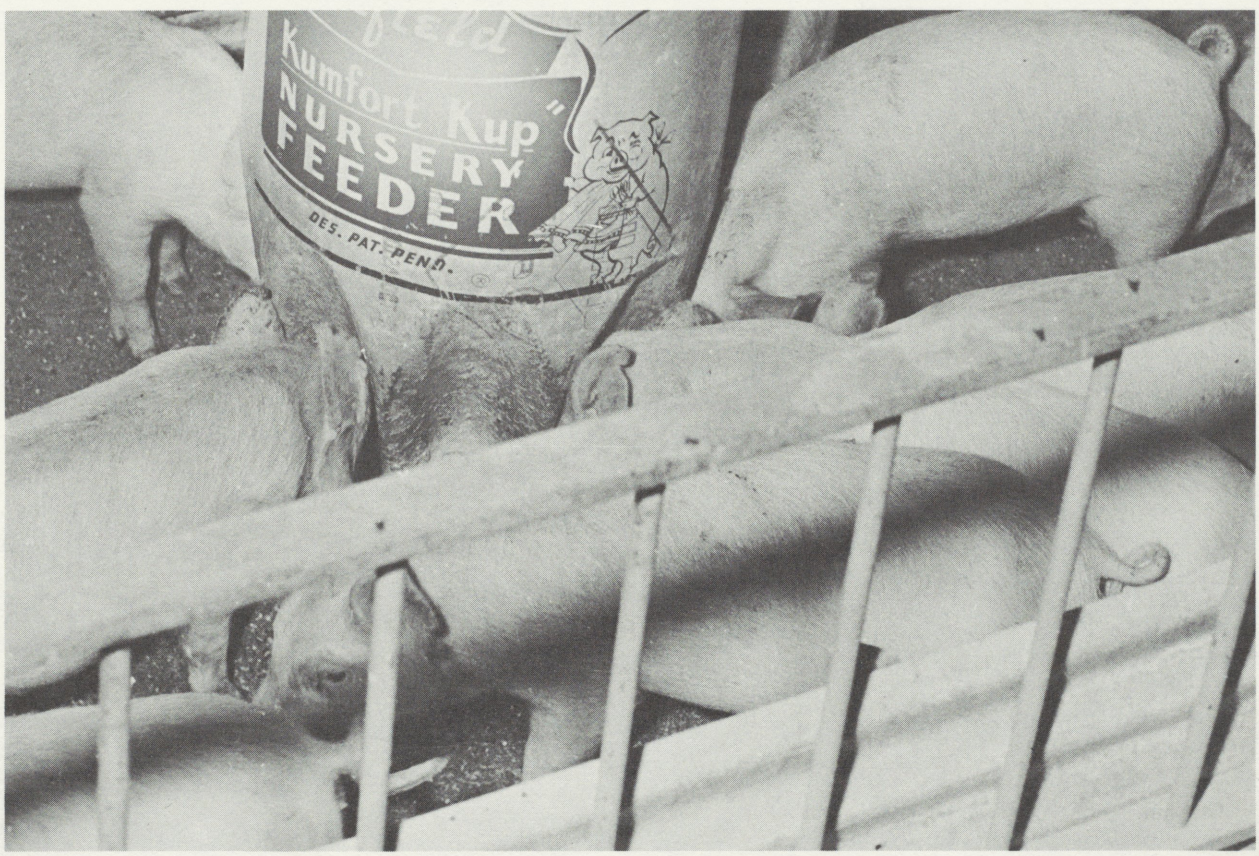
Swine - Marketing

FEEDER PIG MARKETING AND PRICING IN ILLINOIS

by Gerald L. Karr



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PREFACE

The following investigation was supported by funds allocated by the Illinois Department of Agriculture for research on labor intensive enterprises. One such enterprise is the production of feeder pigs. While this report does not include an examination of producers' practices, it does present the marketing and pricing of feeder pigs in such a way that producers may use the information to make adjustments in their production patterns.

Recognition is due to the farmers of Northern and Central Illinois who provided the basic data necessary for this study. Also, it should be noted that the officials of the Benton Livestock Association and the Illinois Producers Livestock Association supplied much of the background information needed for this project. Special acknowledgment is due to Dr. Walter Wills and Dr. Herman M. Haag for their encouragement throughout this entire research project. A debt of gratitude is owed to the three interviewers, Forest Muir, Robert Torrens, and Arthur Wright, who ably assisted with the collection of the data. Also, it should be mentioned that the data were compiled and analyzed with the aid of Bruce Davis of the Southern Illinois University Computing Center and Gene Perkins of the School of Agriculture.

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Gerald L. Karr*

Introduction

Specialization has developed within the swine industry for a number of reasons. However, three factors seem to be of major importance. First, the increased initial capital investment required for either a feeding or a farrowing operation has encouraged many farmers to specialize in order that they might increase output and thus gain benefits of scale. This larger capital investment often results in less flexibility for the individual farmer. Second, specialization has been encouraged by the wide-spread introduction of such practices as continuous feeding and multiple farrowing. Farmers adopt these practices in order to have a year-round income with receipts each month instead of once or twice a year. A third factor that has become quite important in the past few years is the greater knowledge needed by individual farmers to manage certain enterprises. Modern agriculture requires that a successful farmer be an authority on each of the enterprises on his farm. As the techniques of agricultural production change and the size of operations increases, it becomes necessary that a farmer limit the number of enterprises he manages.

A livestock feeder has only two sources of feeders. He must either maintain a sow herd and produce his own or depend upon a feeder pig market to supply his needs. The present trend is toward specialization, and many feeders feel that the most economical use of their resources is a straight feeding operation rather than a combined farrowing-feeding system. Therefore, these feeders are interested in buying feeder pigs with certain definite desired characteristics.

An unpublished farm management study by this author[1] reports that certain areas within Southern Illinois are now supplying a limited volume of such desired pigs. However, the economic potential of the feeder pig enterprise in Southern Illinois has not yet been fully utilized. Also noted in this study was considerable underemployment of present producers, which

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[1]Gerald L. Karr, "The Economic Potential of the Feeder Pig Enterprise in Southern Illinois," unpublished Master's thesis, Southern Illinois University, September, 1961.

indicates a need for expansion of labor-using enterprises such as feeder pigs or the need for off-farm employment or both. This need for additional use of labor is shown by unpublished farm management studies by Herr[2] which point out that underemployment is one of the reasons for relatively low farm incomes in Southern Illinois.

This report is essentially of two parts. The first section deals with the information already available concerning the feeder pig industry in Illinois and other important feeder pig producing states which will be of value to Illinois producers. The second section reports the results of a study of the current status of feeder pig purchasing by farmers in two areas of Northern Illinois and the purchasing and pricing problems encountered by these farmers.

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[2]William M. Herr, unpublished studies of five areas in Southern Illinois.

PART I--THE FEEDER PIG INDUSTRY

Considerable information has been developed to describe and explain the development of feeder pig production, marketing and pricing practices. Such information available for Illinois and, when pertinent, from nearby states is presented in this section.

Growth of Markets in Southern Illinois

In 1959 the Illinois Livestock Marketing Association, a Farm Bureau affiliate, began a program to produce and market quality feeder pigs in Illinois. As of the middle of 1962, nearly 400 Southern Illinois farmers with more than 10,000 sows were producing feeder pigs for Northern and Central Illinois livestock feeders. This Illinois Association, during its first three years of operation, loaned its producers in Southern Illinois $285,000 to finance breeding herd improvement. During the past fiscal year, feeder pigs with a value of more than $1,000,000 were marketed for the farmers of this area. The monthly volume of pigs handled by the Association now exceeds 9,000. This marketing program is expected to continue to expand and to put more dollars into circulation in the Southern Illinois economy.[3]

The Benton Livestock Association is another market that has played an important role in stimulating feeder pig production. Located in Franklin County, the Benton Association has provided a market outlet for farmers wishing to market feeder pigs through a pooled auction. Here pigs are sorted by a state livestock extension specialist into lots according to grade, weight, and breed. This farmer-owned and operated auction conducted eight special feeder pig sales during 1962. Future plans are to have a sale each month and, thereby, provide a continuous source of pigs for interested livestock feeders.

