



Producing and Marketing
Hogs Under Contract,
1970

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Introduction

Over the course of the last two decades, contract arrangements have become the tool used to coordinate the production and marketing of many U.S. agricultural products. Contracts are the predominate means by which most fruits and vegetables are moved to the processor. Almost all broilers are produced under contract as are 30 to 35 percent of the table eggs and 50 to 60 percent of the turkeys.^{1/} Missouri agriculturalists were made aware of this trend when a 1967 study revealed 85 percent of the state's turkey production was under contract.^{2/}

The livestock industry has not been dominated by contracts. However, it has not been immune to a structural transformation. It has sustained an increased involvement of non-farm interests in the production, marketing and financing of livestock. The structure of the industry may change drastically in the new decade with more agribusiness vertical integration by ownership and by contract.

Integration by contract is the largest segment of vertical integration in livestock.^{3/} Ownership of the feedlot and all associated inputs has been used some in beef and sheep. In the hog sector, however, almost all vertical integration or similar nonproducer entailment is by contract.

The use of contracts is not new to hog production. Various forms of marketing and financing arrangements have been used for a number of years. Through time, these contracts have been modified to coincide with a specific price cycle or production period. Firms and producers have conformed to this system of marketing or financing usually for short periods of time. In most instances, this leisurely participation in contracts has ended.

Within the last 5 years, there has been an emergence of fresh contract models. Certain meat packers and feed companies desire a permanent fixity in the business. The economic implications are being felt in the Missouri hog industry.

The hog sector is a significant aspect of Missouri agriculture. The state produces 7 to 8 million hogs annually which accounts for about 8 percent of the total U.S. production.^{4/}

The short period of time many producers have been on contract and the area concentration of a particular contractor could have affected the attitudes and characteristics of some producers sampled.

Consequently, this study may not be a perfect representation of all hog contracting. The basic objective is to help hog producers to be better informed as to what is happening and to provide useful information for those contemplating the contract route.

This study includes:

1. A classification and analysis of 1970 hog contracts in Missouri.
2. A social and economic categorization of a sample of Missouri and Nebraska contract hog producers.
3. An evaluation and critique of the hog contracting process as viewed by the contract producers sampled.
4. A format of economic and legal considerations for producing and/or marketing under contract.

The Nature of Contracting

The hog producer, input supplier, and packer have all changed in the past 10 years. The structure of the hog economy today more closely relates between the production, financing and marketing sectors. A primary outgrowth of this structural reformation has been the contract.

The growth of hog contracting is difficult to quantify. It is possible, however, to understand its development and motives behind its application by studying the changes in the industry.

The producer is constantly commanding a larger, more specialized hog operation by increasing technology. There is continued interest in specializing in one of 2 phases of production; production of feeder pigs or feeding hogs from feeder pig to slaughter weight. This has encouraged the feeder pig producer to search out new marketing alternatives and the finisher to pursue an efficient, constant source of feeder pigs.

With increasing unit size and lessening in availability of labor, the producer is substituting more purchased for non purchased inputs. The associated rising costs and credit squeeze causes more financing from agribusiness and lending institutions.

The higher degree of technology and related production costs encourage the producer to find ways to transfer some of the growing amount of risk linked to his hog operation. The large, highly specialized operator is realizing a shrinking profit margin and in some instances has a risk too large to carry.

In summary, many hog producers contract to reduce risks, secure financing, or insure their market and supply of hogs.

The agriculture supply industry is undergoing structural changes similar to hog production sector. There are fewer supply firms and volume of sales financing per firm is increasing.^{5/} High fixed costs experienced by many supply manufacturers is putting economic pressure on them to expand sales and diversify.

“Contracts have become a popular competitive strategy of agribusiness firms.”^{6/} For the feed supplier, contracts serve to differentiate his product from the competitor's while sewing-up a percentage of the market. In respect to financial commitment, the large percentage of total costs that feed constitutes makes the hog business especially attractive to feed manufacturers.

The trend in our slaughter hog marketing system has been away from central, terminal markets toward decentralized country markets and direct selling to packers. With specialization and larger numbers of hogs available in a small area, new packing plants have been built in rural areas close to the supply.

Highly mechanized plants with large capital investment require a reliable source of hogs to operate efficiently to maintain a high volume and to reduce costs per hog slaughtered. Due to the day, week, and monthly variation in volume and quality, the packer is feeling the increased pressure to seek ways to guarantee his kill while stabilizing price.

To summarize, the feed companies and packers are motivated to contract to increase volume and level of efficiency. A percentage of assured business enhances their market position and can yield a more streamlined, efficiently coordinated system.

Classification of Hog Contracts

An assortment of hog contracts has evolved through the years. To better understand the contracting process, a classification and analysis is necessary.

