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Costs and Returns of Tennessee Producer-Organized Feeder Pig Sales

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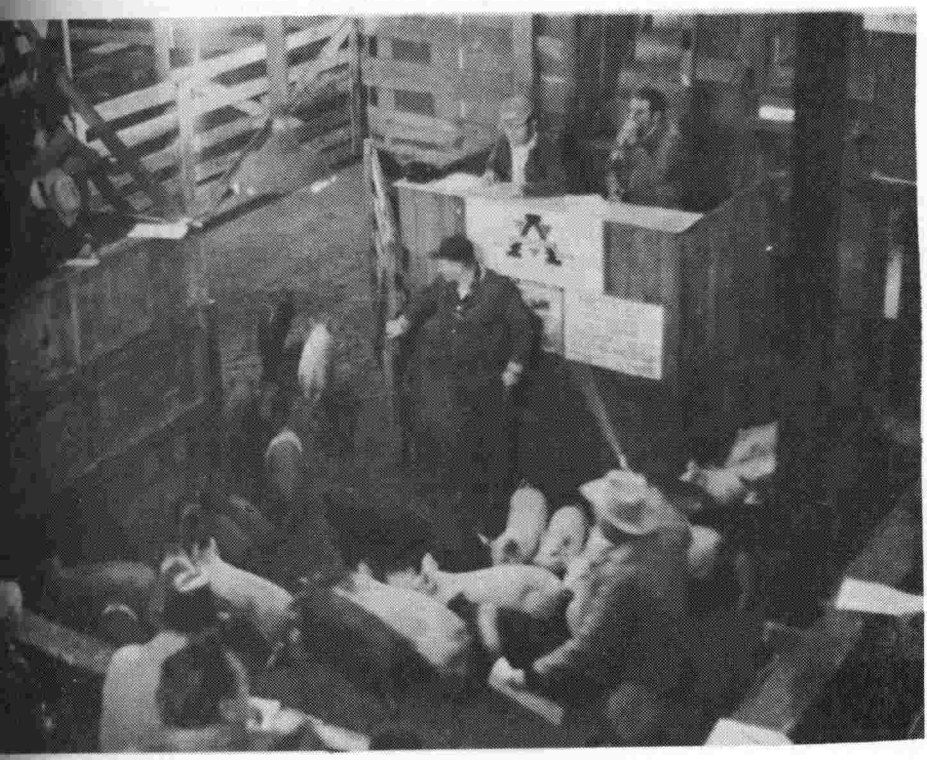

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SUMMARY

The general objectives of this study were: 1) to determine costs associated with the operation of different organized feeder pig sales in Tennessee and 2) to determine the influence of volume, ownership of sale facilities, and other factors on revenues, costs, and net returns to organized feeder pig sales. This study used 1971 accounting data collected by personal interviews with 20 of the 21 sale operations during the summer of 1972.

Sales were classified into three size categories as follows: 1) 0-20,000 feeder pigs sold in 1971 - small; 2) 20,000-40,000 feeder pigs sold - medium; and 3) 40,000 pigs or more sold in 1971 - large. Within each size category the sales were classified also on the basis of ownership of the sale facilities–private, public, or producer association owner.

Total initial costs of facilities and equipment used in feeder pig sales varied by groups from an average of $25,950 to $75,025. Building and equipment investment per head of capacity ranged from $8.41 for medium-sized sales operating in association-owned facilities to $22.46 for small sales operating in private facilities. The estimated average by group of the present sale facilities ranged from $28.94 to $11.96 per head capacity with the average for all sales being $19.10.

Labor was the largest single operating expense incurred by each sale facility. Average total labor expenditures by groups of sales ranged from $.20 per pig sold through large, privately-owned facilities to $.45 per pig sold through medium, privately-owned facilities. Total average variable costs ranged from $.31 per head sold in small association owner facilities to $.59 per head sold through both medium-size, privately-owned facilities and small public facilities.

The average commission received per head of pigs sold at all sale facilities was $.64. The average total costs per head ranged from $.35 for large sales operating in private facilities to $.68 for medium sales operating in private facilities with an average of $.44 per head sold.

All public sales and the medium-sized sales operating in private facilities were found to be operating unprofitably. Small sales held in private facilities would have been unprofitable if they were forced to pay for donated labor.

Budgets were developed for hypothetical sales of two sizes–3,000 (medium) and 5,000 (large) head capacity. The 3,000-head capacity facility was the least cost sale with a cost of $.28 per pig compared with $.40 per pig for the projected 6,000-head facility. The gross revenue per pig handled was projected at $.64. If the 3,000-head capacity facility was operated at 81% capacity for 34 sales per year, it should return $.86 for each dollar invested. If all feeder pigs in Tennessee were sold through sales of this capacity, the marketing charges to the farmer could be reduced by $.30 per pig and still allow for a 15% return on investment to facility owners. This would save Tennessee farmers just under $200,000 annually in marketing costs.

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Costs and Returns of Tennessee Producer-Organized Feeder Pig Sales

by

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INTRODUCTION

The marketing of feeder pigs in Tennessee through producer-organized auction sales[1] is an important source of income to farmers of the state. In 1971, 35.7% (662,740 head) of the total Tennessee pig crop was sold through a total of 432 organized feeder pig sales at the 21 separate locations shown in Figure 1. In consequence, Tennessee ranked first nationally in numbers of pigs sold through producer-organized sales. The gross receipts from the sale of these feeder pigs in 1971 exceeded 8.25 million dollars.[2]

OBJECTIVES AND PURPOSE OF THE STUDY

The general objectives of this study were to determine: 1) the costs associated with operating of different sizes of organized feeder pig sales in Tennessee, and 2) the influence of volume, ownership of sale facilities, and other factors on the costs of operating these pig sales. Specific factors studied were:

1. Physical features and capacities of organized feeder pig sale facilities currently existing in the state.
2. Revenue, present investments, overhead costs, labor cost and requirements, and other variable cost items encountered in the operation of organized feeder pig sales.

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[1]"Organized" as used in this study refers to the existence of a local cooperative association of feeder pig producers who have joined together (through the Welfare, Cooperative Marketing, or State General Cooperation acts) for the purpose of operating feeder pig sales for the association members and other eligible pig producers.

[2]Tennessee Feeder Pig Sale Summary, 1971, Agricultural Extension Service, University of Tennessee, Knoxville, Tennessee. (These figures do not account for feeder pigs sold through private sales, contracts, dealers, and open auctions).