Another such farmer-owned auction is now operating at Albion, Illinois.[4] This auction handles fewer pigs than are handled at Benton and more of the pigs remain within the same area for feeding.

Some feeder pigs produced in Southern Illinois are handled by private auctions and dealers. Limited information is currently available on their operations.

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[3]Illinois Livestock is now organized under the name of Illinois Producers Livestock Association. Information concerning their growth was supplied by James McKean, head of the feeder pig department and by reports of the marketing committee of the Farm Bureau.

[4]The auction at Albion is organized under the name of Southeastern Livestock Association.

Feeder Pig Movement and Related Regulations

As will be noted later, a large share of the feeder pigs sold through the markets of Southern Illinois is moved to feed lots in Northern and Central Illinois. This indicates a steady movement of pigs from a grain deficit area to a grain surplus area within this state.

In addition, the United States Department of Agriculture reports that in-shipments of feeder pigs to the State of Illinois had increased by two and one-half times between 1950 and 1960. These originated primarily in Tennessee, Missouri, Arkansas, and Wisconsin.

Complicating both the interstate and intrastate movement of feeder pigs has been the increase in marketing and shipping regulations regarding swine. In 1961 the State of Illinois put into effect a law providing for the regulation of certain activities of feeder pig dealers. The principal objective behind the Illinois law and the resulting regulations covering interstate movement of swine has been that of disease control.

Production and Marketing in Other States

The production and marketing of feeder pigs might be expected to be of importance in parts of Arkansas, Kentucky, Minnesota, Missouri, Oklahoma, South Dakota, Tennessee, and Wisconsin.[5] In general, feeder pig production is of primary importance in states bordering the corn belt. In most cases, these areas have deficits in corn production.

In Kentucky, feeder pigs represented 26 per cent of the total number of hogs received at auction markets in 1955.[6] Nearly 20 per cent of these pigs was resold by speculators to livestock feeders in the States of Illinois, Indiana, and Ohio. Many feeder pig sales are now held under the sponsorship of the University of Kentucky and the Division of Markets of the State Department of Agriculture. At these sales, the average price of feeder pigs in 1962 was $14.79 per head, and the average weight was 57 pounds.[7]

Tennessee also produces a surplus of feeder pigs. Presently the majority of these pigs is handled by country buyers. Robinson[8] cites the opportunity in Tennessee for country livestock associations or other farm groups to conduct organized feeder pig sales. He suggests that such organized sales would furnish a regular market for pigs and would increase the income of many small farmers.

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[5]Robert W. Rudd, "An Analysis of Feeder Pig Prices in Central Kentucky," Kentucky Agr. Exp. Sta. Bulletin 584, April, 1952, p. 3.

[6]E. D. Gooch and C. D. Phillips, "Changes in the Market Movement of Kentucky Livestock," Kentucky Agr. Exp. Sta. Bulletin 672, 1960, pp. 28-29.

[7]As reported by James M. Koepper, Agricultural Statistician, Kentucky Crop Reporting Service.

[8]John S. Robinson and Joe W. Houston, More Money from Hogs, University of Tennessee, Publication 391, February, 1960, p. 49.

Southern Missouri is a third important feeder pig production area. In 1950 farmers in three Southern Missouri counties scheduled the first feeder pig sale in that state and sold some 2,200 pigs. Since then, the idea has grown into a program held under the joint sponsorship of local county livestock producers' associations and the Missouri Agricultural Extension Service. Most buyers attending these sales held semi-annually are from corn belt states.[9]

A fourth important production area for feeder pigs is the State of Wisconsin. Here the Wisconsin Feeder Pig Marketing Cooperative claims to handle 60 per cent of all feeder pigs shipped out of the state. It is estimated that about 17 per cent of all pigs produced in Wisconsin is marketed as feeder pigs. The production of feeder pigs is often used as a sideline enterprise with dairying.[10]

A 1958 survey in Minnesota indicated that nearly 40 per cent of Minnesota farmers purchased feeder pigs during a nine-month period. More than one-half of these pigs were bought through dealers and one-third from farmers. These dealers and farmers generally lived in the same or a nearby county. A second survey in 1961 discovered that 11 per cent of the hogs and pigs marketed in Minnesota was sold as feeder pigs. The two major market channels reported in this survey were farmer-to-farmer sales and sales handled by dealers.[11]

As the production of feeder pigs increases in states bordering the corn belt, the equity of prices becomes of greater concern to sellers and buyers. Thus it becomes more necessary that both feeders and producers have a clear understanding of the marketing and pricing process.

Type of Product

Livestock feeders when looking for feeder pigs to fill their feed lots seek a product with special characteristics. One report stated that feeders want pigs weighing between 35 and 55 pounds.[12] Doane Digest[13] noted that feeders were looking for regular supplies of 40-to 70- pound pigs.

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[9]Dick Lee, "Feeder Pig Sales," Breeder's Gazette, June, 1958, pp. 8-9.

[10]Information reported by C. D. Caparoon, Agricultural Statistician, Wisconsin Crop Reporting Service.

[11]Information supplied by F. J. Graham, Agricultural Statistician, Minnesota Crop Reporting Service.

[12]"Buying Feeder Pigs Fits Many Farms," Wallace's Farmer, March, 1959, p. 44.

[13]The February 2, 1963, release of Doane Agricultural Digest.

A study[14] of prices paid at the Benton auction during 1960 showed that pigs classified as "blacks and Hamps" received the highest prices, while those classified as "spots and reds" were discounted quite severely by buyers. Sale prices showed an average of 5 cents per pound difference between the two groups.

The factors that appear as the most important when the livestock feeder considers his purchases, however, are those of quality and livability. Quality may include the relative healthiness and vigor of the pigs as well as their "gainability" and inherited meat-type characteristics. Livestock feeders are looking for sleek-haired and thrifty pigs that will finish out as No. 1 or No. 2 hogs at a market weight of 220 pounds. Pigs that indicate a potentially high rate of gain and meat-type ancestry are worth much more as feeders. Pigs that are free of disease and parasites and that have been vaccinated for cholera and erysipelas are also more desirable. The problem faced by purchasers is the difficulty of judging future feed efficiency and market grade of feeder pigs.

Factors Affecting Price

The factors affecting the price of feeder pigs actually includes more than the characteristics of the product mentioned above. Robinson[15] noted four factors used by buyers in their decisions concerning prices to pay for feeder pigs: (1) expected price for market hogs, (2) feed costs, (3) amount of feed required to get pigs to market weight, and (4) other costs such as labor, equipment, veterinary bills, and death losses.

Barnhart and others[16] in a study of the feeder pig enterprise in Kentucky noted that feeder pig prices bear a close relationship to the price of slaughter weight hogs. Later in this same study it was pointed out that the price livestock feeders are willing to pay for feeder pigs is determined largely by the price they expect to receive for slaughter hogs and the current price of corn. Barnhart further suggested that when the hog-corn ratio is favorable for feeding, feeder pigs will usually sell at a premium above slaughter weights. On the other hand, if the hog-corn ratio is unfavorable, feeder pigs will be discounted in price relative to slaughter hogs. The producer of feeder pigs must consider some of the same factors when deciding to sell his pigs. The following points were brought out in the Kentucky article and are of major importance to the producer in making his marketing decisions:

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[14]Karr, op. cit., pp. 44-45.

[15]Robinson and Houston, op. cit., p. 49.

[16]C. E. Barnhart, Robert W. Rudd, and Grady Sellards, "The Feeder Pig Enterprise in Kentucky," Kentucky Ext. Serv. Circular 549, pp. 15-23.

