

MSU Extension Publication Archive

Archive copy of publication, do not use for current recommendations. Up-to-date information about many topics can be obtained from your local Extension office.

Pork Production Systems with Business Analyses: Producing Feeder Pigs (Low-Investment)

Michigan State University

Cooperative Extension Service

Authors:

David H. Bache, Purdue University

James R. Foster, Purdue University

Reviewers:

David Spruill, North Carolina State University

Clyde Weathers, North Carolina State University

March 1977

8 pages

The PDF file was provided courtesy of the Michigan State University Library

Scroll down to view the publication.



pork industry handbook

COOPERATIVE EXTENSION SERVICE • MICHIGAN STATE UNIVERSITY

Pork Production Systems with Business Analyses Producing Feeder Pigs (Low-Investment)

Authors

David H. Bache, Purdue University
James R. Foster, Purdue University

Reviewers

David Spruill, North Carolina State University
Clyde Weathers, North Carolina State University

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

This enterprise produces pigs (common sale weight, 30-60 lb.) which are sold to feeders who carry them to 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 free from disease and parasites, and to market them in groups that are uniform in type and size.

This publication deals primarily with *low-investment* feeder pig production—i.e., the relatively small enterprise designed to supplement rural family earnings. We do not discuss here the feeder pig production "factories" which have appeared in recent years.

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 and/or where the wife 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 and rough farms in feed grain-surplus areas where nearby grain producers provide a market for the pigs.
4. It may fit as an interim stage for the producer launching a new hog production enterprise.

Advantages

- A feeder pig production enterprise can be launched with relatively small capital inputs.
- The farrowing schedule can be planned to provide frequent sales and thus a stream of income similar to that of milk or egg production.

- Much feed and manure handling is avoided. On a per hog basis, 75-80% of feed consumption and manure production occurs after the feeder pig stage.

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.
- Many diseases can impair conception rate, embryonic survival, lactation and livability of the baby pig.
- 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 leads to adoption of a tight farrowing schedule, which can make the job very confining.

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 feeder pig producers should not consider farrowing more frequently than every 7 or 8 weeks. Running sows through a farrowing house more often than this will only modestly reduce building-use cost, but may greatly increase the threat of disease.

Figure 1 presents a sample occupancy schedule for a set of feeder pig production facilities (described in Table 4). The schedule is based on a 36-sow operation which follows this management plan:

1. A 10-sow farrowing house is used by 3 groups of 12 sows each, farrowing every second month. Sows are

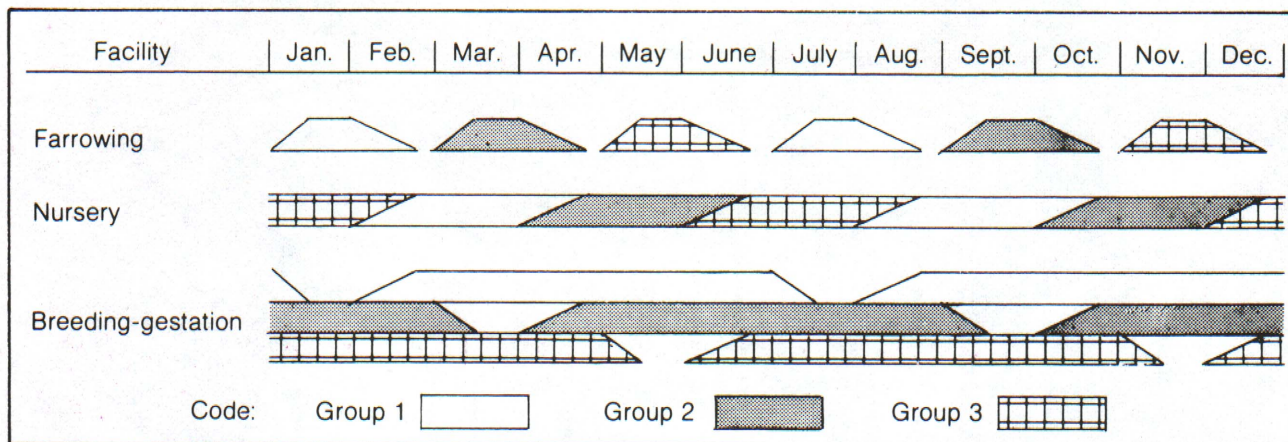


Figure 1. Facility use schedule by sow groups and pigs from these groups.

