erysipelas
		Begin boar exposure (fence line)
		Deworm and treat for lice and mange (if necessary)
	-21	Feed ad libitum
	-14 to -7	Repeat vaccinations
Breeding	0	Breed, rotating boars daily; record known breeding dates
Gestation	19 to 24	Expose to boars to check for 21 day returns
	35 to 60	Pregnancy check and sell open females; if needed, gilts may be rebred
	80 to 85	Vaccinate sows for problem pig diseases (E. coli, Clostridium, TGE, Rotavirus, Atrophic Rhinitis)
	100 to 105	Clean farrowing facility
		Repeat vaccinations for pig diseases
	108 to 110	Wash sows with warm water and soap; move to farrowing unit; isolate farrowing house from all visitors
		Deworm and treat all sows for lice and mange (if necessary)
		If constipation is problem, add 15% wheat bran or another laxative such as KCl at 15 lb per ton of diet. Continue until 3 days post farrowing or as long as necessary
	112	Prepare auxiliary heat for pigs
	Days after farrowing	
Farrowing-nursery	0 to 1	Dip or spray navel cord in tincture of iodine
		Clip needle teeth and cut off tails
		Give iron injections
		Ear notch pigs for individual I.D.
		Complete records–date, number farrowed, etc.
	1 to 3	Transfer pigs to equalize litters by size and numbers
	1 to 7	Castrate males. If herniation is problem, do after 14 days
	7 to 10	Start providing creep feed for pigs
	21	Give second iron injection, if needed
	21 to 42	Wean pigs and regroup by size
		Revaccinate all sows for parvo, lepto and erysipelas
	56	Select replacement gilts from superior litters if replacing breeding stock from own herd
	56 to 70	Sell pigs

Note: Producers should consult with their local veterinarian for advice on specific lice and mange control and vaccination programs.

Method of Sale

Individual negotiation. One method of selling feeder pigs is through direct negotiation between the producer and the buyer. Often, newspaper ads are used to bring the parties together, then a per-head price is established based on visual inspection.

Competitive organized markets. Most smaller feeder pig producers sell through organized markets, where price is established in open competition between a number of potential buyers. These markets often are auctions. Some auctions use telephone hookups or computerized listings of pigs to increase the number of bidders and eliminate the need to assemble all pigs at a central point.

Contract arrangements with finishers. Some producers by-pass formal markets and make direct sales to regular customers. Both parties can benefit by avoiding selling costs and the danger of disease spread that can occur among commingled pigs. But the challenge is to establish an equitable price. Here are two suggested methods:

1. Use the price established in the major feeder pig markets as a base. Quotes are published weekly in *Livestock, Meat, Wool Market News,* Livestock Division, Agricultural Marketing Service, U.S.D.A. Washington, D.C. 20250.
2. Develop a pricing formula based on a readily available slaughter hog quotation (e.g., U.S. Nos. 1 and 2, 240-260 lb barrows and gilts at Sioux City). One commonly used formula sets per-pound price of 40 lb feeder pigs at two times the current slaughter price, with the following adjustments for variation in size: 1.8 x slaughter price for 50 lb pigs, 1.7 for 60 lb pigs, 1.5 x for 70 lb and 1.4 x for 80 lb.

For additional pricing formulas, see PIH-72, *Feeder Pig Marketing Techniques.*

Production Management

Breeding herd performance is the key to a successful feeder pig enterprise. Consequently, management emphasis must be on those practices that improve conception rate, litter size and milk production while maintaining a tight farrowing schedule. Production volume will be determined by careful scheduling of facilities and by a plan that ensures an adequate herd of productive sows.

Because conception rates average only about 80% for gilts, and since only about one-third of replacement gilts will come in heat during any one week, a fairly large gilt pool must be maintained in order to assure full utilization of the farrowing facilities.

Successful feeder pig producers develop and follow a strict calendar of management activities. Usually, target farrowing dates are established first; these determine the breeding schedule. Then all other activities are sequenced around breeding and farrowing.

Table 1 presents a calendar of management activities for a feeder pig production system.

Replacement of breeding females requires more forethought for the feeder pig producer than for the farrow-to-

Table 2. Performance standards for feeder pig production (40 females, 10 farrowing every six weeks).