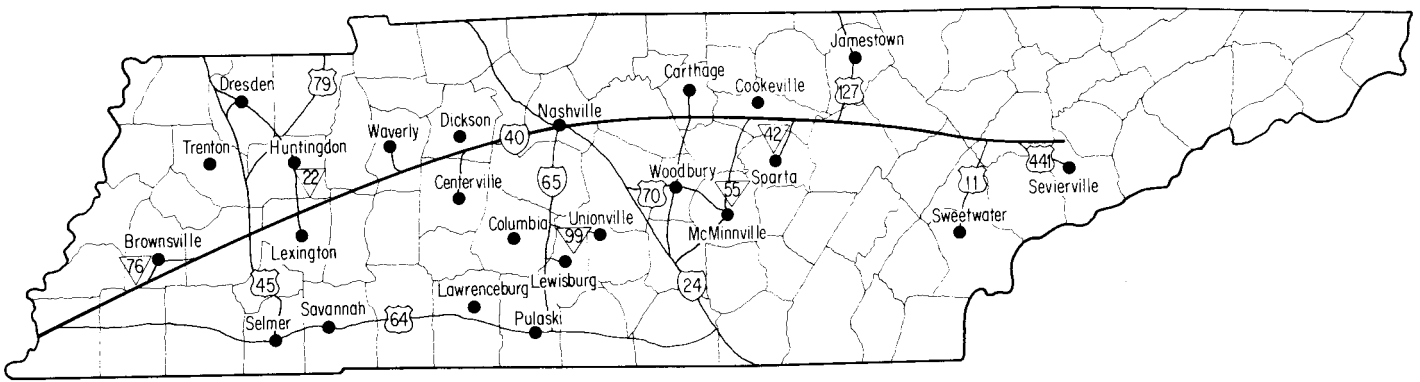

Figure 1. 1971 Tennessee Organized Feeder Pig Sale Locations
Source: University of Tennessee Agricultural Extension Service.

3. Potential costs and returns of alternative size sales.
4. Synthetic cost and revenue budgets will also be developed for alternative size facilities.

The information generated by this study combined with data on costs incurred by pig producers and buyers using organized feeder pig sales should suggest several alternatives for reducing costs and improving operating efficiency of organized feeder pig sales in Tennessee.

PROCEDURE

This study was based on a 1972 survey of 20 of the 21 locations at which feeder pig sales are held in Tennessee.[3] Accounting records for 1971 from each location were the primary source of data. Also, managerial personnel at each location were interviewed during the 3-month period—June, July, and August, 1972—to gain information not covered by the accounting records. Volume, facility characteristics, and detailed operating costs were obtained at each location.[4]

Feeder pig sale facilities were divided into three size groups as a means of comparing different facilities without disclosing the individual organization's identity. Annual numbers of feeder pigs sold during 1971 were used to differentiate size groups. Facilities handling under 20,000 pigs were classified as "small"; from 20,000 to 39,999 pigs, "medium"; and sales handling 40,000 pigs or more were classified as "large."

Within each size group, facilities were classified also according to ownership—private (that is, stockyards in most cases), public (such as fairgrounds) or by producer association sponsorship.

Operating costs were classified as fixed or variable, depending upon their relationship to annual volume. Fixed costs remained constant regardless of the number of pigs sold during the year. Examples included insurance, depreciation, and taxes. Variable costs represented those which varied with the number of pigs sold annually. Examples include labor, office supplies, and rent.

ORGANIZATION, REGULATION, VOLUME, AND PHYSICAL CHARACTERISTICS OF ORGANIZED FEEDER PIG SALES

Organization and Regulations

The first organized feeder pig sale was in 1958.[5] Twenty-one existed in

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[3]One sale location refused to supply cost information.

[4]A copy of the schedule is available upon request from the Department of Agricultural Economics and Rural Sociology, University of Tennessee, Knoxville, Tennessee 37901.

[5]O'Neal, James Grant, "A Study of the Development, Organization and Operation of Demonstration Feeder Pig Sales in Sevier County, Tennessee, from 1971 through 1963," M. S. Problem, University of Tennessee, 1964.

1972. The managers of the sales indicated that county agricultural extension personnel were chiefly responsible for organizing 40% of the feeder pig sales in Tennessee, working in cooperation with livestock association personnel. Livestock associations alone have been chiefly responsible for organizing 25% of the sales. Vocational agriculture teachers, bankers, and others were responsible for encouraging producers to establish the remaining feeder pig sales in the state.[6]

All auction sales of feeder pigs organized by producers in Tennessee must conform to a special set of several basic regulations established by the Tennessee Department of Agriculture. They are as follows:

1. All sales must be sponsored by a producer organization and must be approved by the Tennessee Department of Agriculture and by the Animal Health Division of the United States Department of Agriculture (USDA).
2. Pigs must be ear-tagged for identification back to individual producers.
3. Pigs must come directly to the sale from the farms of producers.
4. Consignors must be members of the sponsoring producer organization and are required to obtain a marketing card which certifies they are a feeder pig producer and do not traffic or trade in feeder pigs in any way.
5. Pigs must be graded according to USDA standards by a representative of the Tennessee Department of Agriculture.
6. Sale barns must have concrete pens and sale areas.
7. In most cases, pigs are farm inspected and/or inspected at the sale by a representative of the producer organization. In all cases, pigs must be inspected at the sale by graders from the Tennessee Department of Agriculture.

Volume Handled

The data gathered for 1971 indicated that each of 11 feeder pig sale locations sold under 20,000 feeder pigs that year, five sold between 20,000 and 40,000, while four sale locations sold over 40,000 each. The total number of feeder pigs sold in 1971 ranged from 4,923 (at Centerville) to 199,689 (at Cookeville). The average number sold per sale in 1971 ranged from 445 (at Unionville) to 3,997 (at Cookeville).

The annual average for all sale locations during 1971 was 33,137 with an overall average of 1,392 pigs per sale. Small feeder pig auctions, operated in public and private facilities, handled an average of 2,000 to 4,000 fewer pigs per year and around 300 fewer pigs per sale than did small feeder pig auctions operated in association-owned facilities. Also, medium-size auctions operated in association-owned facilities sold more pigs per sale than did those operated in private facilities. However, annual volume of large size auctions operated in

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[6]Brasher, Joseph A., "Cost and Returns of Operating Feeder Pig Sales in Tennessee," unpublished M. S. Thesis, University of Tennessee, Knoxville, Tennessee, March 1973.

privately-owned facilities were almost twice those of auctions operated in association-owned, large-size facilities (Table 1). Large auctions operated in privately-owned facilities averaged almost 40% more pigs per sale than did large auctions held in producer association-owned facilities.

Physical Layouts and Capacities of Present Sale Facilities

Estimates of the square feet of floor space used for selected activities were made for each sale facility (Table 2). Areas were estimated for pens, offices, sale rings, and total areas in each facility. In privately-owned facilities, the estimated pen spaces represented only the concreted pens that met state standards for feeder pig sale facilities.

Average total pen space ranged from 6,625 square feet for small association-owned facilities to 16,850 square feet for large, privately-owned facilities. Publicly-owned facilities with small-size sales had considerably more pen space available than did other small sale facilities. Many sale facilities increased their available pen space by using aisles and alleys as pens when needed.

Office space ranged from an average of 150 square feet in small association-owned facilities to 550 square feet in large, privately-owned sale facilities. This office space was used for scale operation, sorting supplies, and handling records. Sale facilities with large available office spaces made some of this area available for buyers.

Sale ring areas varied from an average of 400 (small association-owned facilities) to 1,056 (small publicly-owned facilities) square feet per sale facility. Sale ring areas did not appear to be a crucial factor affecting any of the sale facilities, as only a sample of each pen of pigs was presented in the sale ring for the buyers to observe during the sale.

