11-1961

# Agreements for Producing and Marketing Tennessee Hogs and Feeder Pigs

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Bulletin 335
November 1961

The University of Tennessee
Agricultural Experiment Station
Knoxville

in cooperation with
Farm Economics Division
Economic Research Service
U. S. Department of Agriculture

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# Agreements for Producing and Marketing Tennessee Hogs and Feeder Pigs

by Irving Dubov and Paul A. Andrilenas*

## INTRODUCTION

In 1960, sale of livestock (cattle and calves, hogs, and sheep and lambs) brought in $136,915,000, or 26.8% of the $510,858,000 realized from all sources by Tennessee farmers. Sales of hogs brought cash receipts of $48,258,000—9.4% of total cash receipts from farm marketings in Tennessee in 1960.[1] Therefore, any changes in the production and marketing structure for swine—such as an increase in vertical integration arrangements—would have an important impact on the livestock economy of the state.

Many factors are cited as causes of vertical integration. Changes in technology on the farm and in the marketing industries are among them. Increases in farm size and specialization have caused increases in the investment-capital requirements for a family-sized farm. An economic enterprise with high risks resulting from such factors as uncertainties of weather and disease infestation, and especially from the vagaries of the marketplace, is receptive to contractual arrangements and agreements that will reduce at least some of the risks and uncertainties of production and marketing.

In the marketing segments of the livestock industry, particularly among meat-packers and retail chain-store companies, there are also factors that favor vertical integration. Changes in the technology and merchandising methods of food marketing make it imperative to develop supplies of raw products that are uniform in their quality and quantity characteristics. The objective is to coordinate the character and flow of these supplies to mass merchandising methods. Consequently, many marketing firms may seek contractual arrangements or agreements that assure steady supplies of meat animals and meat products of desired quality as part of a general policy of buying by specification.

Feed dealers, also, have been important in fostering vertical integration in the livestock industry. Their action has been prompted by a desire to assure stable markets for their feedstuffs.

The basic reason for vertical integration is that participants in such

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[1] U. S. Department of Agriculture, Farm Income Situation, FIS-183, (Supplement) August 1961, p. 81.

arrangements feel that there is some economic advantage in capital procurement, in risk assumption, in production costs, in procurement costs, in merchandising, or in reducing market risks—that will accrue and that will result in increased returns. Whether the advantage is real or illusory in the various segments of the livestock industry should be examined carefully by each would-be entrant into such arrangements.

The current status of integrated hog production in Tennessee has not progressed to the point at which definite trends can be established to forecast future developments. The few cases of contract hog production indicate that some of the characteristics of integrated broiler production are in evidence. But current contract hog production is now utilizing existing market institutions.

The present volume of contract production is not now threatening the importance of existing hog marketing institutions. However, if a marked increase in contract hog production should occur, its effect would need to be reconsidered. An increased volume of integrated production could bring about different lines of communication between different phases of hog production. If these new lines of communication were to bypass existing marketing channels, their importance would diminish.

This report presents information on the present status of vertical integration in hog production in Tennessee. It is based on a survey made by the Farm Economics Division, Economic Research Service, U. S. Department of Agriculture, in cooperation with the Tennessee Agricultural Experiment Station. The objectives of this joint effort are: 1) to determine the farm management and farm marketing practices of Tennessee producers of hogs in areas where vertical integration would be likely to occur; and 2) to determine the incidence, nature, and outlook for contractual arrangements and agreements in these hog-producing areas.

Primary attention in this report is given to the farm marketing and contract production portions of the survey. Later reports are expected to cover the farm management phases of the survey.

The results contained in this report are those of a "case study" approach. The purpose of the survey was to focus as much attention as possible on contractual arrangements and agreements in hog production and marketing. Such arrangements were rather infrequent at the time of the survey. So it was necessary to select both the area and the respondents for the survey by purposive means rather than by random sampling. Therefore, no statements based on statistical inference are possible. But the results do give insight into the course of probable development of vertical integration and suggest areas for further study and analysis.