1. The present weight and value of his pigs,
2. The cost of the feeding ration for his pigs,
3. The rate of gain he can reasonably expect per pound of feed, and
4. His best judgment, based on available information, as to the future price of pigs and slaughter weight hogs.

The hog-corn ratio is commonly used to reflect the relative profitability of feeding corn to hogs compared with selling it on the market. In fact, tables[17] have been developed that relate the price of corn and the expected price of market hogs to the price which can be paid for feeder pigs.

Rudd[18] used Kentucky data to develop a multiple correlation of the hog-corn price ratio, the feeder pig-slaughter hog supply ratio, and the feeder pig-slaughter hog price ratio. This correlation suggested that 83 per cent of the annual variation in the feeder pig-slaughter hog price ratio was associated with variations in the feeder pig-slaughter hog supply ratio.

In another study[19] the importance of weight upon the price of given lots of feeder pigs was noted. The weight-price relationship would be expected to follow some definite pattern, reflecting the "gainability" of pigs at different weights. However as noted in this study, two of the principal marketing agents in Southern Illinois had quite different weight-price relationships. The effect of weight upon price may also be influenced by the season of the year.

Seasonal Variation in Prices

Rudd[20] noted definite seasonal variations in prices paid for feeder pigs in Central Kentucky. In an examination of prices paid over a 23-year period, the seasonal low occurred in December. Receipts of feeder pigs at Central Kentucky markets during this same period averaged highest in October and lowest in June. This seasonal variation in price made a difference of $4.00 per 100 pounds for feeder pigs sold within a year. In years with a rising general price level, this study showed that the seasonal high level of prices for feeder pigs persisted from the normal July peak through August and September.

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[17]Examples of such tables are presented by Lee M. Day, Robert Grummer, and M. A. Schaars, "Feeder Pigs - When to Buy, When to Sell," Wisconsin Ext. Serv. Circular 36, December, 1954.

[18]Rudd, op. cit., p. 36.

[19]Karr, op. cit., pp. 42-44.

[20]Rudd, op. cit., pp. 15-21.

The seasonal price pattern for feeder pigs differed in one respect from the seasonal price pattern for market hogs. The seasonal price index for market hogs shows a primary peak in September and a secondary peak in March, while that for feeder pigs reached a single peak in July.

Cyclical Variation in Prices

Rudd's analysis shows that the cycles in feeder pig prices are three to eight years in length, which corresponds quite closely to the cyclical movement of slaughter hog prices. The receipts of feeder pigs on the Kentucky markets showed cyclical movements which, although quite irregular and violently fluctuating, appeared to correspond roughly to cycles in national slaughter hog marketing.

Pricing Methods

There are a number of ways in which the price may be established for a given lot of feeder pigs. The method of pricing used by Illinois Producers Livestock Association is worthy of mention. Most of the pigs handled by this Association are marketed by a type of private sale between the Association and the livestock feeder. Their producer's contract states that the minimum price to be paid producers is to be established by a formula based on the Association's top market hog price.[21] If this minimum were effective, prices expected by livestock feeders would not be reflected in the prices paid for feeder pigs. However, officials of the organization report that the formula price, which acts as a minimum guarantee for their producers, has seldom been used because the demand for feeder pigs has been strong enough to hold prices above the minimum. In quoting prices for feeder pigs, the Illinois Producers Livestock Association uses the prices paid to producers as a base. This price is established by a standard price for a 40-pound pig with so much a pound adjustment for weights over and under 40 pounds.

A second important type of market in Southern Illinois, the pooled feeder pig auction,[22] has no contracts or minimum guarantees. In this auction the supply of pigs available at the sale and the demand expressed by buyers present set the price level for a given sale. Prices at this auction fluctuate substantially throughout the marketing year.

Livestock dealers often will price feeder pigs to a livestock feeder on a cost-plus basis by adding a margin to the prices they are required to pay producers for pigs. The actual margins a dealer can expect to obtain do depend, however, upon the general demand for feeder pigs.

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[21]Illinois Producers Livestock Association operates a number of local markets in Northern Illinois.

[22]The most important auctions of this type are at Benton and Albion, Illinois.

In the February, 1963, issue of the Doane Agricultural Digest, a report indicates that potential profits are about evenly split between the pig producer and the feeder when 40-pound feeders are priced at 1.8 times the price of top market hogs. For pigs of heavier weights an equal division of potential profits would be accomplished by the following ratios of feeder prices to those in the slaughter hog markets:

WEIGHT, POUNDS	FEEDER PIG-SLAUGHTER HOG PRICE RATIO
50	1.7
60	1.6
70	1.5
80	1.45
90	1.4
100	1.35

The weakness of this system is its failure to reflect the market price of hogs at the time they are finished. A type of contract arrangement could be developed under which producers are paid an established base price at the time of purchase with an additional payment at the time of marketing, depending on the price of market hogs at that time. Under such an arrangement the pig producer and the livestock feeder would share the returns from their combined operations.

Several swine marketing contracts are presented by Frazier and others.[23] While most contracts presented in this article are for the livestock feeders who produce and finish hogs for others, similar contracts between feeder pig producers and livestock feeders could be developed.

Price Expectations

To the farmer, price is a matter of almost daily concern. He must follow current developments closely if he is to sell his products at a time when they will yield the greatest returns. Thus, livestock feeders and feeder pig producers need reliable information on probable future prices in order to plan their production schedules.

Considerable evidence supports the conclusion that most farmers generally base their plans for the future on current prices rather than some forecast of the future prices. Using three different assumptions concerning future prices, Schultz and Brownlee[24] interviewed 96 farmers concerning hog

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[23]Thomas L. Frazier, J. H. Padgett, and J. C. Thompson, "Some Effects of Vertical Integration on Hog Marketing Practices in Georgia," Georgia Agr. Exp. Sta. Mimeographed Series N. S. 100, May, 1960, pp. 12-26.

[24]T. W. Schultz and O. H. Brownlee, "Two Trials to Determine Expectation Models Applicable to Agriculture," Quarterly Journal of Economics, Vol. LVI, 1942, pp. 487-496.

prices expected during nine months of the future. They found that these farmers based their price expectations largely on current prices rather than an attempted modification on the basis of changing conditions. This relationship between present and expected prices was not changed by location, tenure, age, or education of the farmers interviewed.

PART II--THE FEEDER PIG MARKET IN NORTHERN ILLINOIS

Objectives

One of the basic objectives of this entire study was to determine by direct contact with livestock feeders, the major marketing and pricing problems in the feeder pig industry. Once these problems were discovered, the second objective was to suggest improvements in both pricing and marketing of feeder pigs that would result in a "fair" price both for producers and livestock feeders. In the process of meeting these objectives, the major factors affecting price must be clarified.

Selection of the Sample[25]

To provide more current information about the market in Northern Illinois for feeder pigs from Southern Illinois and other areas, a study of that market was planned. Available data indicated that a properly chosen sample of hog producers in 12 Northern Illinois counties located in two areas could be expected to provide representative information about feeder pig purchasers and their purchases in Illinois. More than 55 per cent of the known feeder pig buyers patronizing the two principal feeder pig markets in Southern Illinois during the three years, 1960-62, was located in these counties, shown in Figure 1. An earlier study by this author reported that large volumes of feeder pigs sold by the Illinois Producers Livestock Association were being fed out in Bureau, Champaign, DeKalb, LaSalle, and Lee Counties.[26] This study also found that the general movement of feeder pigs from this market was northward and that 55 per cent of them moved more than 100 miles in that direction. Second, one-third of the licensed pig dealers[27] was located in these 12 counties and were especially numerous in Carroll, McLean, and Whitesides Counties. Third, more than one-fourth of the state's hog population on January 1, 1962 was in these two areas.[28]

The Sample

A geographically selected sample was chosen. At sixty well-distributed centers within the areas, a cluster of 15 farmers were

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[25]A more detailed statement regarding the sampling procedure will be provided upon request.