Total square feet in all the facilities averaged 12,550 square feet. Total areas of small-sale facilities were greater than medium-sale facilities (12,850 versus 9,084 square feet). This occurred because large total areas made available to the small sales operated in public facilities (14,890 square feet). In any case, 3 to 4 square feet of total building space was the allotted capacity per pig (Table 2).

Estimates were made also of the average land areas in acres associated with all facilities, pen capacities, sales arena seating capacities, and spaces provided for parking (Table 3). No definite patterns for these items were found that could be associated either with sale size or type of facility ownership.

The management of each sale facility was asked to determine the capacity of his present facility. The average sale-date capacity for facilities in each category varied from 2,140 (small-public) to 5,250 (large-private) head per sale. Small sales in public facilities had the greatest total square footage available per head of capacity. This may have reflected poor functional design of these facilities for feeder pig sales and suggested that these facilities were underutilization when used for feeder pig sales. All feeder pig sales in the survey averaged using only one-fourth to one-half of their estimated capacity per sale, which indicated considerable excess capacity. The three largest sale facilities together had an estimated capacity for handling more pigs than were sold by all 20 sales in the state during the survey period (assuming one sale per week, Table 3).

Table 1. Average number of sales, number of head per sale, pounds of pigs sold and average number of pigs sold by each size and type of sale, Tennessee, 1971

Size	Type	Number of facilities	Average number sales 1971	Average number head per sale	Average pounds of pigs per year	Average number head per year
Small	Private	5	13.6	895.2	622,444	12,175
	Public	5	11.2	893.4	511,367	10,006
	Association	1	12.0	1,222.0	693,743	14,664
Medium	Private	4	37.5	709.1	1,327,281	26,591
	Association	1	15.0	1,816.5	1,336,180	27,247
Large	Private	2	50.0	2,633.3	6,133,020	131,665
	Association	2	37.0	1,895.1	3,324,295	70,118
All sale[a] locations		20	23.8	1,392.3	1,596,137	33,137

[a]Excludes one location which declined to cooperate.

Table 2. Average square feet in selected areas of facilities by size and type of 20 organized feeder pig sales, Tennessee, 1971

Size and Type	Number of facilities	Functional Areas: Pens	Functional Areas: Office	Functional Areas: Sale ring	Total	Capacity in square feet per pig[a]
		SQUARE FEET				
Small						
Private	5	6,790	340	570	11,580	3.9
Public	5	9,360	266	1,056	14,890	7.0
Association	1	6,625	150	400	9,000	3.6
Average		7,943	289	776	12,850	5.3
Medium						
Private	4	7,512	312	487	8,480	3.2
Association	1	9,500	240	900	11,500	3.3
Average		7,910	298	570	9,084	3.2
Large						
Private	2	16,850	550	725	19,625	3.7
Association	2	9,550	370	417	12,500	3.1
Average		13,200	460	571	16,062	3.4
All sale facilities	20	8,986	325	683	12,550	4.1

[a]See Table 3 for feeder pig capacity of each type of facility.

Facilities averaged being used from 20 to 100% of the time for feeder pig sales. Small private facilities were used less for feeder pig sales because fewer sales were held during the year. Several of the association-owned facilities were built primarily to handle pigs, which accounted for their high utilization as feeder pig sale facilities.

All 20 sales facilities had only one scale available for weighing pigs, except for one facility in the large category which had two scales. The average number of chutes available for unloading pickups varied by groups from 1.2 (small facilities) to 7.0 (large facilities) per facility. The number of chutes available for unloading stakebed trucks ranged from an average of one to more than three. All sale facilities also provided one chute for multilevel trucks. At most sales the chute for multilevel trucks was not permanently fixed.

Table 3. Characteristics of feeder pig sale facilities by size and type, Tennessee, 1971

Size and Type	Number of acres	Number of seats in sales arena	Number of parking spaces	Number of pens	Capacity of pigs per pen	Total capacity of sale	Percent of time facility is used by feeder pig sales[a]
Small							
Private	10.6	360	300[b]	22[c]	195[c]	2,980	20
Public	23.5[d]	213	Unlimited	59	50	2,140	58
Association	4	300	150	50	50	2,500	100
Medium							
Private	9.7	150	233[e]	35[d]	123[c]	2,638	79
Association	3	200	Unlimited	54	65	3,500	75
Large							
Private	4.5	500	Unlimited	36[d]	70[d]	5,250	49
Association	10.5	300	Unlimited	55[d]	150[d]	4,000	59
All sale facilities	11.1	278		44	146	3,033	55

[a]This value was estimated by the management of each facility.
[b]Three sales in this category had unlimited parking capacity.
[c]Information not available from two sales in this category.
[d]Information not available from one sale for this category.
[e]Two sales in this category had unlimited parking capacity.

All sale facilities except two had rest rooms. Only five had lunchrooms. Eating facilities varied in elaborateness from a cafeteria to a small stand operated by one person.

When owners were asked about plans to expand facilities in the next 2 or 3 years, none indicated any plans to do so.

INVESTMENT REQUIRED FOR ORGANIZED FEEDER PIG SALES

Costs of physical facilities used for organized feeder pig sales varied considerably, depending upon the elaborateness of the facility. For those reporting, initial building costs ranged from an average of $17,500 to $61,000 per facility. However, information on costs was not available from the owners of the two large privately-owned facilities (Table 4).

Additional outlays were made for extensions to sale barns, purchases of new scales, and concreting of pen areas. Concreting of pen areas was the most common addition made, because this Tennessee Department of Agriculture and USDA disease prevention requirement for feeder pig sales did not apply to other kinds of livestock sales.[7]

The total initial costs of the physical facilities and equipment used in the operation of the organized feeder pig sales varied by groups from an average of $25,950 to $75,025. However, the publicly-owned facilities which had the lowest initial costs of sale operation ($25,950) might face higher maintenance expenses in future years because of their less costly construction and relative age.

Many facilities were built partly with donated labor. Private facilities that hosted medium-sized sales reported an average of 6.3 man-days of donated labor in the building of the facility; association-owned facilities hosting large sales averaged 60 man-days of donated labor; and publicly owned facilities averaged 122.4 man-days of donated labor in the building of sale facilities.

The estimated value of buildings and equipment averaged $19.10 per pig capacity, or $4.69 per square foot. Medium and large privately-owned facilities averaged considerably less investment per pig capacity and per square foot than did association owned facilities in the same size group (Table 7). However, privately owned facilities were also around 5 years older than association facilities.

Even though investment costs noted above included only that part of each sale facility used for feeder pig sales, investment per pig capacity and per square foot of usable space in small privately-owned facilities was considerably higher than for other facilities. This may result from imprecision in allocating overhead investment costs between feeder pig sales and the other uses made of the facilities.

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[7]See page 10 for a discussion of health and sanitary regulations for feeder pig sales.