## AGREEMENT OPERATIONS

As noted, a case-study method was used to select 10 hog producers in Davidson, Gibson, Lincoln, Montgomery, and Obion Counties who had production and/or marketing practices that were affected by agreements with outside parties.

Table 1 presents data on livestock inventories on these 10 farms as of January 1, 1960. All farms in the survey had hog enterprises, and varying numbers of farms (from 2 to 5) had other livestock enterprises, such as dairying, beef, and sheep.

All 10 farmers were producing hogs before they began any contract or agreement operations (see Table 2). The organizations of the hog enterprises on the farms before contracting were as follows:

Pigs were farrowed and market hogs finished on five; feeder pigs were bought and market hogs finished on one; on another, feeder pigs were bought and in addition, pigs were produced for finishing to market hogs; pigs were farrowed for finishing and feeder pigs were produced for sale on two; and on one farm, feeder pigs only were produced for sale.

Seven of the farmers reported sales of market hogs in 1959 (see Table 3). Two others reported that sales of finished animals were made by a contractor. One farmer reported no sales of market hogs in 1959—either direct or by a contractor. Of the market hogs sold by the seven farmers, 65%, 22%, 12%, and 1% were estimated to be in grades Nos. 1, 2, 3, and "medium and cull," respectively.

Only 3 of the 10 farmers knew the amounts of any premiums or the grade interval on which premiums might be based. Two indicated a 65-cent per hundredweight premium for No. 1 hogs, and one farmer indicated a 25-cent per hundredweight premium on packing line grades. All sows and boars reported sold were marketed on an ungraded basis, and feeder pigs were sold on a per animal basis.

The three farmers who produced feeder pigs before they made agreements with outside parties said that these animals were sold either to traders or to other farmers. Prices received for the feeder pigs were based either on what was offered first by the buyer or on some "mutual agreement."

Seven farmers reported that before contracting they sold their market hogs direct to packers. Four farmers (including two who had also sold direct to packers) reported sales on local markets. Various price bases were given for the market hog sales: four farmers reported "local market conditions"; three farmers reported "the St. Louis market"; and one farmer reported the "Nashville terminal market."

Table 1. January 1, 1960 Livestock Inventories and Related Factors for 10 Tennessee Farms Producing Hogs Under Contract.

| ITEM | Unit | Farms reporting | Average for farms reporting | Range for farms reporting | Total for farms reporting |
|---|---|---|---|---|---|
| Total land | Acres | 10 | 210.9 | 109-386 | — |
| Cropland | Acres | 10 | 113.0 | 0-300 | — |
| Permanent pasture | Acres | 10 | 68.2 | 20-125 | — |
| Milk cows: | | | | | |
| 2 yr. and older | Number | 3 | 23 | 16-32 | 69 |
| Other dairy cattle | Number | 3 | 8 | 1-17 | 25 |
| Beef cows—2 yr. and older | Number | 5 | 30 | 7-102 | 148 |
| Other beef cattle: | | | | | |
| Steers and heifers | Number | 2 | 61 | 21-100 | 121 |
| Calves | Number | 4 | 11 | 4-16 | 42 |
| Sheep | Number | 2 | 21 | 15-26 | 41 |
| Chickens: | | | | | |
| Laying | Number | 2 | 606 | 12-1,200 | 1,212 |
| Other | Number | 2 | 5,002 | 3-10,000[1] | 10,003 |
| Breeding stock inventory:[2] | | | | | |
| Sows | Number | 10 | 29 | 5-48 | 288 |
| Boars | Number | 10 | 2 | 1-4 | 19 |
| Gilts | Number | 2 | 21 | 3-39 | 42 |

[1] One farm reported 10,000 pullets.
[2] Breeding stock inventory is for January 1, 1959.