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 3 litters. Pigs are weaned at 4-6 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 vary little from week to week and month to month. The three activities in feeder pig production that may call for extra help are: (1) farrowing and then handling the pigs for iron shots, medication, needle teeth clipping, tail docking and castration; (2) periodic emptying and scrubbing of the farrowing units; and (3) marketing the pigs.

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 (approximately 40 minutes per pig produced). Smaller producers with more conventional facilities, however, would use about 20 hours per sow per year. Both figures ignore the "indirect" labor spent doing such things as planning, keeping records, maintaining the farmstead, etc.

Suggestions for the Marketing of Feeder Pigs

Timing of Sales

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

Size of group. Sometimes, number of pigs in a group significantly 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 pigs from a single source." However, for a prospective buyer to also benefit, there must be enough pigs in the group to supply his needs.

Season. The seasonal pattern in feeder pig prices is weak and undependable. Although, on average, feeder

pigs tend to reach yearly highs in March-April and lows in November-December.

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 should sell through organized markets, where price is established in open competition among a number of potential buyers. These markets are often auctions; and some use telephone hookups to increase the number of bidders and eliminate the need to assemble all pigs at a central point.

Contract arrangements with finishers. Some larger producers by-pass formal markets and make direct sales to nearby customers. Both parties can benefit by avoiding selling costs and the danger of disease spread that can occur among pooled pigs. But the challenge is to establish an equitable price. Here are several ways it is attempted:

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. Department of Agriculture, 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, 220-240-lb. barrows and gilts at Sioux City). One commonly used formula sets per-pound price of 40-lb. feeder pigs at 2 times the current slaughter price, with the following adjustments for variation in size: 1.9 x slaughter price for 50-lb. pigs, 1.8 x for 60-lb. pigs, 1.7 x for 70 pounders and 1.6 x for 80 pounders.
3. Adopt a profit-sharing agreement. Such an agreement between feeder pig producer and finisher might provide for either (1) equal hourly labor income, or (2) equal returns to invested capital, or (3) equal dollar mark-up on costs.

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 volume of production. Production volume will be determined by careful scheduling of facilities and by a plan that insures an adequate herd of productive sows.

Successful feeder pig producers develop and follow a strict calendar of management activities. Usually, target

*The "sow" is the unit around which the discussion here 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—all of which must be provided for. Approximately 15 feeder pigs will be sold per sow unit each year.

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

Stage	Days from breeding	Management practices
Pre-breeding	-30	Co-mingle gilts with sows or provide for fence-line contact, also provide new boars fence-line contact with sows.
	-14 to -28	Vaccinate sows for leptospirosis; also, vaccinate for erysipelas if a problem.
	-7 to -14	Increase feed intake for gilts to 6-7 pounds per gilt per day for 1 to 2 weeks prior to breeding.
	-2	Spray for lice and mange.
Gestation	0	Breed, rotating boars daily; record known breeding dates.
	21 to 24	Remove boars.
	35 to 60	Pregnancy check, and sell any open females.
	90	Vaccinate sows for erysipelas, if a problem.
	105	Worm sows with broad spectrum wormer. Clean the farrowing house.
	108 to 110	Wash sows with warm water and soap, spray for lice and mange, and move to farrowing house; isolate farrowing house from all visitors. Start hand-feeding 3 to 4 pounds per sow per day; if constipation is a problem, add 20% wheat bran (or other laxative ingredients), and continue until 2 or 3 days after farrowing.
	112	Prepare auxiliary heat for pigs.
Farrowing-nursery	<u>Days after farrowing</u>	
	0 to 1	Dip navel cord in mild iodine solution. Clip needle teeth. Cut off tails. Ear notch gilts from good litters of 9 or more pigs. Complete farrowing record, including date, number of pigs farrowed, etc. Observe sows for MMA (mastitis, metritis, agalactia).
	1 to 3	Transfer pigs to equalize litters. Give iron shots.
	1 to 14	Castrate males.
	7 to 10	Provide creep feed for pigs.
	14 to 21	Give second iron shot, if needed. Move sows and pigs to nursery.
	28 to 42	Wean pigs and group by size.
	42	Worm pigs with broad spectrum wormer. Spray for lice and mange.
	56	Select replacement gilts from those ear-notched at birth.
	56 to 70	Sell pigs.