[26]Karr, op. cit.

[27]Additional information about the role of the dealer in feeder pig marketing is presented in Publication No. 18 of the School of Agriculture, Southern Illinois University.

[28]"Illinois Agricultural Statistics," Illinois Cooperative Crop Reporting Service. Bulletin 62-1, March, 1962, pp. 70-73.

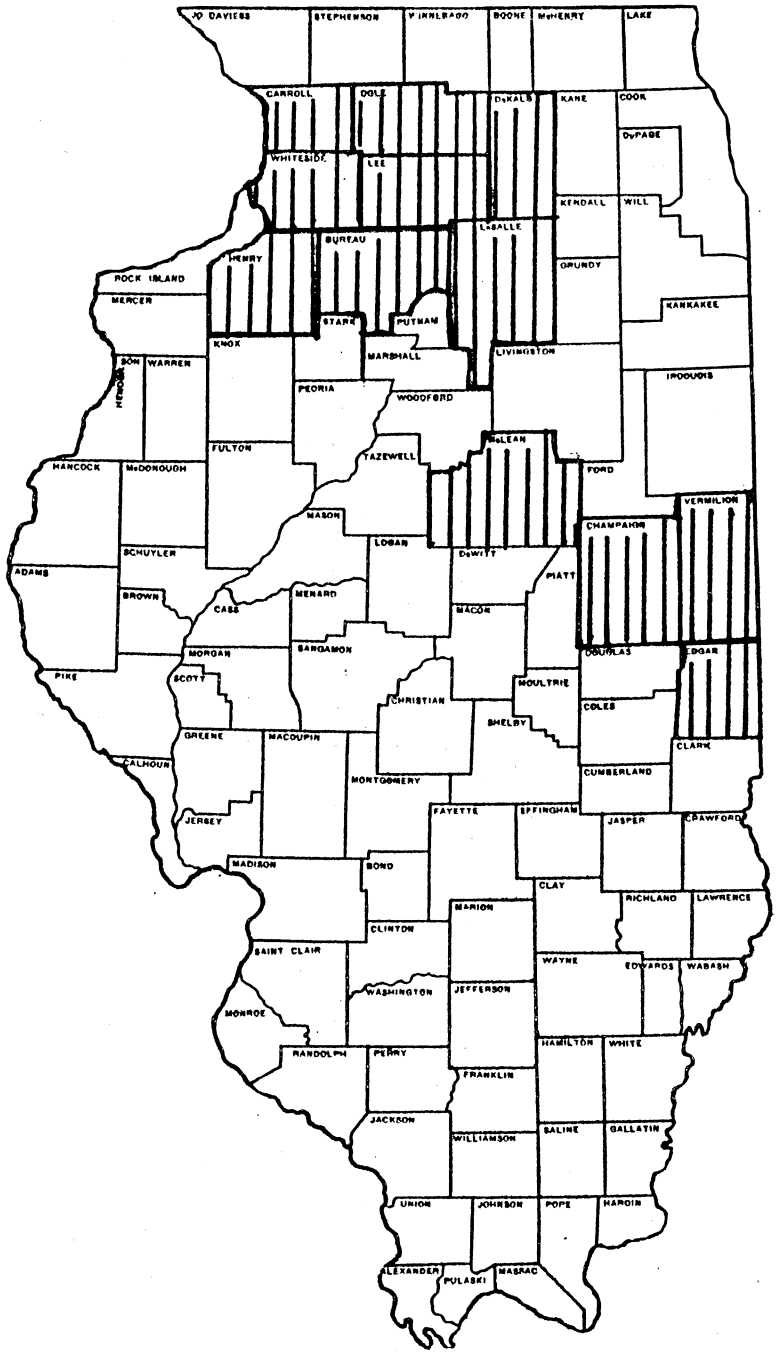

Figure 1. Location of Counties Included in This Study

interviewed. These clusters ranged from three in Carroll County to eight in LaSalle County and varied by size of county. Starting at a selected point and following a uniform system of travel, every farmer located on this route was interviewed until 15 had been contacted. Two types of questionnaires were used. A detailed one was completed for farmers who had bought feeder pigs in the period from January, 1960, to August, 1962, the month in which the survey was made. A shorter one was required of farmers who had not bought feeder pigs during this period. Schedules were not obtained from residents on farms who did not qualify as farm operators, although they were included in the 15 predetermined contacts in each cluster.

These clusters involved 892 potential farm units from which 92 usable buyer records and 491 non-buyer farm records were obtained. It was anticipated that these interviews would yield records for 180 to 200 feeder pig purchasers. The area had both a larger percentage of non-farmers and a smaller percentage of farmers who bought feeder pigs than had been expected. Only 16 per cent of the farmers responding instead of the 20 to 25 per cent forecast was buying feeder pigs. Of the farms with hog enterprises during the past three years, however, more than 24 per cent had bought feeder pigs.[29]

Since additional records from feeder pig purchasers were considered necessary for a representative sample, these were obtained by interview of 84 such purchasers in 30 townships other than the 60 in which the more complete survey was made. Finally, 179 records of farmers who purchased feeder pigs were available but 10 of these were incomplete. This number was considered adequate to provide a satisfactory cross section of the feeder pig market in the two most highly specialized swine producing areas of Northern Illinois.

General Characteristics of Farms Studied

The general characteristics of the farms studied are of importance to an understanding of the feeder pig market. These farm units were classified into three different types as follows: (1) farms using purchased pigs in their swine programs, (2) farms finishing only those pigs farrowed on their farms, and (3) farms without swine enterprises.

Of the 583 usable schedules obtained in the 60 townships included in the first survey, 92 or 15.8 per cent involved feeder pig purchasers, and 289 or 49.6 per cent reported swine enterprises but did not buy feeder pigs. The other 202 or 34.6 per cent did not raise hogs.

Size of Farms in Acres

According to the Agricultural Census, the average size of farms located in the 12 counties was 190 acres in 1954. By 1959 the average

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[29]The feeder pig survey conducted by the Illinois Crop Reporting Service revealed that more than 23 per cent of the farms reporting hogs had purchased feeder pigs in 1961.

TABLE 1

Percentage Distribution of Farms Surveyed by Acreage, August, 1962, with Comparisons with Census Data, 1954 and 1959

Area and Year of Report	Percentage Distribution of Farms by Acreage					
	0-99	100-179	180-259	260-499	500-up	Total
State of Illinois[a]						
1954	32.5	28.1	19.8	16.8	2.8	100.0
1959	29.1	25.2	20.2	21.1	4.4	100.0
Twelve Counties in Survey[a] (all farms)						
1954	22.3	32.5	23.8	18.9	2.5	100.0
1959	20.3	28.4	24.5	23.0	3.8	100.0
Farms Surveyed, 1962						
Buy Feeder Pigs	4.3	23.9	20.7	39.1	12.0	100.0
Farrow Pigs Sold	9.7	28.0	30.1	26.0	6.2	100.0
No Swine Enterprise	18.3	37.1	17.3	20.3	7.0	100.0
All Farms	11.8	30.5	24.2	26.1	7.4	100.0

[a] United States Census of Agriculture, 1954 and 1959

farm size in these counties had increased to 209 acres. Nearly 27 per cent of the farms in 1959 contained 260 acres or more, and more than one-half had 180 acres or more (Table 1). Farms in the sample areas were larger than the farms in the state as a whole.

The average size of all the farms visited during the course of this study was 266 acres. The distribution of farm units by acreage was quite different for the three types of farms visited. For example, farms not having any type of swine enterprise were mainly grouped in the 100 to 179 acre classification, and only 27 per cent had 260 acres or more. The largest percentage of farms feeding hogs but not buying feeder pigs was in the 180-to 259-acre group with 32 per cent with 260 acres or more. Feeder pig buyers were on even larger farms with the largest per cent of them operating units of 260 to 499 acres and with more than one-half of them on farms of 260 acres or more. The complete distribution for the three classes of farms appears in Table 1.

