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Swine Sharing Arrangements

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Swine sharing agreements can result in higher net incomes for both the landlord and the tenant, if they are fair and the tenant practices a high level of management. Before entering into a sharing agreement, the parties to the agreement should estimate total production expenses for the planned swine enterprise. All expenses should be charged at actual market price, including the feed grain produced on the farm.

Table 1 is a summary of total costs for a two litter farrow-finish swine system at a mechanization level representative of a \$900 investment in buildings and equipment per litter for 20 sows (50% of new cost). The total per litter charge for all costs of production with good management is estimated at \$789 per litter.

Typical Production Expenses

Total annual charges are grouped into eight cost groups. Typical costs have been developed based on records and experiments.

Sows and Boars

The ownership charge for sows and boars includes an allowance for depreciation, interest, taxes, insurance and death loss. Ownership costs are estimated at annual rate of 20 percent of the sow and boar values.

Depreciation and death loss on boars is allowed. Sow values in commercial herds generally increase more than enough to cover death loss; therefore, no depreciation or death loss is allowed for sows.

Buildings and Equipment

Ownership costs for buildings and equipment are estimated at 15 percent of new cost. This charge is expected to cover depreciation, interest on investment, repairs, taxes and insurance.

Labor and Management

Labor and management contributions vary depending upon the level of mechanization in the facilities. Labor is calculated at \$6.50 per hour and management at 5 percent of Value of Production in Table 1 for this two-litter system.

General Overhead

General overhead is estimated at \$30 per litter. The swine herd is charged for its share of electricity, telephone, water, manure disposal, farm yard work, miscellaneous supplies, and a share of the farm business management costs.

Feed Grain

Feed grain may be either purchased or raised. A per litter charge of \$286 per litter for feed grain should be sufficient for a two-litter system when 7.5 pigs are sold per litter.

Other Feed

About \$191 per litter should cover other feed costs. Other feed includes protein supplement, minerals, salt, creep starter and other additives.

Veterinary and Drugs

These costs vary considerably. Actual costs for the area should be used. \$28.80 per litter is used for the example in Table 1.

Trucking and Marketing Costs

These costs vary depending upon the distance to market and whether trucking is hired. Marketing costs include commission plus normal fees for yardage and sale facilities. A per litter charge of \$23.90 is used for the example in Table 1.

Total Per Litter Expenses

The total for the above costs is estimated at \$789 per litter in Table 1. Gross hog sales of \$789 per litter will cover all production costs.

Table 1. Swine production costs per litter, average mechanization, farrow-finish, two-litter system, March and September farrowing, 1/2 replacement gilt finished per litter, 7.5 butchers sold per litter, market 225 pound hogs, average 1.93 litters per sow per year.*

Type of Cost	Charge per litter	Annual Charge 20-sow herd
1. Sows and Boars [\$120 + (\$250 / 10)] / 1.93 litters x 20% = \$15.03	\$ 15	\$ 602
2. Buildings and Equipment [(\$550 + \$350) / 1.93 litters] x 15% = \$69.95	70	2,798
3. Labor-Management \$6.50/hr + 5% of Value of Production (\$6.50 x 16 hrs / litter) + (5% x \$810) = \$ 144.50 x 1.93 litters x 20	144	5,578
4. General Overhead \$30 per litter x 1.93 litters x 20	30	1,158
5. Feed Grain 119 bu. x \$2.40 = \$285.60 x 1.93 litters x 20	286	11,024
6. Other Feed \$138.75 + \$52.47 = \$191.22 x 1.93 litters x 20	191	7,381
7. Veterinary and Drugs \$28.80 x 1.93 litters x 20	29	1,112
8. Trucking & Marketing \$23.90 x 1.93 litters x 20	24	923
TOTAL ANNUAL CHARGE	\$ 789	\$ 30,576

*If a per litter cost of production is desired, divide the total annual charge by 1.93.

Table 2. Prices needed per cwt. for 225-pound market hogs to cover all costs including \$144 for labor and management per litter, 20 sows in a two-litter-average mechanized system, cull sows credit for \$63 per litter, replacement gilts raised.

Pigs raised per litter	Litters per sow each year	Pigs sold Per litter	Price/cwt needed to cover all costs
10	1.95	9.5	\$39.58
9	1.94	8.5	43.23
8	1.93	7.5	47.15
7	1.92	6.5	53.09
6	1.91	5.5	61.19

Estimated Gross Sales

Prices needed for gross sales to pay all typical costs are estimated in Table 2 for five levels of management. If gross sales for cull sows are \$126 per head and 7.5 market hogs are marketed per litter in a two-litter system, a market price of \$47.15 would cover all production costs. This price is based on 8 pigs raised per litter and 1.93

litters per sow per year with the assumption that 7 per cent of the sows farrow only one litter per year. If a manager attains this level of efficiency, it appears that a swine sharing agreement could be profitable for both the landlord and tenant.