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-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 his only source of pigs.

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

In competing with feeder pig "factories," 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 will likely pay somewhat higher prices for feed and other inputs, and selling costs per pig will be relatively high.

However, there is no reason why the small herd manager cannot equal or surpass the animal performance

Table 2. Performance standards for feeder pig production (36 females, 12 farrowing every second month).

Item	Standard	Annual results
Conception rate	Gilts — 80% Sows — 90%	72 litters
Live pigs farrowed/litter	10	720 pigs farrowed
Pigs weaned/litter	7.75	558 pigs weaned
Gilts kept for replacement annually	18	540 pigs marketed
Rate of gain	50-lb. feeder pig at 10-12 wks.	340 cwt. total gain*
Feed conversion (including sow herd)	474 lbs. feed/cwt. gain	81 tons total feed
Labor use	Per sow unit	Per pig produced
Direct	20	1 1/3
Total	26	1 2/3
		720 hours
		936 hours

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

Table 3. Annual feed requirements (breeding herd and pigs) for a 36-sow feeder pig production operation (pigs sold at 50 pounds).

Type of feed	Feed grain (corn equivalent)		Purchased feed (suppl. or creep)		Complete ration	
	Bushels	Pounds	Pounds	Tons	Pounds	Tons
Breeding herd	1,670	93,500	20,500	10.25	114,000	57.
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	60	3,370	1,130	.56	4,500	2.25

levels achieved in big, high-investment production units. Table 2 shows performance minimums for a 36-sow feeder pig production unit, with estimates of annual production and of labor needs.

Feeding Recommendations

Estimates of total annual feed needed to produce 540 feeder pigs (50-lb. average) from a 36-sow unit and to maintain the breeding herd are given in Table 3 on both a total enterprise and per-sow-unit basis. Since this enterprise is often found on farms that grow little if any feed grain, many producers purchase commercially prepared complete rations for all stages of the life cycle. Therefore, Table 3 lists the requirements for feeding complete rations as well as for feeding home grown plus purchased feeds.

Facility Needs and Costs

Table 4 lists the facilities required for a 36-sow feeder pig production unit, along with an estimate of their cost when new. 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 (permanent fencing, concrete slabs and non-portable 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 our 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 36-sow (farrowing) operation, and are shown on both a total enterprise and a *sow unit* basis.

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

Income (Section A)

This annual budget assumes each sow unit farrows at 6-month intervals, with 15½ pigs weaned yearly, of which 15 are sold at 50 lb. each *plus* breeding stock sales. It also assumes all boars are replaced annually; hence, a boar depreciation charge (boar purchase minus boar receipts) of \$8.45 per sow yearly or about 55 cents per pig produced.

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 3 categories: feed grain (corn equivalent), purchased feed (supplement 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 .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.

Table 4. Facilities investment for a 36-sow feeder pig production operation (12 sows farrowing every second month).