Item	Standard	Annual results
Conception rate	Gilts - 80% Sows - 90%	80 litters
Live pigs farrowed	10	800 pigs farrowed
Pigs weaned/litter	8.0	640 pigs weaned
Post-weaning death loss	3.1%	20 pigs
Gilts kept for replacement annually	20	600 pigs marketed
Rate of gain	50 lb feeder pig at 10-12 wks.	379 cwt total gain*
Feed conversion (including sow herd)	430 lb feed/cwt gain	81 tons total feed

Labor use	Per sow unit	Per pig produced	Annual
Direct, hour	20	1 1/3	800 hours
Total, hour	26	1 2/3	1040 hours

*Gross wt produced = total poundage sold - purchase wt of boars.

Table 3. Annual feed requirements (breeding herd and pigs) for a 40-sow feeder pig production operation (pigs sold at 50 lb).

	Feed grain (corn equivalent)		Purchased feed (suppl. or creep)		Complete ration	
Type of feed	Bushels	Pounds	Pounds	Tons	Pounds	Tons
Breeding herd	1,670	93,500	20,500	10.25	114,000	57.00
Creep	-------	-------	8,500	4.25	8,500	4.25
Starter-grower	498	27,900	11,600	5.80	39,500	19.75
Total	2,168	121,400	40,600	20.30	162,000	81.00
Per sow unit	54	3,035	1,015	.51	4,050	2.03

finish operator. Finishers normally have a supply of market-weight gilts on hand from which they can choose replacements; feeder pig producers do not. Therefore, replacement plans must be made at least 6 months before females are to be added to the breeding herd.

Some feeder pig producers arrange to buy-back the necessary gilts from one of their customers. This permits selection on the basis of feedlot performance but may expose the herd to another disease source. That disadvantage can be minimized if such a buy-back arrangement is with a customer who uses you as the only source of feeder pigs.

Alternatively, market weight or bred gilts can be purchased from seedstock producers. This has the added advantage of introducing gilts bred specifically to be replacement females.

Performance Standards and Production Requirements for Low-Investment Feeder Pig Production Systems

In competing with larger, more intensive feeder pig systems, relatively small production units like those described in this publication will almost certainly be at a disadvantage in buying and selling. Because of small volume, they likely will pay somewhat higher prices for feed and other inputs, and selling costs per pig will be relatively high.

However, the small herd manager may be able to equal or surpass the animal performance levels achieved in big, high-investment production units. Table 2 shows performance minimums for a 40-sow feeder pig production unit, with estimates of annual production and labor needs.

Feeding Recommendations

Estimates of total annual feed needed to produce 600 feeder pigs (50 lb average) from a 40-sow unit and to maintain the breeding herd are given in Table 3 on both a total enterprise and per-sow-unit basis. Because this enterprise often is found on farms that grow little if any feed grain, many producers purchase commercially prepared complete rations for all stages of the life cycle. The requirements for feeding complete rations as well as for feeding home grown plus purchased feeds are listed in Table 3.

Facility Needs and Costs

The facilities required for a 40-sow feeder pig production unit, along with an estimate of their cost when new, are listed in Table 4. The last column is for your investment estimates.

In developing a budget (see next section), annual and per-pig cost of owning buildings and equipment must be estimated. To do this, it is necessary to establish their expected useful life. While separate calculations for each depreciable item would give greatest accuracy, an acceptable degree of precision can be achieved merely by dividing facilities into a couple of categories. Of the facilities listed in Table 4, we established a 15-year depreciable life for the italicized items (concrete slabs and buildings), while everything else would be expected to have a short (8-year) depreciable life and higher maintenance costs.

Table 5 shows the investment in facilities according to this depreciation classification. These figures are the ones used in the overhead expenses section of the feeder pig production budget (Table 6).

Developing a Budget for Low-Investment Feeder Pig Production

Listed in Table 6 are estimates of the various items of cost and return for a 40-sow (farrowing) operation, and are shown on an annual basis for both the total enterprise and a sow unit.

Using the last column, modify the figures in Table 6 to accurately describe your situation.

Table 4. Facilities investment for a 40-sow feeder pig production operation (10 sows farrowing every six weeks).