# VERTICAL INTEGRATION AGREEMENTS

Vertical integration is the joining together under one management of successive stages in the production, processing, and/or distribution of a particular commodity or commodity group. Arrangements are made on a voluntary basis between the parties involved, and parties to an agreement accept the formal or informal provisions that are deemed necessary to compromise and reconcile the interests involved.

Nine of the farms covered in the survey had agreements with feed dealers and one had an agreement with a breed association. Two feed dealers, who were parties to seven of the agreements covered in this report, specified particular packer-buyers for the market hogs produced under the arrangements. This suggests that these packer-buyers were

**Table 2. Organization of Hog Enterprise before Contracting, 10 Farms, Tennessee, 1960.**

| ITEM | Number |
|---|---|
| Produced hogs before contracting | 10 |
| Year contracting started: | |
| 1958 | 2 |
| 1959 | 6 |
| 1960 | 2 |
| Estimated number of animals marketed annually: | |
| Average number of hogs: 138 | 9 |
| Range in number of hogs: 28-300 | 9 |
| Total number of hogs: 1,244 | 9 |
| Average number of pigs: 1,400[1] | 1 |
| Total number of pigs: 1,400 | 1 |
| Organization of hog enterprise before contracting: | |
| Farrowed pigs and finished market hogs | 5 |
| Bought feeder pigs and finished market hogs | 1 |
| Produced feeder pigs | 1 |
| Farrowed and bought pigs & finished market hogs | 1 |
| Farrowed pigs and finished market hogs and produced feeder pigs | 2 |
| Method of marketing feeder pigs before contracting:[2] | |
| Sold to packer | 3 |
| Sold to another farmer | 1 |
| Method of marketing hogs before contracting: | |
| Sold to packer[2] | 7 |
| Sold to buyer at local market[2] | 4 |
| Price basis: | |
| St. Louis market | 3 |
| Nashville market | 1 |
| Local conditions | 4 |

[1] Only one producer.
[2] Some producers marketed through both outlets.

Table 3. Sales of Hogs Reported by Farmers with Contracts to Produce Hogs, 10 Tennessee Farms, 1959.

| ITEM | Number of farms reporting | Average per farm reporting | Range for farms reporting | Total for farms reporting |
|---|---|---|---|---|
| Sows: | | | | |
| Total number[1] | 4 | 13 | 9-15 | 51 |
| Total weight | 4 | 5,175 | 4,050-6,750 | 20,700 |
| Average weight | 4 | 413 | 300-450 | —— |
| Boars: | | | | |
| Total number[1] | 3 | 2 | 1-3 | 6 |
| Total weight | 3 | 1,067 | 500-1,500 | 3,200 |
| Average weight | 3 | 533 | 500-600 | —— |
| Market hogs: | | | | |
| Total number | 8 | 281 | 3-850 | 2,247 |
| Percent in grade #1[2] | 5 | 65% | 60-75% | —— |
| Percent in grade #2[2] | 5 | 22% | 5-33% | —— |
| Percent in grade #3[2] | 3 | 12% | 5-20 | —— |
| Percent medium & cull[3] | 1 | —[3] | —— | —— |
| Not graded[4] | 1 | 850 | —— | —— |
| Total weight | 8 | 57,113 | 750-170,000 | 456,910 |
| Average weight | 8 | 203 | 200-250 | —— |
| Feeder pigs: | | | | |
| Total number | 4 | 566 | 52-864 | 2,266 |
| Total weight | 4 | 24,926 | 1,820-43,200 | 99,704 |
| Average weight | 4 | 44 | 35-50 | —— |

[1] All ungraded.
[2] 850 ungraded market hogs sold by contractor are not included.
[3] Less than 1%.
[4] 37% of all market hogs or 850 market hogs sold as ungraded hogs.

at least "silent partners" to the agreements. So the following interests were involved in the agreements that were studied:

1) Farmers who wanted to minimize the economic risks of their hog enterprises, and/or to maintain or expand these enterprises despite their limited capital; 2) feed dealers who wanted to assure stable markets for the feedstuffs they sell, and/or to obtain some of the returns that accrued from the sale of animals covered by the agreements; and 3) packers who wanted steady supplies of meat animals of desired quality characteristics at attractive prices.