Number of Hogs Fed

The Agricultural Census reported that the average number of hogs sold alive per farm in the 12 counties was nearly 90 head in 1954 and more than 149 head in 1959. For the farms reported in this study, an average of 158 hogs per farm was fed and marketed in 1961. This average increased to 159 head in 1962. The average volume of hogs finished on farms buying feeder pigs was considerably larger than the volume handled by all hog producers surveyed (Table 2). Feeder pigs apparently were purchased by the larger hog feeders.

TABLE 2

Average Number of Hogs Fed by Feeder Pig Purchasers by Years and Size of Swine Enterprise, 1960-62

Year	Number of Hogs Fed in 1962			
	0-199	200-399	400-up	All
	(Average Number of Hogs Fed)			
1960	107.0	272.9	646.5	274.5
1961	120.9	265.0	708.9	301.1
1962[a]	81.8	268.8	702.1	282.3

[a]Each livestock feeder was asked to indicate the total number of market hogs he planned to finish during the remainder of the year.

Not all market hogs fed on the farms using feeder pigs were purchased as feeder pigs, but there was gradual decrease in the percentage of pigs

farrowed on these farms (Table 3). This suggests a growing importance of purchased feeder pigs on Illinois farms.

TABLE 3

Market Hogs Farrowed as a Per Cent of Total Number Marketed on Farms Surveyed, by Years and Size of Swine Enterprise, 1960-62

	Number of Hogs Fed, 1962			
Year	0-99	100-399	400-up	All
	(farrowed as per cent of total marketed)			
1960	20.1	35.4	22.7	26.2
1961	14.2	33.8	20.5	22.9
1962	23.2	27.2	17.6	21.2

Livestock Inventories

Most farms with purchased feeder pigs in their management programs were organized with livestock feeding and the production of feed grains as principal enterprises. Nearly 45 per cent of the total land farmed was utilized for the production of corn. Feeder cattle and market hogs were the two important livestock enterprises (Table 4).

TABLE 4

Average Livestock Inventory on Sample Farms August and September, 1962

Enterprises	Number of Farms Reporting	Average Inventory
Beef Cows	168	4.8
Feeder Cattle	168	43.7
Dairy Cows	170	3.1
Sheep	171	21.1
Poultry	169	29.4
Sows	168	6.1
Market Hogs	161[a]	120.0

[a]Most of these data were collected during NFO's livestock holding auction. Because of this organization's actions, a few farmers were unwilling to report hog numbers.

Capital Investment in Swine Operation

Some feeders maintain a small sow herd as one way of adjusting the number of feeder pigs they have to buy at any given time. Also, they seem to believe that it is necessary to feed a minimum number of hogs each year in order to justify certain large capital investments such as a feeding floor. While the maintenance of a sow herd may increase the feeder's flexibility in the buying of feeder pigs, it may on the other hand reduce the over-all flexibility of the swine enterprise in that a certain minimum level of capital investment also is necessary for farrowing. As Table 5 shows, the capital investment which is the farmer's estimate of the replacement value of all equipment and buildings varied disproportionately with the number of hogs fed.

TABLE 5

Average Capital Investments and Measures of Enterprise Flexibility on Farms Surveyed, by Size of Swine Enterprise, 1962

	Number of Hogs Fed, 1962			
	0-199	200-399	400-up	All
Average Capital Investment in Swine Enterprise	$2,006[a]	$2,174	$4,769	$2,734
Maximum Number of Hogs with Present Investment	351	472	1,159	574
Minimum Number to Cover Present Investment	92[b]	146	323	161
Actual Marketings, 1962	82	269	702	282

[a]The average level of investment in this group may be a little high, because some small feeders could not estimate their capital investment.

[b]It should be noted that small feeders were feeding an average of 82 head in 1962. Some feeders in this class were unwilling to answer this question.

Flexibility of Changes in Enterprises

With the increased use of capital, relative to labor requirements, many livestock enterprises may become less flexible. Swine feeding is no

exception, for hog feeders have attempted to take advantage of the economies of scale by construction of large feeding floors. Such investments in feeding floors and special feeding equipment make it difficult to make rapid adjustments in the size of a market hog enterprise.

It may be assumed that the larger the capital investment in the swine enterprise the less flexibility the operator has in shifting enterprises. To examine this assumption, each feeder was asked to state the maximum number of hogs he could handle with his present capital investment. He was also questioned as to the least number of hogs he would have to handle each year in order to cover the fixed costs of their capital investments. Data presented in Table 5 show a wide difference between the "maximum" and the "minimum" number of hogs to be handled with present investments and indicate that hog producers do have considerable flexibility to change the size of their enterprise.

Management Practices

Livestock feeders utilizing feeder pigs in their swine programs have found it quite important to be extremely careful in their handling of newly purchased pigs. Pigs have usually been under great stress during marketing. Thus care needs to be taken to prevent death loss and to get the pigs off to a fast start in the feed lot.

It is desirable to isolate all new pigs arriving on the farm to prevent the spreading of disease. Nearly 91 per cent of the feeders interviewed stated that they kept all new pigs separated from other farm stock. Most feeders kept pigs isolated for at least two weeks. More than 70 per cent of the livestock feeders put new pigs on some type of a stress ration shortly after arrival. Some feeders were using a stress ration which consisted of a bulky, low protein feed, while others were using a regular feeding ration fortified with a high level of antibiotics.

New pigs were treated for mange within the first few weeks on the farm by 83 per cent of the purchasers. Also, 85 per cent of the feeders followed a definite worming program after the pigs had had time to adjust from the initial stress of marketing.

One of the major management problems of a livestock feeder is the possibility of a serious disease outbreak. Of the feeders interviewed, 35 per cent reported they had had a serious disease problem on at least one occasion in their experience with purchased feeder pigs. Several of these situations had happened some time in the distant past. A feeder can prevent such diseases as cholera and erysipelas by purchasing properly vaccinated pigs. Most other diseases can likewise be prevented by buying pigs through organized health-inspected feeder pig sales, established marketing cooperatives, dependable licensed dealers, or producers with healthy breeding stock. Disease problems noted by livestock feeders are summarized in Table 6.

Future Plans

The livestock feeders interviewed during the course of this study expected a continuing increase in the use of purchased feeder pigs. As an

TABLE 6

Disease Problems Noted by Livestock Feeders Interviewed, 1962

Disease	No. of Reports	Per Cent
Black Scours (bloody scours)	13	20.0
Virus Pneumonia	11	16.9
Rhinitis	10	15.4
Erysipelas	7	10.8
Necrosis	7	10.8
Cholera	6	9.2
Other Diseases[a]	11	16.9

[a]This includes reports of gut edemia, T.G.E., yellow scours, and Salmonellosis.

indication of the future potential of the feeder pig enterprise, each buyer was asked what expansion he was planning in the use of purchased pigs within the next two years. Although the average increase in purchased pigs by all farmers

TABLE 7

Expected Number of Feeder Pigs to Be Used Two Years Later by Swine Feeders Interviewed, by Size of Enterprise, 1962

Number of Pigs and Per cent Change	Number of Hogs Fed, 1962			
	0-199	200-399	400-up	All
Number of Feeder Pigs Used, 1962	62.5	193.1	574.2	220.7
Number of Feeder Pigs to be Used, 1964	120.7	252.2	626.2	277.8
Expected Increase, Per Cent	93.0	30.6	9.1	25.9

was nearly 26 per cent, the increase planned by the larger feeders was only 9 per cent. The smaller feeders to be using nearly twice as many feeder pigs in

their feeding operations. Thus, the small hog feeders of 1962 who in the past have handled only a limited number of purchased feeder pigs are planning important changes in their feeding programs and will probably become important buyers of feeder pigs in the future.