Item	Size and description	Units needed	Cost per unit	Total investment	Your figures
Part A. Farrowing Facilities - 10-sow capacity; sows turned out twice daily.					
Building	*25 ft x 22 ft pull-together with wooden floor and crates*	*1*	*$2,850.00*	*$2,850.00*	$_____
Waterer	2-hole, frost-proof	1	140.00	140.00	$_____
Feeder	10-hole, 20-bushel	1	300.00	300.00	$_____
Heat and ventilation	Space heater, heat lamps and ventilating fan	_____	_____	400.00	$_____
Feeding floor for sows	*22 ft x 10 ft concrete*	*220 sq ft*	*2.00*	*440.00*	$_____
Outside fencing	Board	42 ft	3.00	126.00	$_____
Total				$4,256.00	$_____
Part B. Nursery Facilities - 10-litter capacity sow-and-pig unit.					
Building	*14 ft x 80 ft pole with concrete floor*	*1120 sq ft*	*$6.00*	*$6,720.00*	$_____
Exposed concrete slab	*10 ft X 80 ft*	*800 ft*	*2.00*	*1,600.00*	$_____
Supplemental heat	Heat lamps	10	12.00	120.00	$_____
Waterers	2-hole, frost-proof	5	140.00	700.00	$_____
Fencing, gates, creeps	Wooden panels	420 ft	3.00	1,260.00	$_____
Sow troughs	6 ft	5	20.00	100.00	$_____
Feeders	Convertible creep-grower	10	225.00	2,250.00	$_____
Total				$12,750.00	$_____
Part C. Breeding Herd Facilities - 58 females (18 gilts, 40 sows), portable buildings on permanent dirt lots.					
Sow shelters	*10 ft x 14 ft*	*5*	*$ 430.00*	*$2,150.00*	$_____
Feeding fence	Wooden	100 ft	4.00	400.00	$_____
Waterers	2-hole, frost-proof	5	140.00	700.00	$_____
Fencing	*woven wire*	*120 rods*	*12.00*	*1440.00*	$_____
Concrete feeding slab	*20 ft x 7 ft*	*5 sq ft*	*2.80*	*1,400.00*	$_____
Total				$6,090.00	$_____
Part D. Supporting Facilities.					
Feed handling, manure handling & misc. equip.*				$5,500.00	$_____
Land					$_____
Part E. Facilities Investment Summary.					
Total facilities investment				$28,596.00	$_____
Investment per sow farrowing				714.90	$_____
Investment per pig sold yearly				47.66	$_____

*Equipment needed will vary from farm to farm but will likely include: feed wagon or pick-up truck, high-pressure pump, front-end loader, dry-manure spreader, loading chute and hog holder. Since some of these items would likely be shared by some other enterprise, only 30% of their estimated new cost is charged to the feeder pig enterprise.

Income (Section A)

This annual budget assumes each sow farrows at 6-month intervals, with 16 pigs weaned yearly, of which 15 are sold at 50 lb each plus breeding stock sales. It also assumes boars are kept for an average of 16 months; hence, a boar depreciation charge (boar purchase minus boar receipts) of $14.62 per sow yearly or about $0.98 per pig marketed.

Direct Costs (Section B)

These are the costs readily assigned to the enterprise, the major one being feed. In Table 6, the feed bill is broken into three categories: feed grain (corn equivalent), purchased feed (supplemental and creep) and complete commercial rations. If using a feed grain other than corn, calculate the requirements on the basis of these conversions: 1 bu of corn or milo equals 2 bu of oats, or 0.9 bu of wheat, or 1.1 bu of barley. If using commercially prepared complete rations, refer to Table 3 for feed requirements and provide your own price estimates.

There is no charge for land use, even though a building site must be provided and we have described a system where the breeding herd will be in dirt lots. The assumption is that land for the hog enterprise has no alternative use. This may not be the case on your farm. You may have the opportunity to cash rent this land for $60 to $80 per acre or to profitably use it for crop production. If so, the pigs must match the best alternative use, and a charge for the land at that best-use rate should be made when you adapt Table 6 to your situation.

Overhead Expense (Section C)

Classified as overhead are the cost of labor and the cost of owning capital items (investment overhead). The pigs should generate a wage equal to what this particular labor can demand elsewhere.

As listed in the budget, the ownership charge for capital items is an estimate of the total of depreciation, interest (at 9%), maintenance costs, taxes and insurance.