## GENERAL PROVISIONS

One feed dealer made agreements for producing feeder pigs. The animals had to weigh at least 43 pounds when delivered; also, the price basis reported for such purchases in 1960 was $10 per pig, plus

the local top market hog price for weights of individual animals in excess of the 43 pound minimum.

A second feed dealer made agreements for producing market hogs, paying 2 cents per pound of live animal delivered. The animals were to be sold to a specified packer. The feed dealer provided all feed and breeding stock and charged the farmer 3% of gross returns for use of the breeding stock when the animals were delivered to the specified packer. The rate of charge was 5% when hogs were marketed to other outlets.

Another feed dealer made agreements with farmers to produce feeder pigs to finish to market hogs. Farmers produced 50-pound feeder pigs that were transferred to pig parlors after sale to the dealer. The dealer paid the local top market hog price plus 5 to 10 cents a pound for the pigs, and an additional $1.50 per hundredweight to the farmer for finishing the animals. These hogs also were sold to a specified packer.

Another feed dealer provided breeding stock and charged the farmer one pig per litter at weaning time for the use of the breeding stock. The farmer could buy his feed wherever he wished, but he did not pay the dealer any carrying charges on feed purchases. The farmer was free to market his finished animals wherever he desired.

In the agreement between a breed association and the producer, the farmer held half interest in the breeding stock provided by the association. All registerable animals were picked up by the association when they reached the specified weight of 200 pounds. Further sale of the animals was the responsibility of the association.

## PROVISIONS ON PRODUCTION ITEMS

There was no uniformity as to who—farmer or contractor—provided production items for the hog enterprises covered by the agreements (see Table 4). All 10 farmers provided facilities and equipment, labor, and utilities, and 4 of the 10 owned the feeder pigs required in the hog enterprises. Four of the 10 provided their own breeding stock, 5 their own feed, 2 their own credit for feed, 3 the feed deliveries, and 6 the veterinary services and medicines.

There was variation too in the agreement specifications for such items as the type of the breeding stock, farrowing, weaning, feeding, sanitation, and buildings and equipment. Some items were specified, some were unspecified, and others were by "mutual agreement" (see Table 5). The farmer who had the agreement with the breed association was required to use boars from bloodlines specified by the association. Sows had to be registered, and all animals that were not registerable were to be slaughtered. In another agreement, one involving a feed dealer, meat-type animals were required for breeding stock.

There was little uniformity in requirements for returning animals

**Table 4. Agreement Relating to Provisions of Production Items by Farmers with Contracts, 10 Tennessee Farms, 1960.**

| PRODUCTION ITEM | Farmers reporting source for each item | |
|---|---|---|
| | Farmer | Contractor |
| | Number of farmers | |
| Facilities and equipment | 10 | 0 |
| Labor | 10 | 0 |
| Breeding stock | 4 | 6 |
| Utilities | 10 | 0 |
| Feeder pigs[1] | 4 | 6 |
| Feed | 5 | 5 |
| Credit for feed | 5 | 5 |
| Feed deliveries | 3 | 7 |
| Market outlet | 2 | 8 |
| Veterinary services and medicines[2] | 6 | 4 |

[1] The contractor owned the pigs in two feeder pig production and growing-finishing contracts and four sow-boar contracts.

[2] One contract requires that the farmer provide the medicaments for pigs and that the contractor provide these items for hogs.

to the contractor. In four instances, the agreements specified that the animals could be returned if judged unsatisfactory by the producers. In another agreement, the animals were owned by the farmer. In still another, unfit animals were taken up by the contractor, as were all sows after five litters.