Setting Up the Agreement

The first step in setting up the agreement is for the landlord and tenant to agree on which costs to consider when estimating the percentage that each contributes. In a typical two-litter system, the percentage breakdown of costs used to calculate contributions is as follows:

- Sows and Boars - 2%
- Buildings and Equipment - 16%
- Labor-Management - 17%
- General Overhead - 3.5%
- Feed Grain - 33%
- Other Feed - 22.5%

Alternatives for Feed Cost Sharing

In Plan A, the landlord does not contribute any feed. If an average mechanization level is assumed, landlord contributed costs are estimated at 19 percent. In a low

mechanized system, it could be 17 percent and in a high mechanized system about 21 percent. The contribution by the tenant would range from 79 to 83 percent.

Four other plans are set up in Table 3 based on the proportion of feed furnished by the landlord. Only the first six cost groups in Table 1 are used to estimate the percentage of costs contributed by each party.

Plans B, C, and D are based on the landlord contributing feed in the same proportion as his feed grain crop share rent on the farm. In these three plans reduce the landlord's contribution 2 percentage points for low mechanization and increase it 2 points for high mechanization. In these arrangements, the landlord's contribution of feed grain would be based on the crop share arrangement which might vary from the percent of hog sales.

The degree of mechanization in the buildings and equipment affects the landlord's share. Each situation would require an estimate of the mechanization level of a particular system (low, average, or high degree).

In the final sharing arrangement, only the first four cost groups are considered. This arrangement suggests a 51-49 sharing arrangement as shown in Table 3. Plan E would be equitable. Feed would be shared 51-49. The contribution for sows, boars, buildings and equipment by the landlord may equal the value contributed by the tenant in the form of labor, management, and general cash overhead.

If the landlord's calculated contribution is 53 percent due to a highly mechanized system, he should also contribute 53 percent of the feed cost. The tenant would contribute 47 per cent of the feed cost.

Sharing Other Costs

In any plan, supplement, mineral, salt, and the cost of other feed additives should be shared in the same proportion as feed grain costs are shared. If other feed costs are not shared in the same proportion as feed grain costs, disagreements are likely to arise in regard to an appropriate least-cost ration.

Table 3. Estimated fair shares, average mechanization for a two-litter swine farrow-finish system, five alternative plans for feed cost sharing.

Type of Cost Contributed	Selected Alternative Sharing Arrangements									
	Plan A		Plan B		Plan C		Plan D		Plan E	
	Landlord	Tenant	Landlord	Tenant	Landlord	Tenant	Landlord	Tenant	Landlord	Tenant
Sows and Boars	all	—	all	—	all	—	all	—	all	—
Building and Equipment	all	—	all	—	all	—	all	—	all	—
Labor-Management	—	all	—	all	—	all	—	all	—	all
General Overhead	—	all	—	all	—	all	—	all	—	all
Feed Grain	—	all	1/4	3/4	1/3	2/3	2/5	3/5	1/2	1/2
Other Feed	—	all	1/4	3/4	1/3	2/3	2/5	3/5	1/2	1/2
% Contributed	19	81	34	66	39	61	43	57	49	51
Share veterinary, drugs, trucking and marketing costs	19	81	34	66	39	61	43	57	49	51
Share sales of market hogs and cull sows	19	81	34	66	39	61	43	57	49	51

Veterinary, drugs, and trucking and marketing costs are considered shared in all of the plans. These costs can be easily identified and it is usually better to share them. Costs for veterinary, drugs, and trucking and marketing should be shared in the same proportion as sales.

Herd Boars

Herd boars are the responsibility of the party who provides the sows. An allowance is given for depreciation and death loss. This allowance plus the revenue from herd boar sales should buy replacement boars. If the agreement is terminated, the original provider would have full equity in the boars.

Division of Gross Sales

The last issue to settle is the division of gross sales. Usually sales of market hogs and cull sows are shared in the same proportion as the calculated contribution of each party to production costs. Replacement gilts are raised. These costs are included in the contributions by

each party. Since the tenant receives part of the sale value of cull sows, the landlord retains equity in the sows equivalent to the number originally contributed.

The five plans outlined in Table 3 can provide a base for estimating a fair sharing agreement for swine farrow-finish arrangements. Since there are variations in production costs, parties to the agreement should estimate their own costs.

For More Information

For more details on sharing arrangements, ask your county Extension agent for these publications:

- *Is Your Lease Fair*, North Central Regional Publication, EC 70-814
- *Livestock-Share Rental Arrangements for your Farm*, NCR Ext. Publication #107
- *Planning Prices and Livestock Budgets for Farm Management Programs*, Table H19, SDSU EC745 (Revised 1991)



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