Table 4. Average initial expenses for buildings, additions, land, equipment, and present value of facilities by size and type, Tennessee, 1971

Size and Type	Average Investment Costs for Specified Items							Current appraisal value of facilities and equipment[a]
	Initial facility	Additions	Land	Scales	Miscellaneous facilities	Office and other equipment	Total	
	Dollars							
Small								
Private[b]	61,000	3,100	5,000	4,125	0	1,800	75,025	86,250
Public	17,500[d]	1,800	4,000[c]	2,200[d]	0	450	25,950	40,300
Association	31,000	0	2,500	600	250	1,425	35,675	35,000
Medium								
Private	22,833	3,000	7,575[f]	2,575	0	1,062	37,045	31,550
Association	27,000	0	3,600	1,460	0	1,000	33,060	50,000
Large								
Private[e]	NA	3,000	NA	5,000	0	1,050	NA	150,000
Association	41,000	4,500	6,700	2,825	4,750	1,650	59,352	75,000
All sale facilities	35,667	2,838	5,221	3,716	3,250	1,137	45,028	58,761

NA = Not available for any facilities in this category.

[a]These figures represent what the sale owners feel their facilities are worth on today's market.

[b]Data not available from one sale for any category in this table except building costs.

[c]Data not available from three sales for this category.

[d]Data not available from one sale for this category.

[e]Data not available from one sale in this category for any items in this table except present value of facilities.

[f]Information not available from two sales in this category.

Table 5. Building and equipment investment requirements per head and per square foot, by size and type, 20 organized feeder pig sales, Tennessee, 1971

Size	Type	Initial building investment per head of estimated pig capacity	Initial building invest-ment per square foot	Equipment (office and barn) investment per head of estimated pig capacity	Equipment (office and barn) invest-ment per square foot of facility	Current appraisal value of facilities per head of estimated pig capacity[a]	Current appraisal value of facilities per square foot[a]	Average age of facilities[b]
		Dollars						
Small	Private	20.47	5.27	1.99[c]	.51[c]	28.94	7.45	20
	Public	8.18[c]	1.18[c]	1.24[c]	.18[c]	18.83	2.71	NA
	Association	12.40	3.44	.81	.23	14.00	3.89	8
Medium	Private	8.66	2.69	1.38	.43	11.96	3.72	16
	Association	7.71	2.35	.70	.21	14.29	4.35	13
Large	Private	NA	NA	1.15[c]	.31[c]	14.76	3.95	15
	Association	10.25	3.28	1.12	.36	18.75	6.00	8
All sale facilities		12.14	3.08	1.39	.35	19.10	4.69	15

NA = Not available.

[a]Based on what the owners felt their facilities and equipment were worth on today's market.

[b]Several of the managers could only estimate the age of private facilities.

[c]Information not available from one sale for this category.

ANALYSIS OF OPERATING COSTS

Variable Costs

Labor. Labor was the largest single expense item in operating feeder pig auction markets. Also, 30% of the sale operators indicated that finding and keeping dependable labor was the major problem in operating their sales. Specific labor problems cited were the difficulties of getting people willing to work only 1 day per week or less and the need to train new labor for each sale. Several managers indicated that they felt they were trying to operate the sale with too little labor, leading to inefficiency in sale operations.

Managers' salaries varied from $15 to $110 per sale. Most managers of small- and medium-sized sales had other occupations, while all large-sale managers were occupied full time with operating other livestock sale facilities (Table 6).

All auctioneers were paid a set fee per sale regardless of the hours worked. The small sale operating in an association-owned facility paid the auctioneer the lowest salary ($25) per sale. No explanation was available as to why this auctioneer was paid less than other auctioneers. All auctioneers were employed in jobs other than auctioneering for the feeder pig sales (Table 6).

Wages of office workers, barn workers (penners, sorters, and taggers), weighmen, and other laborers averaged $2.16, $1.68, $2.23, and $2.80 per hour, respectively. Most were employed also in jobs other than at the feeder pig sales. These workers included county extension service personnel, students, farmers, and housewives.

Wages paid to office workers varied with the type of personnel employed. Some sale managers hired professional bookkeepers and other skilled personnel while others used donated labor.

Labor expenses for penners, sorters, and taggers varied with the layout of the physical facilities and with the percentage of pigs tagged and inspected on the farm. Some sales required fewer laborers because of efficiently-designed facilities and because most of the pigs were ear-tagged on farms of producers.

Graders were employed by the Tennessee Department of Agriculture (TDA) and the sales were billed by the TDA for the graders' services. Sales were charged $.03 per pig if the number of pigs per sale was greater than 1,000 or $.37 per pig if the number of pigs per sale was less than 1,000.

Labor classified as "other" included people responsible for inspecting incoming pigs, determining eligibility of producers, and serving as ringmen (Table 6).

The time required after the end of the sale to complete all office work and the loading out of pigs ranged from .5 to 11 hours with 4 hours being the average time used. The number of pigs handled by the sale determined the amount of time necessary to complete office and load-out work.

The hours of labor donated to the operation of each sale was very high for small sales operating in private auctions and public fairgrounds (around 36 and 25 hours per sale, respectively). Large sale operations used the smallest amount of donated labor. Persons reported donating time to feeder pig sales included association members and county extension service workers (Table 7).

Table 6. Average labor usage, total hours worked, and total wages paid per sale by size and type of sale, Tennessee, 1971

Labor classification	Small			Medium		Large					
	Private	Public	Association	Private	Association	Private	Association	Small	Medium	Large	All
Manager[e]											
No. hired	1	1	1	1	1	1	1	1	1	1	1
Hrs. worked	17.2	20.4	15	15.8	24	16	33	18.5	17.4	24.5	19.4
Total wages paid ($)	21.25	12.50[a]	0.00	36.75	140.00	45.00	175.00[d]	15.00	57.40	110.00	44.60
Auctioneer[e]											
No. hired	1	1	1	1	1	1	1	1	1	1	1
Hrs. worked	1.1	1.7	2.0	1.25	1.5	1.5	1.25	1.5	1.3	1.4	1.4
Total wages paid ($)	33.75[a]	42.00	25.00	56.00[b]	40.00	37.50	42.50	37.00	50.67	40.00	42.63
Office labor											
No. hired	2.8	2.0	2.0	1.5	3.0	3.0	4.5	2.4	1.8	3.8	2.5
Hrs. worked	20.8	15.3	10.0	18.8	30.0	25.0	15.5	17.3	21.0	20.3	18.8
Total wages paid ($)	48.75[a]	25.00	50.00	35.00[c]	76.00	47.04[a]	32.68	38.06	48.67	37.46	40.59
Wages per hour ($)	2.34	1.63	5.00	1.86	2.53	1.88	2.11	2.20	2.31	1.85	2.16
Penners, sorters, and taggers											
No. hired	6.4	8.4	11.0	8.0	14.0	18.0	9.0	7.7	9.2	13.5	9.3
Hrs. worked	40.5[a]	68.2	97.0	73.8	112.0	155.3	92.5	60.0	81.4	123.9	79.1
Total wages paid ($)	65.30	111.62	142.20	118.35[a]	224.00	267.84	164.25	96.15	144.76	216.04	153.04
Wages per hour ($)	1.61	1.64	1.47	1.60	2.00	1.73	1.78	1.60	1.78	1.74	1.68
Weighmen											
No. hired	1	1	1	1	1	1.5	1.5	1	1	1.5	1.1
Hrs. worked	6.8	7.5[a]	5.0	7.3	6.0	9.0	14.3	6.9	7.0	11.6	7.9
Total wages paid ($)	12.25[a]	22.75[a]	8.00	22.20[c]	12.50	23.52[a]	17.60	16.44	18.97	19.57	17.58
Wages per hour ($)	1.80	3.03	1.60	3.04	2.08	2.61	1.23	2.38	2.71	1.69	2.23
Graders[e]											
No. hired	1	1	1	1	1	2	1	1	1	1.5	1.1
Hrs. worked	5.4	5.3	5.0	6.3	6.0	12.0	6.3	5.3	6.2	9.1	6.3
Total wages paid ($)	37.89	38.94	37.50	38.95	37.50	72.28	63.97	38.33	38.66	68.12	44.34
Other labor											
No. hired	.2	.6	0	1.2	0	1.5	1	.4	1	1.3	.7
Hrs. worked	4.6	4.8	0	7.3[a]	0	9.0	6.0	4.3	5.5	7.5	5.2
Total wages paid ($)	15.00	14.00	0	8.33[a]	0	33.50	20.00	13.18	6.25	26.75	14.58
Wages per hour ($)	3.26	2.92	0.0	1.14	0.0	3.72	3.33	3.07	1.14	3.57	2.80