Labor Utilization

Underemployment was not a problem on the sample farms visited. For example, the average level of employment reported on farms using purchased feeder pigs was 315 work units per man. From 200 to 300 work units per man are considered full employment on the average general farm. These same farm operators were employed less than one-half month in off-farm jobs. This would suggest that the farmers included in this survey had generally found full employment on their own farms and were not searching for additional work. Expansion of the swine enterprise then probably will result in the reduction of some other enterprise.

Determination of Market Source

When a livestock feeder seeks a market source from which to buy feeder pigs, he considers the merits of all supply sources available and the type of pigs handled by each. Likewise, when a livestock feeder decides to change from one market source to another or to discontinue his purchases of pigs entirely, he has very definite reasons for these actions.

Factors Influencing the Choice of Market Source

As a part of this study, farmers ranked the factors they considered most important in helping them decide where to buy feeder pigs. This was accomplished through the use of a ranking-type question. This question was presented in a manner which limited the number of responses farmers might make. Five factors were assumed to be most important in affecting market choice decisions. They were:

1. Weight of pigs offered by the market,
2. The price of the pigs,
3. The quality or grade of pigs handled,
4. The breed or color of pigs offered for sale, and
5. Past experience with pigs from this source.

To prevent the order of presentation from affecting the final ranking made by a given farmer, each farmer was first asked to list the factors he considered important in the order of their relative importance. After these had been listed, each farmer was then asked to rank any of the above five factors which he had not mentioned among those he had given.

In most cases the 165 farmers responding to this question concerning choice of market were able to determine a definite pattern for their answers. However, a few individuals could not determine any preference between two

or more of these factors. Such responses were considered as tied ranks and required an adjustment in the final analysis. The pattern of choice indicated by the entire group of feeder pig buyers is indicated in the distribution of rankings presented in Table 8. For example, a ranking of 1.0 means that this item was ranked in first place, while a ranking of 1.5 would mean a tie with another factor for first place, and so on.

The pattern of replies suggests that the quality of pigs and their price were the two most important factors influencing market choice decisions. A test of significance shows that quality is definitely the most important, with price as second most important. Past experience and weight did not prove to be significantly different in ranking. Breed was definitely the least important.

TABLE 8

Distribution of Rankings of Factors Affecting Choice of Market as Reported by 165 Feeder Pig Buyers, 1962

Items	Rankings					Average Rank
	1.0	1.5-2.0	2.5-3.0	3.5-4.0	4.5-5.0	
	(per cent of number of total rankings)					
Quality or grade	47.3	27.3	13.9	10.9	0.6	1.9
Price of pigs	15.8	44.2	26.1	12.7	1.2	2.4
Past experience with market	23.0	15.1	18.2	26.7	17.0	3.0
Weight	7.9	11.5	35.2	31.5	13.9	3.3
Breed	0.6	1.8	4.9	25.4	67.3	4.5

When the entire group was stratified by the number of hogs fed in 1962, the pattern of ranking was not much different from that reported for the entire sample. This indicates that there was no significant difference in the pattern of choice according to size of the feeder's hog operation. When the total group was stratified by the principal market source for feeder pigs, differences in patterns of choice were apparent. The factor of past experience moved from third to second place in the rankings of feeders buying mainly from cooperatives, while it dropped to fourth place in the case of livestock feeders who obtained the majority of their pigs from either auctions or local farmers. Apparently, livestock feeders buying pigs from cooperatives had had reasonably good results with the pigs they had obtained and were thus willing to place past experience over price in their rankings. On the other hand, feeders buying from auctions and local farmers felt that weight was a more important guide to selection of market source than past experience.

Reasons for Not Using Feeder Pigs

As was pointed out earlier, a large number of the farmers visited were finishing only hogs farrowed on their own farms. These farmers were questioned as to why feeder pigs were not used. Three reasons were given in most cases. Nearly 40 per cent of these farmers felt that prices of feeder pigs were too high and that they could make more money by feeding only the pigs farrowed on their farms. This may especially be true on farms where surplus labor was available. Another 26 per cent reported they had always farrowed, had the needed farrowing equipment, and could see no reason for buying feeder pigs. Twenty per cent of the farmers stated that by farrowing they could avoid certain serious disease problems on their farms. A wide variety of other reasons were reported, such as, lower quality of available pigs, undependable supplies, and too much initial capital required for specialized feeding operations.

From the marketing standpoint, those farmers who gave high prices and fear of diseases as reasons may possibly form the nucleus for future expansion of feeder pig sales. Both price and disease conditions may change so as to make it more desirable for hog feeders to use purchased feeder pigs.

Reasons for Shifting Market Sources

Livestock feeders who had been using feeder pigs on their farms found it necessary in some cases to shift to another market. These changes in market sources for feeder pigs were in most cases made in attempts to improve the profit situation for the swine enterprise.

Certain market sources may have future difficulties in the movement of feeder pigs (Table 9). Complaints of high prices and undependable supplies were quite common in the discussion of market sources for feeder pigs with local farmers. These data also emphasize that livestock auctions are still plagued with the problem of disease. Later on, however, it is noted that feeder pigs purchased through auctions did not appear to have higher death losses than those from other sources. "The price is too high" was a comment heard quite often about pigs handled by cooperatives. Quite often pigs sold by cooperatives were selling for $1 to $2 more than pigs from other sources. Most cooperatives, however, provided a guaranteee of livability for their pigs which was usually not available from others.

Death Loss and Market Source

Death losses of purchased pigs have been a major marketing problem. Death losses occurring during the finishing of purchased pigs tend to vary with the market source from which they were purchased. Pigs that move through some type of formal market are placed under varying degrees of stress so that some death loss is expected. As reported by feeder pig buyers, the difference in death loss among the various market sources used was not extremely large. Farmers buying mainly from auctions reported the largest death loss, 2.5 per cent. Feeders who bought from local farmers

TABLE 9

Reasons for Shifting Purchases of Feeder Pigs
from Various Market Sources[a]

Reason	Previous Source of Feeder Pigs					Number Reporting Reason	Per Cent of Total Number
	Local Farmers	Dealers	Auctions	Cooperatives[b]	All Markets[c]		
	(Per Cent of Total Reporting)						
Price too high	8.3	3.9	7.2	9.4	1.1	54	29.7
Lower quality	6.7	3.9	6.1	3.9	1.1	46	25.3
Avoid disease	3.9	1.7	13.3	---	0.6	35	19.2
Undependable supply	8.3	0.6	1.7	2.8	---	24	13.2
Other reasons[d]	2.8	0.6	3.3	2.8	6.1	23	12.6
TOTAL	30.0	10.7	31.6	18.9	8.9	182	100.0

[a]This table includes only answers from livestock feeders who were using feeder pigs.

[b]This includes both cooperative feeder pig auctions and larger cooperative marketing agencies.

[c]These answers were from feeders who were planning to discontinue the use of feeder pigs.

[d]This includes such comments as: distance of market, personal preference, and timing of sales.

reported less than 1.5 per cent death loss. It should be noted that feeder pigs handled by dealers showed only a 2 per cent death loss, which was lower than the death rate of pigs handled by auctions and cooperatives. When the death loss of pigs handled by cooperatives is examined, the fact that some cooperative marketing agencies provide a guarantee of livability for the pigs they handle should be considered. In such cases, that part of the death loss covered by the contract did not affect the potential profits of the livestock feeder.

It should also be observed that a low death loss in purchased feeder pigs does not guarantee a profitable feeding operation. If pigs are of poor quality or older than normal yet do not die, the extra expense of feeding slowly gaining pigs could easily eliminate any potential profits.

TABLE 10

Death Loss Reported in Lots of Feeder Pigs Purchased from Various Market Sources, Farms Surveyed, 1962

Principal Source of Pigs	Number of Farms Reporting	Per Cent Death Loss[a]
Auction	40	2.48
Cooperatives	26	2.13
Dealers	48	2.03
Local Farmers	38	1.43
All Records[b]	157	2.02

[a]Losses were weighted by the number of feeder pigs purchased by each farmer.