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' x 22' pull-together with wooden floor and crates	1	\$2,400.00	\$ 2,400.00	\$ _____
Waterer	2-hole, frost-proof	1	90.00	90.00	_____
Feeder	10-hole, 20-bushel	1	200.00	200.00	_____
Heat and ventilation	Space heater, heat lamps and ventilating fan	—	—	250.00	_____
Feeding floor for sows	22' x 15' concrete	330 sq. ft.	.60	200.00	_____
Outside fencing	Board	65'	2.00	130.00	_____
Total				\$ 3,270.00	\$ _____
Part B. Nursery Facilities—12-litter capacity sow-and-pig unit					
Building	20' x 32' pole with concrete floor	640 sq. ft.	\$ 2.60	\$ 1,665.00	\$ _____
Exposed concrete slab	20' x 32'	640 sq. ft.	.60	385.00	_____
Supplemental heat	Heat lamps	8	12.50	100.00	_____
Waterers	2-hole, frost-proof	2	90.00	180.00	_____
Fencing, gates, creeps	Wooden panels	200 ft.	2.00	400.00	_____
Sow troughs	6 ft.	4	20.00	80.00	_____
Feeders	Convertible creep-grower	4	150.00	600.00	_____
Total				\$ 3,410.00	\$ _____
Part C. Breeding Herd Facilities—54 females (18 gilts, 36 sows), portable buildings on permanent dirt lots					
Sow shelters	10' x 14'	4	\$ 360.00	\$ 1,440.00	\$ _____
Feeding fence	Wooden	80 ft.	3.00	240.00	_____
Waterers	2-hole, frost-proof	2	90.00	180.00	_____
Fencing	Woven wire	100 rods	9.00	900.00	_____
Concrete feeding slab	7' x 80'	560 sq. ft.	.60	340.00	_____
Total				\$ 3,100.00	\$ _____
Part D. Supporting Facilities					
Feed handling, manure handling & misc. equip.*				\$ 2,560.00	\$ _____
Part E. Facilities Investment Summary					
Total facilities investment				\$12,340.00	_____
Investment per sow farrowing				344.00	_____
Investment per pig sold yearly				23.00	_____

*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 most 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.

We have made 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. Our assumption is that land for the hog enterprise has no alternative use. This may not be the case on your farm, however, you may have the opportunity to cash rent this land for \$60-80 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 pay a wage equal to what this particular labor can demand elsewhere.

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

Depreciable life	For 36 sows		Per sow	
	Our example	Your figures	Our example	Your figures
15-year	\$ 5,890*	\$ _____	\$164.00	\$ _____
8-year	6,450	_____	180.00	_____
Total	\$12,340	\$ _____	\$344.00	\$ _____

*Italicized items in Table 4.

As listed in the budget, the ownership charge for capital items is an estimate of the total of depreciation, interest, 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 Table 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 be incurring ownership costs (depreciation, taxes, insurance, etc.) merely because they 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

Table 6. Estimated budget for a 36-sow feeder pig production operation.

Item	One sow	36 sows	Your figures
A. Income			
1. 50-lb. feeder pigs (\$27.50/head)	15 head = \$412.50	540 head = \$14,850.00	\$ _____
2. Sows (425 lbs. @ \$29.00/cwt.)	41.00	12 head = 1,479.00	_____
3. Non-breeders (300 lbs. @ \$32.00/cwt.)	16.00	6 head = 576.00	_____
4. Boars (425 lbs. @ \$23.00/cwt.)	5.50	2 head = 195.50	_____
5. Gross income	\$475.00	\$17,100.00	\$ _____
B. Direct Costs			
1. Feed			
a) Corn equivalent (\$2.00/bu.)	60 bu. = \$120.00	2160 bu. = \$ 4,320.00	\$ _____
b) Purchased feed (10¢/lb.)	1130 lbs. = 113.00	40,680 lbs. = 4,068.00	_____
c) Commercial complete rations	0	0	_____
d) Total feed	\$233.00	\$ 8,388.00	\$ _____
2. Veterinary and medicine	16.00	576.00	_____
3. Boar purchase (\$250.00/head)	13.90	2 head = 500.00	_____
4. Marketing	19.00	684.00	_____
5. Power and fuel	16.50	594.00	_____
6. Miscellaneous (bedding, supplies)	10.00	360.00	_____
7. Total direct costs	\$308.40	\$11,102.00	\$ _____
8. Income over direct costs (A.5-B.7)	\$166.60	\$ 5,998.00	\$ _____
C. Overhead Expenses			
1. Investment overhead			
a) 15-year depreciable facilities (15.5%)	\$164.00* = \$ 25.40	\$5,890* = \$ 914.00	\$ _____
b) 8-year depreciable facilities (21.5%)	\$180.00* = 38.50	6,450* = 1,387.00	_____
c) Breeding stock (10.4%)	\$150.00 = 15.60	5,400 = 562.00	_____
d) Operating inventory (10.4%)	\$ 45.00 = 4.70	1,620 = 168.00	_____
e) Total investment overhead	\$ 84.20	\$ 3,031.00	\$ _____
2. Labor (\$3.50/hr.)	26 hrs. = 91.00	936 hrs. = 3,276.00	_____
3. Total overhead expenses	\$175.20	\$ 6,307.00	\$ _____
D. Summary			
1. Net return to management (B.8-C.3)	\$ -8.60	\$ -309.00	\$ _____
2. Per hour return to labor and management		3.17	_____
3. Return on investment (excluding land)		6.6%	_____%

*From Table 5.

opportunity value rather than the annual ownership charge shown in Table 6.