Few definite provisions in the 10 agreements referred to farrowing practices. One agreement specified farrowing dates so that 50 pigs per month would be produced. This agreement also specified castration as the only other requirement. Another agreement specified vaccination and worming and cleanliness of pens and floors.

Four agreements had provisions on length of time before weaning. Two specified 6 to 8 weeks as the age at weaning, and two others specified 40 to 50 pounds as the weight of pigs at weaning.

Eight agreements had provisions regarding losses from disease. Four provided that the contractor bear any losses in breeding stock; two provided that the contractor bear losses in feeding animals or market hogs; and one provided that the contractor bear all losses. Finally, one agreement provided that the producer bear the loss of pigs from disease.

Few agreements had specific provisions as to buildings and equipment. Typically, the type of housing, feeding space, and watering space were either "unspecified" or by "mutual agreement."

**Table 5. Agreement Provisions Relating to Production Practices Reported by Farmers with Contracts to Produce Hogs, 10 Tennessee Farms, 1960.**

| ITEM | Kind of specification in agreement—farmers reporting for each item | | |
|---|---|---|---|
| | Specified | Unspecified | Mutual agreement |
| | Number of farmers | | |
| Breeding stock: | | | |
| Boars | 6 | 1 | 3 |
| Sows and gilts | 7 | 0 | 3 |
| How animals returned | 4 | 3 | 3 |
| Farrowing: | | | |
| Dates | 1 | 5 | 4 |
| Sanitation program | 6 | 2 | 2 |
| Facilities and equipment | 1 | 3 | 6 |
| Sow feed | 4 | 4 | 2 |
| Weaning: | | | |
| Age of pigs at weaning | 3 | 7 | 0 |
| Weight of pigs at weaning | 5 | 5 | 0 |
| Feeding: | | | |
| Ration fed | 6 | 3 | 1 |
| Length of feeding period | 2 | 7 | 1 |
| Source of food | 5 | 4 | 1 |
| Creep feeding pigs | 3 | 6 | 1 |
| Sanitation: | | | |
| Disease control program | 6 | 3 | 1 |
| Vaccination for cholera | 6 | 3 | 1 |
| Vaccination for erysipelas | 5 | 5 | 0 |
| Vaccination for leptospirosis | 3 | 7 | 0 |
| Blood test | 1 | 0 | 0 |
| Castrating | 6 | 3 | 1 |
| Disinfecting | 3 | 5 | 2 |
| Worming | 3 | 4 | 3 |
| Who stands disease loss | 8 | 2 | 0 |
| Buildings and equipment: | | | |
| Type of housing | 1 | 4 | 5 |
| Feeding space | 1 | 4 | 5 |
| Watering space | 1 | 4 | 5 |
| Sprinklers | 0 | 7 | 3 |

## PROVISIONS ON MARKETING

Only four agreements specified the time of marketing animals produced under the arrangements (see Table 6). These provisions were tied to the weight of the animals. Also, seven agreements (including the four mentioned) specified the weight of market hogs at time of sale at between 200 and 220 pounds. The breed association's agreement

specified further that animals must be unbred when sold. The agreement under which the feeder pig producer operated specified a minimum weight of 43 pounds per animal.

**Table 6. Agreement Provisions Relating to Marketing Practices Reported by Farmers with Contracts to Produce Hogs, 10 Tennessee Farms, 1960.**

| ITEM | Nature of specification in agreement—farmers reporting for each item | | |
|---|---|---|---|
| | Specified | Unspecified | Mutual agreement |
| | | Number | |
| When hogs are marketed | 4 | 6 | 0 |
| Weight of hogs when marketed | 7 | 3 | 0 |
| Where hogs are marketed | 9 | 1 | 0 |

As noted earlier, two of the feed dealers who had agreements with producers specified a particular packer to whom the finished animals were to be sold. Another feed dealer—who arranged to produce feeder pigs—bought the animals produced under the agreement. The fourth dealer allowed the producer to sell his finished animals wherever he chose. The breed association required the producer to sell the animals to the association itself.