[b]This included records of farmers who could not be classified in any of the above classifications, because they had bought from a combination of market sources.

Price Spread among Markets

Part of the estimated difference in market sources was reflected in the prices these markets were charging farmers for feeder pigs. The average price paid by farmers interviewed was $15.27 for 50-pound feeder pigs during August of 1962. The wide differences in prices paid by individual farmers were associated with the type of market handling the pigs. For example, 50-pound pigs from the cooperatives were reported to be costing livestock feeders an average of $17.80 per head, while such pigs were selling for $14.00 per head at auctions. A part of this difference of $3.40 between auctions and

the cooperatives may have been due to differences in quality and to the livability guarantee. At this same time pigs handled by dealers were purchased for $15.20 per pig and from local farmers for $14.80. Prices charged by local farmers were lower than might be expected compared to prices charged by other market sources. Feeder pigs sold in farmer-to-farmer sales would be expected to bring a higher price, because their death loss was the lowest reported. Also buyers who purchase feeder pigs from local farmers should have a reasonably good assurance of the quality of the pigs, since they usually have the opportunity to examine the breeding herd. The main difficulty with local farmers as a market source is their failure to provide a dependable supply of pigs in most areas.

Pricing of Feeder Pigs

As a livestock feeder prepares to bid on a lot of feeder pigs at the local auction or to bargain with a trader for a truckload of pigs, he considers a number of factors. His final decision on price may determine whether his feeding operation is profitable. The information which he has for making that decision compared to his needs may be greatly limited. He knows the present price situation for market hogs and has reasonably good data on feed costs to be incurred in finishing a lot of feeder pigs. The future price of market hogs and the cross influences of other enterprises which should influence his final price decision are less well known and often cannot even be estimated with any degree of accuracy.

Factors Affecting Price Decisions

To disclose the factors which are considered important by buyers when pricing feeder pigs, a ranking device similar to that used to examine factors influencing market choice was employed. In this case, livestock feeders were asked to express their opinion upon items affecting the price they would be willing to pay for choice, 50-pound feeder pigs. In the presentation of this question, the interviewer handed each farmer five, randomly arranged cards. On each of these five cards a different factor which might affect his final price decision was typed. These were:

1. Expected corn production on your farm,
2. Expected price of market hogs in 3 to 4 months,
3. Present price of market hogs,
4. Present price of corn, and
5. Present price of feeder cattle.

It was assumed that these five factors represented the most important influences affecting the general level of prices for feeder pigs. The question was presented in a manner designed to cause the respondent to consider only the factors influencing the general price level and not the price for a given lot. The five factors included the hog-corn ratio, an estimate of corn supply, an estimate of future market hog prices, and the cross enterprise influence of feeder cattle prices.

The 164 farmers ranking the items affecting the price they would pay for feeder pigs rated expected market hog prices as the single most important factor. About 60 per cent of the farmers put this factor in first position. Rankings for the present price of hogs and the present price of corn, the elements of the hog-corn ratio, were quite comparable. Similarly the rankings for corn supply and the price of feeder cattle were not significantly different.

TABLE 11

Distribution Pattern of Factors Affecting Price Decisions for 164 Feeder Pig Buyers, 1962

Items	Rankings					Average Rank
	1.0	1.5-2.0	2.5-3.0	3.5-4.0	4.5-5.0	
	(per cent of number of rankings)					
Expected price for market hog in 3-4 months	61.0	20.7	7.9	7.3	3.1	1.7
Present price of market hogs	18.3	31.7	29.3	14.0	6.7	2.6
Present price of corn	11.6	29.9	37.2	15.2	6.1	2.7
Expected corn production	2.4	8.5	17.7	43.9	27.5	3.8
Present price feeder cattle	3.0	5.5	13.4	24.4	53.7	4.2

Although expected market hog prices are without doubt the most important factor shown to be considered in the pricing of feeder pigs, they are most difficult to estimate. The livestock feeder who is able to forecast future price changes with the greatest accuracy and to price feeder pigs accordingly should have an advantage over those who fail to take future prices into consideration.

Estimated Value of Feeder Pigs

The individual livestock feeder, when making his final decision as to the price he can pay for a given lot of feeder pigs, considers all factors he feels important. In a business decision of this type, it is impossible to determine whether the final judgment made by a feeder at any particular time was well founded or merely a "hunch." In the first place each farmer is working with a different array of information and knowledge about the situation at hand. Conditions change so that what had appeared to be a very logical and

sound decision suddenly became an unprofitable decision. On the other hand, an action based on what appeared to be questionable judgment may turn out to be the best decision of the year.

The pattern of decisions made by individuals reflects their expectations of the future. To examine this problem each of the farmers interviewed was asked to report what they would pay for a 50-pound, choice, Hampshire feeder pig on the day of the interview. They were to assume actual market and price conditions of that day.

There seemed to be a relationship between prices buyers were willing to pay and the size of their feeding operations. Estimates of large feeders averaged 84 cents higher for 50-pound feeder pigs than those of small feeders. Actual prices paid for such pigs by buyers also varied slightly with the size

TABLE 12

Comparison of Prices Which Would Be Paid for Feeder Pigs by Feeders According to Size of Swine Enterprise, August and September, 1962[a]

	Number of Hogs Fed, 1962			
	0-199	200-399	400-up	All
Farmer's estimated price	$14.63	$15.19	$15.47	$15.00
Actual price[b]	15.11	14.97	15.05	15.05
Prices they could have paid with perfect knowledge[c]	15.04	15.02	14.98	15.02

[a] All prices are the per head value of 50-pound pigs.

[b] The actual prices during the interviewing period were determined from reports issued by the Illinois Interior Marketing Association. The actual prices among size groups vary, because interviewing took place over a period of one and one-half months.

[c] Here normal feed costs and feed efficiency were assumed. Using the market hog price three and one-half months after the interviewing as a guide, the ideal price for feeder pigs was determined.

of enterprise. The difference between the farmers' estimates and actual prices paid by all farmers included in the study was not large enough to be important. This suggests that for the most part feeder pig buyers were able to keep relatively well informed on price changes in the feeder pig market.

Hog feeders, therefore, do not seem to be at any disadvantage due to a shortage of price information.

The final point that price comparisons in Table 12 emphasize is that the price estimation was quite close to the price necessary to make a normal profit. This example would suggest that the price expectation upon which feeder pig prices were based was indeed reasonably accurate. In other words the price expectation of the group seemed to be borne out in the price of the future.

Hog-Corn Ratio

Many livestock feeders have found that the relationship between hog prices and corn prices is a good guide to use in making decisions concerning the expansion or contraction of the volume of hogs fed. This relationship is called the hog-corn ratio and refers to the number of bushels of corn required to equal the price of 100 pounds of hogs. The hog-corn ratios of the past 30 years have tended to fluctuate about the values of 12.0 to 13.0, with the ratio going as high as 20.0 and as low as 7.0.

Thus, a ratio of less than 12.0 might be expected to cause many purchasers of feeder pigs to discontinue their feeding operations. To test this assumption each buyer of pigs in the sample was asked the following situation question. If the price of slaughter hogs was $19.00 per hundred, which was the top market price during much of the survey period, then how high would the price of corn have to go before each individual feeder would stop feeding his corn to hogs?

The ratios reported by farmers interviewed averaged 12.5 (Table 13). This is about the average for the past 30 years. This suggests that when the hog-corn ratio begins to fall below 12.0, it may be quite difficult to sell feeder pigs at satisfactory prices. At this level, many hog feeders feel that it is to their advantage to let their facilities remain idle and to shift their liquid resources into other enterprises. Although the reported corn price averaged slightly over $1.50 per bushel, prices at which feeders would stop feeding hogs ranged from $3.00 to $1.05 per bushel. At these extremes the hog-corn ratios were 6.3 and 18.1, respectively. A majority of the feeders felt that the ratio of 12.5 was the decision point, but other feeders had widely different viewpoints.