Average annual investment in *breeding stock* was estimated at \$150 per sow unit. On average, the breeding herd was assumed to include 2 boars, 9 immature gilts (2-8 months old), plus 41 sows and gestating gilts. Boar value was figured at the average of the buying and selling price; females were figured at market price. The 10.4% overhead charge includes 9% for interest, 1% for property taxes and .4% for insurance.

In calculating the investment in *operating inventory*, it was assumed that the hog enterprise does not store grain but rather buys it 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 \$3.50-per-hour labor charge. In our example, for a 36-sow feeder pig enterprise, net return to management is projected to be a negative \$309. In other words, our sample enterprise was unable to support a 9% interest rate and \$3.50 hourly wage rate. To achieve a positive return, the operator must sell his product at higher prices and/or produce it at costs lower than projected in Table 6.

Per hour return to labor and management is the dollar return per hour after all expenses except labor (\$3.17 with a 9% interest charge in our example). *Return on investment* is the percent return to the enterprise after all expenses except interest (6.6% with \$3.50 labor).

Estimating Monthly Cash Flow Requirements

While the budget in Table 6 estimates type and amount of income and expense for feeder pig production, it does not reflect *when* income is realized or expenses incurred. Therefore, before committing himself 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 provision to meet them.

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 2-year cash-flow picture for a new enterprise. In our 36-sow feeder pig production example, the worst cash flow situation occurs in September of the start-up year, 8 months after launching the enterprise. At this time, the manager must be prepared to cover expenses that exceed receipts by \$8,405 (or approximately \$235 per sow unit), either by borrowing or by dipping into accumulated reserves.

The December cumulative cash flow figure of \$5,291 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. Both Tables 7 and 8 assume that labor will not be a cash expense item but will be provided by the farm family.

In developing your cash flow projection, you may want to add several expense items to indicate debt servicing obligations 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 one adverse year without danger of bankruptcy.

Table 7. Estimated cash flow for a 36-sow feeder pig production operation—start-up year.

Item	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Estimated Cash Receipts													
135 50-lb. feeder pigs (\$27.50 each)	\$ 3712										\$1237	\$1238	\$1237
9 non-breeding gilts (300 lbs. @ \$32.00/cwt.)	864							\$ 288	\$ 288			288	
4 dry sows (350 lbs. @ \$30.00/cwt.)	420										210		210
Total estimated cash receipts	\$ 4996							\$ 288	\$ 288	\$1447	\$1526	\$1447	
Estimated Cash Expenses													
Purchased feed	\$ 1917		\$ 46	\$ 51	\$ 89	\$ 90	\$ 128	\$ 125	\$ 180	\$ 304	\$ 304	\$ 295	\$ 305
Feed grain*	2352		77	84	151	156	223	216	236	309	305	290	305
Veterinary and medicine	176		10	—	10	—	10	—	—	10	40	48	48
Boar purchase (2 @ \$250)	500			500									
Gilt purchase (51 @ \$120)	6120		1800		1800		1800		240		240		240
Marketing	186							7		7	57	58	57
Power, fuel and repairs	426		8	8	10	10	15	15	26	70	88	88	88
Misc. (bedding & supplies)	166		5	5	9	5	8	8	12	18	24	36	36
Insurance	90						90						
Total estimated cash expenses	\$11933		\$2446	\$ 148	\$2069	\$ 261	\$2274	\$ 371	\$ 694	\$ 718	\$1058	\$ 815	\$1079
Net cash flow, monthly**			(2446)	(148)	(2069)	(261)	(2274)	(83)	(694)	(430)	389	711	368
Cumulative cash flow**			(2446)	(2594)	(4663)	(4924)	(7198)	(7281)	(7975)	(8405)	(8016)	(7305)	(6937)

*Feed grain is charged at an estimate of market value (\$2.00/bu. of corn equivalent or \$3.57/cwt.).