Table 6. Continued

Labor classification	Small			Medium		Large					
	Private	Public	Association	Private	Association	Private	Association	Small	Medium	Large	All
Total											
No. hired	13.4	15.0	17.0	14.7	21.0	28.0	19.0	12.5	15.1	23.6	16.7
Wages per sale ($)	234.19	266.81	262.70	315.58	530.00	526.68	516.00	254.16	365.38	517.94	357.39
Average labor cost per pig per sale	.26	.30	.22	.45	.29	.20	.27	.28	.39	.23	.26

[a]Information not available from one sale for this category.

[b]One auctioneer in this category was the barn operator for which a salary could not be determined. Information from one other sale auctioneer was not available for this category.

[c]Information not available from two sales for this category.

[d]One manager in this category receives, as a portion of his salary, part of the earnings of the association. His minimum salary for each sale was used in computing the average.

[e]The managers, auctioneers, and graders were mostly paid on a flat rate basis or a fee schedule where hours worked did not determine the wages paid. Therefore, wages per hour are not figured for this labor.

Table 7. Average hours of labor donated for each sale by size and type of sale facility, Tennessee, 1971

Size	Type	Hours
Small	Private	36.2
	Public	24.6
	Association	8.0
Medium	Private	10.5
	Association	18.0
Large	Private	6.5
	Association	6.5
All sale facilities		19.9

The arrangements of the chutes, scales, and pens in the sale facilities affected the overall amount of labor needed. For example, the Jamestown sale facilities were efficient in labor utilization because of the total physical layout. Timetables for different sale activities also influenced the hours worked by labor. Some facilities opened earlier and therefore had to pay for more hours worked by labor than did other sale facilities.

Advertising. On the average, advertising was the second greatest operating expense incurred by organized feeder pig sale facilities and was of great concern to most sale managers.

The telephone was the most frequently-used advertising tool. Sale managers telephoned to contact buyers, producers, and, to a limited extent, to sell pigs. Small sales that operated in public facilities were the main users of telephone advertising and spent an average of around $400 per month on this item (Table 8).

Payments to the Tennessee State Livestock Association was also a major advertising expense for feeder pig sales. The State Livestock Association encouraged each sale to contribute $.02 per head handled to support its advertising program. Most organizations sponsoring the sales made these contributions, except the sponsors of the large sales who believed that their sales volume records and other advertising programs were sufficient.

The small- and medium-sized sales that operated in association-owned facilities relied almost entirely on the State Livestock Association for their advertising.

Service programs were also a form of advertising and/or public relations. The services provided by the associations sponsoring the sales were:

1. Boar-buying assistance for eligible producers.
2. Gilt-buying programs.
3. Awards for 4-H and FFA livestock shows.
4. Production-tested livestock sales.
5. Educational programs on livestock production practices.

Table 8. Average annual advertising and promotion expenditures[a] by type and costs of service programs by size and type, Tennessee, 1971

Size and Type	Telephone	Payments to State Livestock Association	Direct mail	Radio	Farm publications	All other	Subtotal	Costs of service programs	Total
	Dollars								
Small									
Private	68.00	180.33	72.00	0.00	60.00	286.00	666.33	140.00	806.33
Public	1,072.81	30.84	188.00	6.40	23.40	0.00	1,321.45	120.00	1,441.45
Association	0.00	293.28	0.00	0.00	0.00	0.00	293.28	0.00	293.28
Medium									
Private	62.50	165.90	86.25	187.50	126.25	73.13	701.53	118.75	820.28
Association	0.00	544.94	255.00	0.00	0.00	0.00	799.94	250.00	1,049.94
Large									
Private[b]	0.00	0.00	0.00	0.00	0.00	931.63	931.63	4,000.00	4,931.63
Association	48.00	0.00	150.00	180.00	0.00	734.00	1,112.00	400.00	1,512.00
All sale facilities	293.13	127.88	110.00	57.11	46.10	252.69	886.91	541.25	1,428.16

[a]The owner of one facility had over $12,000 expenditure for advertising and promotion which is not reflected in this table.

[b]Information from the two sales in this category gave only the total advertising expenditures for each sale. These expenditures were all placed under the "other" column.

Costs of meeting health regulations. The management of each feeder pig sale had to agree to follow health regulations of the Tennessee Department of Agriculture (TDA) and the USDA before the sale was allowed to operate by these agencies. Each sale was subject to inspection at any time by state or federal inspectors. Therefore, it was necessary at all times to keep sale facilities up to the standards to which the sale management originally agreed.

Pigs were required to come directly to the sale from the producer's farm. To safeguard against "pig dealers," all pigs were inspected at the farm or at the loading dock when the pigs arrived at the sale. Each consignor was required to have an identification card issued by the producer association indicating his county of residence, the number of sows he farrowed, and the approval of some designated person such as a county extension agent who was knowledgeable of the producer's operation. Two sales paid $.05 per pig for on-farm-inspection of pigs and one sale paid $.07 per pig for this inspection. All sales were required to have someone available to check the eligibility of all pig producers selling through the feeder pig sale.

Pigs could not be held on any sale premises on which slaughter swine or other pigs were held since the last feeder pig sale unless the facility had been thoroughly cleaned and disinfected. Also, no slaughter swine could be on the premises the day of the sale. Facilities in which feeder pig sales were held only once per month and in which no other livestock sales were held need not be disinfected before each sale. Labor was usually the largest item of expense in meeting these health requirements (Table 9).

Another health requirement established by the TDA and USDA that had to be followed dealt with identification of each pig back to the farm of the producer. This requirement was met by ear-tagging each pig with TDA ear tags. The identification requirement also required keeping adequate records that indicated the origin and destination of each pig.

Before pigs could leave the state, they had to be accompanied by a health certificate issued by an inspecting veterinarian. All sale facilities but two indicated that they had a veterinarian available for this duty. Eight sales paid for the veterinarian's services directly, and this cost averaged $423.75 per year per sale. At other sale facilities the buyer or pig producer paid for veterinarian services.