When developing your figures for Table 6, remember that the sample budget assumes all facilities (15- and 8-year depreciable items) listed in Tables 4 and 5 must be purchased. In your situation, however, some of those facilities may already be available, (e.g., an abandoned dairy stable or hen house that can be converted into a farrowing unit), and you may already be incurring ownership costs (depreciation, taxes, insurance, etc.) because the facilities are there. In estimating the contribution of feeder pig production to your business, the charge for fixed resources (the ones already available) should be set at their opportunity value rather than the annual ownership charge shown in Table 6.

Average annual investment in breeding stock is estimated at $233 per sow unit. On average, the breeding herd is assumed to include 3 boars, 10 immature gilts (3 to 8 months old), plus 45 sows and gestating gilts. Boar value is figured at the average of the buying and selling price; females are figured at market price. The 9.9% overhead charge includes 9% for interest, 0.5% for property taxes and 0.4% for insurance.

Table 5. Facilities investment by 15- and 8-year depreciable life classifications.

	--For 40 sows--		--Per Sow--	
Depreciable life	Our example	Your figures	Our example	Your figures
15-year	$16,600.00*	$_____	$415.00	$_____
8-year	$11,996.00	$_____	$299.90	$_____
Total	$28,596.00	$_____	$714.90	$_____

*Italicized items in Table 4 have a 15-year depreciation schedule. All other items have an eight-year schedule.

Table 6. Estimated annual budget for a 40 sow feeder pig production operation.

Item	----one sow----	----40 sows----	Your figures
A. Income			
1. Feeder pigs, 50 lb @$45/head	15 head = $675.00	600 head = $27,000.00	$_____
2. Sows, 425 lb @ $40/cwt	51.00	12 head = 2,040.00	$_____
3. Nonbreeder gilts, 300 lb @$44/cwt	23.10	7 head = 924.00	$_____
4. Boars, 450 lb @$35 cwt	7.88	2 head = 315.00	$_____
			$_____
5. Gross income	$756.98	$30,279.00	$_____
B. Direct costs			
1. Feed			
a) Corn, $2.60/bu	54.2 bu = $140.92	2168 bu = $5,637.00	$_____
b) Purchased feed, $0.15/lb	1,015 lb = 152.25	40,600 lb = 6,090.00	$_____
c) Commercial complete rations	0	0	$_____
d) Total feed	$293.17	$11,727.00	$_____
2. Veterinary & medicine	24.00	960.00	$_____
3. Boar purchases, $450/head	22.50	2 head = 900.00	$_____
4. Marketing	20.00	800.00	$_____
5. Power, fuel, utilities & repairs	60.00	2,400.00	$_____
6. Misc. (bedding & supplies)	18.00	720.00	$_____
			$_____
7. Total direct costs	$437.67	$17,507.00	$_____
8. Income over direct costs	$319.31	$12,772.00	$_____
C. Overhead expenses			
1. Investment overhead			
a) 15 year depr facilities (16.1%)	$415.00 = $66.82	$16,600.00 = $2,672.60	$_____
b) 8 year depr facilities (22.0%)	$299.90 = $65.98	$11,996.00 = 2,639.12	$_____
c) Breeding stock (9.9%)	$233.00 = 23.07	$9,320.00 = 922.68	$_____
d) Operating inventory (9.9%)	$ 56.90 = 5.63	$2,276.00 = 225.32	$_____
e) Total investment overhead	$161.50	$6,460.00	$_____
2. Labor, $6.00/hour	26 hrs = 156.00	1040 hrs = 6,240.00	$_____
3. Total overhead expenses	$317.50	$12,700.00	$_____
D. Summary			
1. Net return to management	$1.81	$72.00	$_____
2. Per hour return to labor & mgt.		$6.07	$_____
3. Return on investment (excluding land)		9.18%	_____%

In calculating the investment in operating inventory, it is assumed that grain is not stored but bought on a current basis, either from some off-farm source or from the grain enterprise on the same farm.

Budget Summary (Section D)

Net return to management is the return after all expenses, including a 9% interest charge on the investment in facilities, breeding stock, and operating inventory plus a $6.00-per-hour labor charge. In our example, for a 40-sow feeder pig enterprise, net return to management is projected to be $72. In other words, our sample enterprise was able to support a 9% interest rate and $6.00 hourly wage rate.