**Parentheses () indicate negative values.

Tables 9 and 10 show the year-to-year variation in returns that might be expected in the normal operation of a feeder pig production enterprise.

Performance

To reflect the consequences of variation in performance, feed conversions were varied 15% above and below the mean. Feed conversion was chosen as the over-all index of animal performance, since 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 \$27.50 per head is our best estimate of the annual average price likely to prevail. The high (\$34.50) and low (\$20.50) figures approximate the swing in prices that might be expected in a 4-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 approximately 48% of total costs of producing feeder pigs. To produce a 50-lb. feeder requires 224 lb. of cereal grain (4 bu. of corn) and 75 lb. of purchased feed. Therefore, a 10-cent-per-bushel increase in the price of corn adds 40 cents to production cost per pig; a \$20-per-ton increase in the price of purchased feeds adds 75 cents to your break-even price.

Table 8. Estimated cash flow for a 36-sow feeder pig production operation—normal operating year.

Item	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Estimated Cash Receipts													
540 50-lb. feeder pigs (\$27.50 each)	\$14850	\$1237	\$1238	\$1237	\$1238	\$1237	\$1238	\$1237	\$1238	\$1237	\$1238	\$1237	\$1238
12 dry sows (425 lbs. @ \$29.00/cwt.)	1479	123	370	123		124					369		370
6 non-breeding gilts (300 lbs. @ \$32.00/cwt.)	576	192		192		192							
2 boars (425 lbs. @ \$23.00/cwt.)	195									195			
Total estimated cash receipts	\$17100	\$1552	\$1608	\$1552	\$1238	\$1553	\$1238	\$1237	\$1238	\$1432	\$1607	\$1237	\$1608
Estimated Cash Expenses													
Purchased feed	4068	325	305	295	350	350	355	355	370	350	345	335	333
Feed grain*	4320	340	305	290	355	355	395	395	415	385	375	355	355
Veterinary and medicine	576	48	48	48	48	48	48	48	48	48	48	48	48
Boar purchase (2 @ \$250.00)	500								500				
Marketing	684	60	61	60	52	61	52	52	52	60	61	52	61
Power, fuel and repair	967	88	89	89	89	60	60	75	75	75	89	89	89
Misc. (bedding & supplies)	360	36	36	36	36	24	24	24	24	24	24	36	36
Insurance and taxes	334					122	90					122	
Total estimated cash expenses	\$11809	\$ 897	\$ 844	\$ 818	\$ 930	\$1020	\$1024	\$ 949	\$1484	\$ 942	\$ 942	\$1037	\$ 922
Net monthly cash flow (normal year)**		655	764	734	308	533	214	288	(246)	490	665	200	686
Cumulative cash flow (normal year)**		655	1419	2153	2461	2994	3208	3496	3250	3740	4405	4605	5291
Cumulative cash flow (from start-up in Table 7)**		(6282)	(5518)	(4784)	(4476)	(3943)	(3729)	(3441)	(3687)	(3197)	(2532)	(2332)	(1646)

*Feed grain is charged at an estimate of market value (\$2.00/bu. of corn equivalent or \$3.57/cwt.)
**Parentheses () indicate negative values.

Table 9. Estimated returns above cash costs over a range of feeder pig prices and performance levels for a 36-sow operation.

Price of 50-lb. feeders	Animal performance level		
	High	Medium	Low
High (\$34.50)	\$10,902	\$ 9,644	\$ 8,386
Average (\$27.50)	6,549	5,291	4,033
Low (\$20.50)	2,196	938	-320

Table 10. Estimated returns to labor and management over a range of feeder pig prices and performance levels for a 36-sow operation.

Price of 50-lb. feeders	Animal performance level		
	High	Medium	Low
High (\$34.50)	\$ 8,573	\$ 7,320	\$ 6,062
Average (\$27.50)	4,225	2,967	1,709
Low (\$20.50)	-128	-1,386	-2,644