Other variable costs. Twelve of the sales provided heat in portions of their facilities during the winter months. Expenses for utilities averaged $4 per sale more during these months (Table 10).

Postage was a large item of expense for most sales; postage usually cost more than all other office supplies.

Fixed Costs

Depreciation and interest. Average depreciation expenditures by sale group ranged from zero to $3,150 per year. Some associations either never set up a depreciation schedule on their facilities or had depreciated them completely even though several years of useful life remained in the facilities (Table 11).

Average annual expenditures for interest by groups varied from zero to over $1,150 per year for small sales operating in association owned-facilities. Sale

Table 9. Average expense per sale for meeting health requirements by size and type, Tennessee, 1971

Size and Type	Litter	Disin-fectant	Labor	Other[d]	Total
	Dollars				
Small					
Private[a]	5.00	4.30	12.80	13.33	35.43
Public[b]	2.00	1.67	37.17	0.00	45.54
Association	0.00	0.00	56.00	0.00	56.00
Medium					
Private[c]	3.33	0.88	35.20	0.00	39.41
Association	0.00	1.00	42.00	0.00	43.00
Large					
Private[c]	26.80	5.45	48.00	0.00	80.25
Association	13.75	3.50	25.00	0.00	42.25
All sale facilities	6.09	2.43	32.25	2.86	44.75

[a]Information from two sales not available for this category.

[b]Information from two sales in this category provided only the total expenditure (averaged $52.60 per sale) but not the breakout for each heading. These expenditures are figured into the total average costs.

[c]Information from one sale not available for this category.

[d]Expenses in this category are for machine hire.

managers had difficulty determining the interest expenditures of their operation. Data in Table 11 were estimates made from accounting records of the sale firms and may not reflect the interest actually paid.

Taxes, licenses, bonds, and insurance. Expenses for taxes, licenses, and bonds varied by groups from zero to an average of $1,664 per year per facility (Table 11). The weighmen's license was the only license required for all sales. Those operating in private facilities had to buy additional licenses. None of the organizations operating in public facilities purchased weighmen's licenses. Taxes varied due to the exempt status of public facilities, the nonprofit status of association-owned facilities, and to differences in the taxation of some privately-owned facilities (Table 11).

Some sales carried no insurance on their facilities and many sales carried no liability insurance.

Total Costs

The average total cost per pig sold through all organized feeder pig sales was $.44. Associations operating in large private sale facilities were the least cost operations with an average total cost of $.35 per pig. The highest costs were for small sales operated by associations in public facilities ($.69) and medium-size sales operated by associations in private facilities ($.68) (Table 12).

Annual total fixed costs allocated to feeder pig sales on a per-head basis

Table 10. Average annual variable costs by size and type of sale, Tennessee, 1971

Size and Type	Labor	Advertising	Utilities[a]	Maintenance & repairs	Postage	Other office supplies	Barn supplies[e]	Other[b]	Total
	Dollars								
Small									
Private	3,184.98	806.33	465.33[c]	230.00[c]	139.67[c]	108.33[c]	133.15[c]	26.67[c]	5,094.46
Public	2,988.27	1,441.45	321.60	175.00	311.20	122.00	61.10	455.24	5,875.86
Association	3,152.40	293.28	180.00	180.00	456.00	240.00	0.00	0.00	4,501.68
Medium									
Private	11,834.25	820.28	1,594.25	325.00	275.25	182.40	157.87[d]	385.41	15,598.09
Association	7,950.00	1,049.94	562.46	198.00	200.00	175.00	15.00	75.00	10,225.40
Large									
Private	26,334.00	4,931.63	773.90	547.73	255.00[d]	2,102.50	2,270.01	2,921.45	40,136.22
Association	19,092.00	1,512.00	2,379.00	300.00	650.00	1,792.00	638.25	3,189.33	29,552.58
All sale facilities	9,276.82	644.36	264.33	246.92	311.00	548.26	412.36	899.69	12,603.74

[a]Includes telephone use for purposes other than advertising.

[b]Major items included in this category were: 1) Social Security expenses not included in labor, 2) veterinarian expense, and 3) costs of on-farm-inspection.

[c]Information not available from two sales for this category.

[d]Information not available from one sale for this category.

[e]Included in "Barn Supplies" are all expenditures for meeting health requirements except labor.

Table 11. Annual fixed costs by size and type of sale,[a] Tennessee, 1971

Size and Type	Taxes, licenses and bonds	Insurance	Interest	Depreciation	Other	Total
	Dollars					
Small						
Private[b]	167.40	340.20	400.95	852.19	0.00	1,760.74
Public	Exempt	165.89	518.40	298.08	0.00	982.37
Association	10.00	550.00	1,150.00	0.00	0.00	1,710.00
Medium						
Private[b]	212.28	941.23	305.00	910.12	0.00	2,368.63
Association	4.50	354.75	0.00	507.00	0.00	866.25
Large						
Private	1,664.00	1,231.00	361.50	3,150.00	150.00	6,556.50
Association	11.50	274.85	0.00	0.00	0.00	286.35
All sale facilities	186.17	496.13	387.99	802.03	8.33	1,880.65

[a]For all facilities the costs shown were allocated on the basis of the percent of the total days usage of the facility for feeder pig sales. Example: Facility used 100 days in year for all purposes. Feeder pig sales held 24 days of year. Therefore: 24% of fixed costs allocated to feeder pig sales.

[b]Data not available from one firm for this category.

Table 12. Average annual revenue, costs, and net revenue per head, of pigs handled by size and type, 20 organized feeder pig sales, Tennessee, 1971

Size	Type	Average revenue from commission per head	Average fixed cost per head	Average variable costs per head	Average total costs per head	Average net revenue per head
		Dollars				
Small	Private	.67	.14	.42	.56	.11
	Public	.61	.10	.59	.69	-.08
	Association	.65	.12	.31	.43	.22
Medium	Private	.65	.09	.59	.68	-.03
	Association	.65	.03	.38	.41	.24
Large	Private	.63	.05	.30	.35	.28
	Association	.64	.00[a]	.42	.42	.22
All sale facilities		.64	.06	.38	.44	.20

[a]Actual value = $.004

based on percentage used for feeder pig sales ranged from an average of less than $.01 to $.14. The small sales had the highest fixed costs per pig, $.10 to $.14, while the large feeder pig sales had the lowest average fixed cost per pig (that is, less than $.01 to $.05 per pig, Table 12).

REVENUE AND PROFITABILITY OF FEEDER PIG SALES

Total Revenue

The average commission received per head of feeder pigs handled was $.64 for all sales and ranged from $.61 to $.67 (Table 12). These commission charges were the same for each farmer regardless of the number of pigs sold. No credit was extended for marketing charges. The charges were subtracted from the gross receipts of the farmer before the farmer received his payment.

All sales accepted pigs from outside the county where the sale was located. Four sales returned part of the marketing charge to the local livestock association of out-of-county producers who used the sale. No sale operators made additional charges to producers located in other counties.