Per-hour return to labor and management is the dollar return per hour after all expenses except labor ($6.07 with a 9% interest charge in our example). Return on investment is the percent return to the enterprise after all expenses except interest (9.18% with $6.00 labor).

Estimating Monthly Cash Flow Requirements

While the budget in Table 6 estimates the type and amount of income and expense for feeder pig production, it does not reflect when income is realized or expenses incurred. Before committing to such a system, the operator should estimate costs and returns on a month-to-month basis to see if and when financial problems might arise and make provisions to meet those problems.

The two main reasons why you might want to prepare a cash-flow projection are: (1) to show the cash demands in the start-up period, when a new enterprise is launched or sows are added to an existing enterprise (Table 7); and (2) to determine the seasonal pattern of receipts and expenses in a normal year of operation (Table 8).

Notice that the last line of Table 7, cumulative cash flow, is carried forward and continued on the last line of Table 8 to give a two-year cash-flow picture for a new enterprise. In our 40-sow feeder pig production example, the worst cash flow situation occurs in July of the start-up year, six months after launching the enterprise. At this time, the manager must be prepared to cover expenses that exceed receipts by $14,295 (or approximately $360 per sow unit), either by borrowing or by dipping into accumulated reserves.

The December cumulative cash flow figure of $12,352 in Table 8 is the normal year's net return after paying production expenses, excluding labor and capital costs.

In Table 7, the purchase of initial breeding stock is treated as a cash expenditure, even though this item would probably be financed with a note payable over more than one year. It is included here, however, to show the timing as well as the size of this expenditure. In Tables 7 and 8 it is assumed that labor will not be a cash expense item but will be provided by the farm family. Neither Table 7 nor Table 8 includes a charge for buildings, fences or equipment.

In developing your cash flow projection, you may want to add several expense items to indicate debt servicing obligations on facilities and/or planned outlays for new capital items. These lines would be labeled:

1. Interest payments on existing debt.
2. Principal payments on existing debt.
3. Down payments on purchase of new capital items.

Effect of Performance and Price Variation on Returns

For the feeder pig producer, the major sources of risk are poor production performance, a drop in pig prices and a rise in feed costs.

Any hog enterprise must be sufficiently well-funded to withstand at least one adverse year without danger of bankruptcy. The variation in returns that might be expected in the normal operation of a feeder pig production enterprise is shown in Tables 9 and 10.

Table 7. Estimated cash flow for a 40-sow feeder pig production operation for the start-up year, excluding labor costs and debt service on facilities.

Item	TOTAL	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Estimated cash receipts													
Feeder pigs	11,250								2250	2250	2250	2250	2250
Nonbreeding gilts	1,056				264		264	264	264				
Cull sows	560									140	140	140	140
Total estimated cash receipts	12,866	$0	$0	$0	$264	$0	$264	$264	$2,514	$2,390	$2,390	$2,390	$2,390
Estimated cash expenses													
Purchased feed	3,826		72	108	140	207	360	460	486	486	495	504	508
Feed grain*	3,965		111	165	213	267	451	451	455	459	460	463	470
Veterinary & medicine	532		13	12		12	50	65	75	75	75	75	80
Boar purchase	1350		1350										
Gilt purchase	11,000		2,600	2,400		2,400	2,400		400	200		200	400
Marketing	355				10		10	10	65	65	65	65	65
Power/fuel/utilities/repair	1,460		40	40	50	70	135	150	155	184	196	200	240
Misc. (bedding & supplies)	415		15	15	15	15	15	40	50	60	60	60	70
Insurance	150		40					110					
Total estimated cash expenses	23,053	0	4,241	2,740	428	2,971	3,421	1,286	1,686	1,529	1,351	1,567	1,833
Net monthly cash flow**		0	(4,241)	(2,740)	(164)	(2,971)	(3,157)	(1,022)	828	861	1,039	823	557
Cumulative cash flow**		0	(4,241)	(6,981)	(7,145)	(10,116)	(13,273)	(14,295)	(13,467)	(12,606)	(11,567)	(10,744)	(10,187)

*Feed grain is charged at a corn equivalent of $2.60/bu. **Parentheses ( ) indicate negative values.

Performance

To reflect the consequences of variation in performance, feed conversions are varied 15% above and below the mean. Feed conversion was chosen as the overall index of animal performance, because it is affected by conception rate, litter size, herd health, etc.