## SOURCES OF MANAGERIAL ADVICE

The most frequently cited source of managerial advice was the feed dealer (see Table 7). All producers except the one who contracted with the breed association relied on the feed dealer for information on feeding. Six producers also relied on the dealers for health and sanitation information. The second most important source of managerial guidance cited by the producers was their own judgment. However, it is likely that they relied—at least informally—on suggestions made by the parties with whom they had agreements. Also of interest in this connection is that two producers who had arrangements with the same feed dealer indicated they used advice from contract hog producers in northern Alabama.

## IMPLICATIONS AND OUTLOOK

A very small part of the total production of hogs in Tennessee is carried on under contract operations. Industry sources estimate the total number of hogs produced in Tennessee under agreements at less than 1% of the total for the State.

**Table 7. Source of Managerial Advice Reported by Farmers with Contracts to Produce Hogs, 10 Tennessee Farms, 1960.**

| ITEM | Farmers reporting source of information for each item | | | | | |
|---|---|---|---|---|---|---|
| | Feed dealer | Banker | Other producers | Veterinarian | Breed association | Own judgment |
| | Number of farmers | | | | | |
| Feeding ............... | 9 | 0 | 0 | 0 | 1 | 0 |
| Financing ............. | 4 | 2 | 0 | 0 | 1 | 3 |
| Health and sanitation .... | 6 | 0 | 0 | 1 | 1 | 2 |
| Housing and equipment .. | 4 | 0 | 2 | 0 | 1 | 3 |

The survey further indicates that contract production of hogs is still in an experimental stage as far as provisions of agreements are concerned. The lack of uniformity in the agreements covered in this report suggests that, as the number of contractees increases, contractors may find it desirable to standardize their contracts. With many contractees per integrator, the task of servicing a large number of "tailormade" contracts would become cumbersome and expensive.

Also, most of the producers and contractors interviewed in the survey indicated some dissatisfaction with current arrangements. Farmers felt that their returns were not as great as expected. Contractors were disappointed with the production efficiency of some of their producers and are trying to renew agreements only with the more efficient producers. This tends to limit the number of producers covered by agreements.

The impact of expansion in contract operations on producers' marketing practices is potentially great. Nine of the ten producers covered in the survey had the market outlet for their animals specified in their agreements. Eight of the nine producers were directed to sell their hogs to specified packer-buyers.

Feed dealers figured prominently in the contract production; nine of the farmers had agreements with feed dealers and one with a breed association. Together with the specified market outlets, this would indicate the following:

1) Farmers wanted to minimize the economic risks of their hog enterprises and/or to maintain or expand their enterprises despite their limited capital;

2) feed dealers wanted to assure stable markets for the feedstuffs they sell and obtain returns from the sale of the animals covered by the agreements; and

3) packers wanted continuous supplies of meat animals of the desired quality. Of the market hogs sold by the seven farmers reporting such sales in 1959, 65% were estimated by the farmers to be No. 1's, 22% No. 2's, 12% No. 3's, and 1% medium and cull.

The large percentage of hogs grading No. 1's may indicate the possible potential for improving the quality of hogs produced by means of contract production. However, nonintegrated producers have access to the same market outlets, where they can receive the same premiums on all quality hogs. Contract production did not bring about a change in the market outlets used. Seven farmers producing under contract reported that the market outlet did not change with the advent of contracting. Hogs produced on these particular farms were marketed through the same local packer both before and after contracting.

Feeder pigs produced under contract provided a specific price floor of $10 per head plus the local top market hog price for the weight in excess of 43 pounds per pig. The guarantee of $10 per pig is a price advantage over independent feeder pig production. Independent producers cannot always depend upon a $10 gross return per pig.

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