A similar situation type question was presented to respondents but in this case the price of corn was given. Assuming a price of $1.05 a bushel for corn, the feeders were asked how high the price of feeder pigs would have to go before they would discontinue their feeding operations and sell their corn. The average price stated by the feeders was $15.71 for a 50-pound pig. Again the range in prices reported was quite large, with prices as high as $22.00 and as low as $8.00.

If a ratio were to be developed for relating feeder pig prices to corn prices, this ratio could be the number of bushels of corn required to

TABLE 13

Minimum Hog-Corn Ratio Necessary before Feeding Would Be Discontinued by Feeders, According to Size of Swine Enterprise, August-September, 1962

	Number of Hogs Fed			
	0-199	200-399	400-up	All
Given hog price	$19.00	$19.00	$19.00	$19.00
Reported corn price	1.50	1.56	1.49	1.52
Hog-corn ratio	12.7	12.2	12.8	12.5

equal the price of a 50-pound pig. This ratio would be 15.0[30] on the basis of the estimates made by the farmers responding. Therefore, a feeder pig-corn price ratio of 15.0 is indicated as the point where the use of feeder pigs would be sharply reduced. The estimates of individual feeders, however, provided ratios which ranged from 7.6 to 21.0

In summary it was evident that the hog-corn ratio remains an important guide to adjustments in hog production. Producers indicated that at a ratio of 12.5 they would sharply reduce the size of their feeding operations. If a similar measure designated as the feeder pig-corn ratio is used, a ratio of 15.0 was a decision point for most feeders, at which feeder purchases would be curtailed substantially.

Summary

Specialization on swine farms has developed as a result of economics of scale, introduction of continuous feeding and multiple farrowing and the difficulty of keeping well informed on a number of enterprises. Specialization has led to the separation of farrowing and feeding into distinct enterprises on many farms and to the development of a feeder pig industry. Feeder pig enterprises therefore are becoming important on many Southern Illinois farms.

Part I of this report reviews available information of significance to feeder pig producers. Specialized feeder pig markets in Southern Illinois are relatively recent in origin. The Illinois Livestock Marketing Association began its program in 1959. Two auctions, at Benton and Albion, are active. General auctions and dealers also handle numbers of pigs. Most

[30] This would be a ratio of 30.0 if the feeder pig price were stated in dollars per 100 pounds rather than a per-head basis.

Southern Illinois feeder pigs move to farms in Central and Northern Illinois. In addition, in-shipments of pigs to these areas from Tennessee, Missouri, Arkansas and Wisconsin are large.

Production of feeder pigs flourishes in the corn-deficit areas adjacent to the corn-surplus producing areas. Specialized auctions have been established in such areas, usually by the Agricultural Extension Services or with their cooperation. Dealers and farm-to-farm sales are other important outlets.

Feeders prefer pigs weighing from 35 to 70 pounds which are of meat-type and healthy and show promise of a high rate of gain. Breed often is given consideration as evidence of type. Prices paid by feeders include, in addition, the economic factors of expected market hog prices, feed costs, and other costs of production. In their decisions farmers apparently use current prices rather than attempted modifications to fit future unknown conditions. Feeder pig prices usually have their seasonal peak in July and their low in December. Cyclical movements coincide with those for market hogs.

Methods of pricing feeder pigs to producers vary from those of the auction market to those of contracts with certain minimum guarantees. Tables designed to divide profits between producers and feeders based on feeder pig-market hog price ratios have been developed to guide buyers. Associations serving both farmers who buy and those who sell have need for contracts which provide for equitable sharing of profits. Contracts between swine feeders and feed companies or other financing agents may be used as a basis for profit-sharing contracts between producers and feeders.

Part II reports a survey of the feeder pig market in Northern Illinois in August, 1962, covering operations and practices of feeder pig buyers during the three years, 1960-62. From a sample involving 892 potential farm units in 60 areas within 12 counties of Northern Illinois, 92 feeder-pig buyer records and 491 non-buyer records were collected. Of these latter, 289 were from farms with swine enterprises. To provide a minimum sample of feeder pig buyers, 84 other buyer records were obtained in 30 other areas in these 12 counties. The 12 counties had about one-fourth of the State's hog population on January 1, 1962, and one-third of the licensed pig dealers.

The average size of the farms surveyed was 266 acres compared with 209 acres for all farms in the 12 counties. Among the types of farms studied, farms on which feeder pigs were bought averaged largest and those without swine enterprises, smallest.

The average number of hogs sold on farms with swine enterprises was 159 head in 1962, but on those with purchased pig programs, the average was 282. The proportion of pigs farrowed on these latter farms was 21 per cent in 1962, which was a decline from 26 per cent in 1960. Both large and small feeders were using feeder pigs for about 80 per cent of marketings, while for the medium-sized ones the share was about two-thirds. Feeder pig purchasers were engaged mainly in corn production and livestock feeding.

The average capital investment in specialized swine facilities was $2700 on the farms surveyed. Since the range between the minimum number of hogs necessary to carry that investment and the maximum number the facilities would accommodate was wide, hog feeders had much greater flexibility than expected in expanding or contracting operations.

Most producers were following approved practices of isolation and sanitation for newly-purchased pigs. About one-third of the feeders interviewed had had a serious disease outbreak among purchased feeder pigs in the past.

Feeder pig buyers expected to expand operations during the two-year period following the interview. Large feeders planned a nominal increase while small ones expected to double their 1962 purchases by 1964. Underemployment was not a problem on the sample farms. Increases of swine enterprises may require curtailment of some other farm operations.

Of the 165 feeder pig purchasers responding, 47 per cent ranked quality or grade as most important among the five factors usually considered in choosing a market source. The average ranking for this factor gave it first place. Price ranked second. Past experience with that source and weight of pigs were virtually tied for third place and breed was considered least important. Size of feeding operation had no influence on rankings, but they did vary according to the principal source from which feeders now buy pigs.

Among swine feeders not buying feeder pigs, 40 per cent reported that high prices of feeder pigs caused them to farrow their own. Another 26 per cent were equipped for farrowing their needs and saw no reason to change, and 20 per cent feared disease problems.

High prices and undependable sources of supply were the major reasons stated for changing suppliers. Disease problems also were mentioned.

Reported death losses varied from 2.5 per cent for purchases from auctions to 1.4 per cent for those from other farmers. Losses of pigs obtained from cooperatives, although 2.1 per cent, were in some cases offset by the livability guarantee of some cooperatives. Prices reported for 50-pound pigs averaged highest for those from cooperatives and lowest for those from auctions. Many factors other than initial price affect the returns from feeding of feeder pigs.

Buyers ranked five factors affecting their decisions on prices to be paid for feeder pigs. More than 60 per cent put expected market hog prices in first place. Present prices of market hogs and corn virtually tied for second place. The supply of corn and beef cattle prices ranked fourth and fifth, respectively, but their difference was not significant.

Prices farmers reported they would pay for 50-pound, choice, Hampshire feeder pigs, assuming current prices of corn and market hogs, averaged about the same as prices actually being paid on the day of the interview. Estimates of large feeders were 80 cents higher than those of small operators.

Feeders were asked to state the price at which they would stop feeding corn to hogs and sell it, if market hogs were selling at $19 per 100 pounds. Such prices varied from $1.05 to $3.00 and averaged $1.52 a bushel. Resulting corn-hog ratios varied from 6.3 to 18.1 but the majority was 12.5 or higher.

Similarly, feeder pig buyers were asked to report the maximum price they would pay for 50-pound, choice, Hampshire pigs if corn were $1.05 a bushel. These prices varied from $8 to $22 and averaged $15.71 per head. A feeder pig-corn price ratio of 15 seemed to be the point at which most feeders would begin to curtail purchases.