Net Revenue

The small sales that operated in public facilities and the medium-size sales that operated in private facilities were the only ones to show an estimated net loss. For all other sales, average net revenue was $.11 to $.12 per head (Table 12). All sales covered at least their variable or operating expenses. All sales operated in association-owned facilities had a positive net revenue. The small-, medium-, and large- association owned and operated sales averaged about $3,320, $6,619, and $15,084 total net revenues per year, respectively (Table 13). Small and large sales operated in private facilities also averaged positive net revenues of about $1,350 and $36,590, respectively.

The associations used their net revenue to pay producer associations in other counties, to sponsor local service programs, to buy or replace equipment, or to make advance payments on loans to finance the association-owned sale facilities.

Return on Investment

The average return on investment was estimated for each size and ownership category. The returns on estimated present investment value ranged from less than zero to 24.4% (Table 13). The sales owned and operated by associations averaged around 16% return on the estimated value of their present investment. The owners of the large private sale facilities averaged around 24% return on the estimated value of their present investment.

Allocation of Returns and Costs Between Producer Associations and Owners of Sale Facilities

The associations that sponsored the feeder pig sales which operated in private facilities shared the revenue and costs of the sale operation with the owner. Associations paid all the advertising expenses for the feeder pig sales.

Table 13. Average annual revenue, costs, net revenue and return on investment by size and type, 20 organized feeder pig sales, Tennessee, 1971

Size and Type	Estimated value	Revenue from commissions	Annual fixed costs	Annual variable costs	Total costs	Net revenue	Net revenue after accounting for donated labor	Percent return on investment[a]
	Dollars							
Small								
Private	86,250	8,204.84	1,760.74	5,094.46	6,855.20	1,349.64	315.77	1.6
Public	40,300	6,063.37	982.37	5,875.86	6,858.23	-794.86	-1,373.43	0[b]
Association	35,000	9,531.60	1,710.00	4,501.68	6,211.68	3,319.92	3,118.32	9.5
Medium								
Private	31,550	17,384.97	2,368.63	15,574.71	17,943.34	-558.37	-1,385.25	0[b]
Association	50,000	17,710.55	866.25	10,225.40	11,091.65	6,618.90	6,051.90	13.2
Large								
Private	150,000	83,283.27	6,556.50	40,136.22	46,692.72	36,590.55	35,908.05	24.4
Association	75,000	44,922.51	286.35	29,552.58	29,838.93	15,083.58	14,578.53	20.1
All sale facilities	57,448	21,226.73	1,880.65	12,603.74	14,484.39	6,742.34	5,747.74	11.7

[a]Return before having to pay for donated labor.

[b]Negative return on investment.

Items of the operating expenses shared by the facility owner and the sponsoring producer association were office supplies, some barn supplies, and labor.

Fixed costs usually shared by the associations and the facility owners were: licenses for the weighmen, interest, and depreciation on equipment.

The associations sponsoring small, medium, and large sales were paid an average of 27.4, 20.5, and 14.0% of the total costs, respectively. These associations also received 40.0, 23.6, and 7.1% of the total net revenue, respectively (Table 14).

Producer associations operating small- and medium-size sales in private facilities appeared to have a positive net revenue. The owners of facilities in which small and medium sales were held covered their variable cost but did not cover their fixed costs. Producer associations sponsoring large sales in private facilities did not appear to be covering all their costs during 1971. However, owners of auction facilities where large feeder pig sales were held not only covered all fixed and variable costs associated with this part of their sale operation but also made a net profit of around $.28 per pig sold or around $37,215 per year (Table 15).

PROJECTED COSTS AND RETURNS FOR PROPOSED 3,000 AND 5,000 CAPACITY FEEDER PIG SALE FACILITIES

Budgets were developed synthetically for two different-size sale facilities—one having a potential capacity of 3,000 head per sale and another having a potential capacity of 5,000 head per sale (Tables 15 and 16). The primary source of information for these budgets was the 1971 records of existing medium- and large-size organized feeder pig sale facilities. Data from medium-size facilities were used in the budget for the 3,000 head capacity facility, and data from large-size facilities were used to budget the 5,000 head capacity facility.

The following assumptions were made:

1. Each facility would average being used at about 80% capacity per sale (Table 15).
2. The total revenue projected at $.64 per pig, the average for all sales in Tennessee.
3. The number of sales to be held per year were assumed to be 34 for the medium-size facility (3,000 capacity) and 42 for the large-size facility (6,000 capacity) (Table 15).
4. Interest on borrowed capital was assumed to be 7% per annum.
5. Buildings were fully depreciated after 20 years, with no salvage value.
6. Facilities would be used only for feeder pig sales.
7. All labor would be charged against each sale facility, and there would be no public service programs.

These budgets should interest either associations or individuals planning to build and operate a feeder pig sale facility. It should be noted that expenses for private owners for taxes, licenses, and bonds would be greater than the figures given in the tables; they would be less for producer associations set up as non-

Table 14. Costs and returns to producer associations and facility owners from feeder pig sales operated in privately-owned auction facilities, 11 sales, Tennessee, 1971

	Small		Medium		Large		Total	
	Association	Facility owner	Association	Facility owner	Association	Facility owner	Association	Facility owner
	Dollars							
Variable cost								
Labor	949.00	2,236.00	2,561.00	9,273.00	1,675.00	24,659.00	1,667.00	8,872.00
Advertising	806.00	-------	820.00	--------	4,625.00	307.00	1,506.00	56.00
Utilities	-----	465.00[a]	-------	1,594.00	-------	774.00	-------	1,035.00
Maintenance	-----	230.00[a]	-------	325.00	-------	548.00	-------	343.00
Stamps	104.00	36.00	158.00	117.00	125.00	130.00	128.00	83.00
Other office supplies[a]	6.00	102.00	102.00	81.00	125.00	1,977.00	63.00	435.00
Barn supplies	-----	133.00[a]	-------	158.00[b]	-------	2,270.00	-------	677.00
Other	-----	27.00[a]	23.00	362.00	-------	2,921.00	23.00	819.00
Total variable	1,865.00	3,229.00	3,664.00	11.910.00	6,550.00	33,586.00	3,371.00	11,905.00
Tot. variable/pig	.15	.27	.14	.45	.05	.26	.02	.07
Fixed cost								
Taxes, licenses, bonds	-----	167.00	-------	212.00	-------	1,664.00	-------	456.00
Insurance	10.00	330.00	-------	941.00	-------	1,231.00	10.00	716.00
Interest	-----	401.00	-------	305.00	-------	361.00	-------	359.00
Depreciation	-----	852.00	19.00	891.00	-------	3,150.00	19.00	1,284.00
Other	-----	-------	-------	--------	-------	150.00	-------	27.00
Total fixed	10.00[b]	1,750.00[b]	19.00	2,350.00	-------	6,556.00	15.00	2,951.00
Total fixed/pig	-----[c]	.14	-------[c]	.09	-------	.05	-------[c]	.02
Total cost	1,875.00	4,979.00	3,683.00	14,260.00	6,550.00	40,143.00	3,383.00	14,747.00
Total cost/pig	.15	.41	.14	.54	.05	.30	.02	.09
Total revenue	3,287.00	4.916.00	4.095.00	13,290.00	5,925.00	77,358.00	4,061.00	21,132.00
Total revenue/pig	.27	.40	.15	.50	.05	.59	.02	.12
Net revenue	1,412.00	-62.00	412.00	-970.00	-625.00	37,215.00	678.00	6,386.00
Net revenue/pig	.12	-.01	.02	-.04	-.01	.28	-----[c]	.04

[a]Information not available from two sales for this category.