Market Price

Price of feeder pigs follows the 3- to 5-year cycle of market hog prices. Cyclical lows and highs in the two markets usually occur at the same time, but feeder pig prices can be expected to have a considerably greater range from high to low.

In Tables 9 and 10, a feeder pig price of $45.00 per head is our best estimate of the annual average price likely to prevail. The high ($53.00) and low ($37.00) figures approximate the swing in prices that might be expected in a four-year hog cycle. A producer might anticipate one low price year, one high price year and two years of average prices.

Table 9 reports returns above cash costs. This is the amount of money available to service debt, buy new capital items, and reward labor and management. Compare these figures to the final cumulative cash flow figure at the bottom of Table 8.

Table 10 reports returns to labor and management after all other costs have been met, including depreciation and 9% return on average investment. The cost of supplying capital items (depreciation and interest) has been charged here but not in Table 9. Compare these figures to the sum of line C.2 and line D.1 in Table 6.

Feed Ingredient Prices

Feed represents 40% to 50% of total costs of producing feeder pigs. To produce a 50 lb feeder pig requires 202 lb of cereal grain (3.6 bu of corn) and 68 lb of purchased feed. Therefore, a 10-cent-per-bushel increase in the price of corn adds 36 cents to the production cost per pig; a $20-per-ton increase in the price of purchased feeds adds 68 cents to your break-even price.

Table 8. Estimated cash flow for a 40-sow feeder pig production operation during a normal operating year, excluding labor cost and debt service on facilities.

Item	TOTAL	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Estimated cash receipts													
Fdr pigs, 600 @50 lb @$50 each	27,000	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250
Dry sows, 12 @425 lb @$40/cwt	2,040	170	170	170	170	170	170	170	170	170	170	170	170
Nonbreeding gilts, 7 @300 lb @$44/cwt	924	132		132		132		132		264		132	
Boars, 2 @450 lb @$35/cwt	315			157						158			
Total estimated cash receipts	30,279	2,552	2,420	2,709	2,420	2,552	2,420	2,552	2,420	2,842	2,420	2,552	2,420
Estimated cash expenses													
Purchased feed	6,090	507	508	507	508	507	508	507	508	507	508	507	508
Feed grain*	5,637	470	470	470	469	470	470	470	469	470	470	470	469
Veterinary & medicine	960	80	80	80	80	80	80	80	80	80	80	80	80
Boar purchase 2 @$450 each	900	450						450					
Marketing	800	66	66	70	66	66	66	66	66	70	66	66	66
Power, fuel, utilities, & repair	2,400	245	237	200	196	192	168	168	168	190	196	200	240
Misc. (bedding & supplies)	720	70	70	60	60	60	50	50	50	60	60	60	70
Insurance & taxes	420	110						110					200
Estimated cash expenses	17,927	1,998	1,431	1,387	1,379	1,375	1,342	1,901	1,341	1,377	1,380	1,383	1,633
Net monthly cash flow		554	989	1,322	1,041	1,177	1,078	651	1,079	1,465	1,040	1,169	787
Cumulative cash flow		554	1,543	2,865	3,906	5,083	6,161	6,812	7,891	9,356	10,396	11,565	12,352
Cumulative cash flow from start-up **	(10,187)	(9,633)	(8,644)	(7,322)	(6,281)	(5,104)	(4,026)	(3,375)	(2,296)	(831)	209	1,378	2,165

*Feed grain is charged at a market value of $2.75/bu of corn. **Parentheses ( ) indicate negative values.

Table 9. Estimated annual returns above cash costs over a range of feeder pig prices and performance levels for a 40-sow operation.

	Animal performance level		
Price of 50 lb feeders	High	Medium	Low
High $53/head	$19,494	$17,735	$15,976
Average $45/head	$14,012	$12,253	$10,494
Low $37/head	$8,728	$6,969	$5,210

Table 10. Estimated annual returns to labor and management over a range of feeder pig prices and performance levels for a 40-sow operation.

	Animal performance level		
Price of 50 lb feeders	High	Medium	Low
High $53/head	$13,451	$11,695	$9,936
Average $45/head	$8,071	$6,312	$4,553
Low $37/head	$2,688	$929	($830)