[b]Information not available from one sale for this category.

[c]Less than .005.

Table 15. **Size, volume, and capacity of sale facilities and proposed sale facilities for feeder pigs, Tennessee, 1971**

	Average of 1971 facilities[a]	Proposed facility capacities	
		3,000	5,000
Total pigs/year[b]	662,740	662,740	662,740
Facilities	20	8	4
Sales/facility	24	34	42
Total sales/year	480	272	166
Pigs/sale	1,382	2,436	3.992
Pigs/facility/year	33,137	82,842	165,685
Percent of capacity/sale	46	81	80

[a]Estimated capacity of 20 out of 21 facilities/sale was 3,033 in 1971.

[b]Estimated number of pigs sold through 20 facilities in 1971, Table 1.

profit entities.

If all feeder pigs in Tennessee (about 662,740 in 1971) were sold through 3,000-capacity facilities, then only eight sale facilities would be needed—assuming each facility operated at 81% capacity and held 34 sales per year. Each facility would handle 82,842 pigs per year compared with an overall average of 33,137 pigs for all 20 facilities in 1971 or 26,722 for the medium-size facilities in 1971 (Tables 1 and 15). If only 5,000-capacity sale facilities were used in Tennessee, then only four facilities would be required for the state—assuming each facility operated at 80% capacity and held 42 sales per year. Each facility would handle 165,685 pigs per year (Table 15).

The estimated total investments in buildings and equipment were $35,240 and $112,500 for the 3,000- and 5,000-capacity facilities, respectively (Table 16). These figures represent the average estimated current value of medium and large facilities, respectively (Table 5).

The gross revenue of each of the eight (3,000 capacity) facilities was projected at $53,019 annually. Total annual costs were estimated at $22,736, of which 82% was "variable." Using marketing charges in effect in 1971, net revenue would be $30,283 annually or $137 per pig, returning $.86 per year on each dollar invested (Table 16). This unusually high return was due primarily to the projected larger volume which would be sold through these eight sales as compared with the volume of present facilities of this size.

Total costs per pig were estimated at only $.28 per pig for these 3,000-capacity facilities compared with an average of $.44 per pig for all sales in Tennessee in 1971 and $.40 per pig for 5,000-capacity facilities. The 3,000-capacity facilities, therefore, appeared to be the lower cost facility (Table 16).

If all feeder pigs in Tennessee were marketed through these eight projected 3,000-capacity facilities and if the marketing charge were lowered to where the owners of these facilities received only a 15% return on their investment, then

Table 16. Projected annual revenue, variable and fixed costs, and net revenue for 3,000 head and 5,000 head capacity feeder pig sales, Tennessee, 1971

	Average for all present facilities[a]	Proposed facility capacities	
		3,000	5,000
Total revenue ($.64/pig sold)	$21,208.00	$53,019.00	$106,038.00
Variable costs[b]			
Labor	$ 9,279.00	$11,889.00	$ 46,027.00
Advertising[c]	644.00	4,186.00	4,542.00
Utilities	264.00	1,388.00	1,576.00
Maintenance and repairs	246.00	300.00	424.00
Stamps	311.00	260.00	453.00
Other office supplies	548.00	181.00	1,947.00
Barn supplies	412.00	122.00	1,454.00
Other	900.00	323.00	3,055.00
Total variable costs	$12,604.00	$18,649.00	$ 59,478.00
Total variable costs/pig	$ .38	$ .23	$ .36
Annual fixed costs[d]			
Taxes, licenses, bonds	$ 186.00	$ 160.00	$ 838.00
Insurance	496.00	824.00	753.00
Interest	388.00	1,303.00	2,124.00
Depreciation	802.00	1,800.00	2.954.00
Other	8.00	--	--
Total annual fixed costs	$ 1,881.00	$ 4,087.00	$ 6,669.00
Total annual fixed costs/pig	.06	$ .05	$ .04
Total costs	$14,484.00	$22,736.00	$ 66,147.00
Total costs/pig	$ .44	$ .28	$ .40
Total net revenue	$ 6,724.00	$30,283.00	$ 39,891.00
Total net revenue/pig	$ .20	$ .37	$ .24
Total investment/facility	$57,500.00	$35,240.00	$112,500.00
Total investment/pig capacity	$ 18.96	$ 11.75	$ 22.50
Return on investment	12%	86%	35%

[a]Average capacity of all facilities was 3,033.

[b]See Table 11 for variable cost by size and type of sale.

[c]The 3,000- and 5,000-head capacity facilities were budgeted with a cost of $.02 per pig for state livestock association advertising in addition to other advertising costs.

[d]See Table 12 for annual fixed costs by size and type of sale.

farmers would have to pay only $.34 per pig in marketing charges compared with $.64 per pig charged in 1971. This reduction would have saved Tennessee farmers just under $200,000 in marketing charges in 1971.

The total revenue for each 3,000-capacity facility in this situation would be projected at $28,166 instead of the $53,019 in Table 16. The operating costs would remain the same while the total net revenue would be reduced to $5,430 annually or $.07 per pig.

CONCLUSIONS

Results of this study indicate that some inefficiencies may exist in the present system of marketing feeder pigs through organized sales in Tennessee. The increases in the number of sale locations and the number of sales held each year reduced the average volumes for all sales, causing relatively high marketing costs of all concerned with this important service.

Sales volume is the most important factor determining the success or failure of any feeder pig sale operations. Sales conducted in association-owned facilities, on the average, were the only ones that operated with a positive net revenue regardless of the level of volume. However, it is recommended that feeder pig associations planning to start a sale should proceed to establish and operate their sale facilities only if at least 1,200 pigs per sale can be expected to be available. There is little justification for any feeder pig sale to be started where a volume of at least 1,200 head per sale would not be available.

The budgets developed for sales with a 3,000-head capacity suggest that the operation of feeder pig sales could be a very profitable venture if the conditions assumed in deriving the budgets were to exist. If all feeder pigs in Tennessee were sold through sales of 3,000-head capacity, the marketing charges would be reduced by $.30 per pig. The facility owner would receive a 15% return on his investment, and the additional income to farmers would be just under $200,000 annually. In large (5,000-head capacity) facilities, the marketing costs would be higher.

These cost estimates suggest that 8 to 12 strategically-located sale facilities would have the capacity and economies of size to handle all feeder pigs now sold through 21 organized sales in Tennessee. Further study concerning the costs incurred by buyers of pigs from Tennessee feeder pig sales and the costs incurred by pig producers selling through the organized feeder pig sales is needed before the analysis of the organized feeder pig marketing system can be adequately completed. Research dealing with the costs incurred by other feeder pig marketing channels—such as private contracts, tele-auctions, dealers, and direct sales—would also aid the study of the organized selling of feeder pigs.

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