Contracts could be classified by several methods. From the standpoint of the hog producer, an economic analysis was felt to be most applicable. Some legal relationships, however, will be introduced later.

Contracts serve to coordinate the activity within and between the steps involved in producing hogs. Condensed, these production steps are (1) acquiring the input (hogs and feed), (2) producing, and (3) marketing. These steps are used in all phases of production whether it be producing feeder pigs, finishing feeder pigs, or producing farrow to finishing hogs.^{7/}

The producer operating independently must assume various risks associated with ownership, production, and marketing. Production risks and market price risks are the two types of business risks. Production risks relate to mortality, feed efficiency, health, and quality of the hogs. Market price risks relate to fluctuations in the market price of feeder pigs or slaughter hogs.

This analysis is centered around the nature and amount of these risks that are transferred from the producer to the contractor. The following classification was derived.

- A. Risk Transfer
 - 1. Guaranteed Payment
 - 2. Profit Share
 - 3. Forward Sale
 - 4. Floor Price

- B. Financing
 - 1. Breeding Stock Lease
 - 2. Credit Extension

- C. Marketing Agreement

Risk Transfer Contracts

There are a variety of risk transfer contracts. These contracts have been grouped in relation to the amount of risk transferred by the producer. This varies from a transfer of nearly all risk to a sharing of that related to market price.

Guaranteed Payment

The guaranteed payment contract allows the producer to transfer all price risk and some of the production risk to the contractor. The contractor furnishes the hogs. The producer furnishes the labor and facilities. The producer is guaranteed a specified payment per head or per pound regardless of the market price. Variations in payment will depend upon which party supplies the feed, medication, and transportation.

There is no standard specified payment universal to all contracts. If a producer is finishing feeder pigs, a common guaranteed payment contract might compensate the producer a flat \$2 per head marketed or 2 cents per pound of gain for his labor and facilities. If the producer also supplied the feed, one contract guaranteed him 15 cents per pound of gain. Where feeder pigs or farrow to finish hogs were produced under this type of contract, the contractor usually furnished all inputs except for labor and facilities. Return to producer was on a per head basis for feeder pigs and per pound on farrow to finish.

Some contracts also contain provisions allowing bonuses for low mortality rates or exceptional feed conversion. (Examples: Tables 1, 2, and 3.)

TABLE 1

BONUS PAYMENT FOR FEED CONVERSION; FINISHING HOGS

<u>Feed per pound of gain</u>	<u>Bonus per head</u>
3.80	-0-
3.79 to 3.70	30¢
3.69 to 3.60	60¢
3.59 to 3.50	90¢
3.49	\$1.00

TABLE 2

BONUS PAYMENT FOR LIVABILITY; FINISHING HOGS

<u>Percent death loss</u>	<u>Bonus per head</u>
4.0	-0-
3.99 to 3.0	20¢
2.99 to 2.0	40¢
1.99 to 1.0	60¢
.99 to 0	80¢

TABLE 3

BONUS PAYMENT FOR LIVABILITY; FEEDER PIGS

<u>Pigs Weaned</u>	<u>Bonus per head</u>
4 or less	-0-
5	50¢
6	\$1.00
7	1.50
8	2.00
9	2.50

These bonus incentives can prove beneficial to both parties. The producer has the opportunity to experience an added return by superior management. The contractor may offset the premium payment to the producer with lower per unit production cost.

The producer's return is unrelated to the market price under this contract. Thus, all risk due to market price fluctuations is transferred to the contractor. The amount of production risk shifted varies depending upon which party supplies the feed and medication. Since the contractor retains ownership of all hogs, he naturally assumes some of the production risk. The producer stands to lose labor and utilities invested. The producer's production risk increases if he also supplies feed and medication for the animals.

Since feed constitutes more than one-half of the variable costs of raising market hogs, some contractors have sought to equate the risks to both parties resulting from fluctuations in feed costs. This is accomplished by determining a base cost for the particular type of feed used. At the end of a specific time period, the exact cost of all feed is computed. The party supplying the feed is either paid or charged an adjustment sum to equalize the cost to both parties.

Profit Share

The profit share contract is similar to the guaranteed payment in respect to the inputs provided by each party. The principal distinction is the way the producer is compensated. Under the profit share contract, the producer is paid a percentage of the net receipts from the sale of the hogs. Since the producer's return is directly related to the market price, he is transferring only part of the market price risk rather than all as under the guaranteed payment contract.

Like guaranteed payment, profit share allows the producer to share some of the production risk with the contractor. The contractor furnishes the hogs. The producer furnishes labor and facilities. The risk of loss of feed, medication, and transportation is usually divided between the two parties. This is sometimes handled by splitting the expense of these three inputs or subtracting it from the total gross receipts before the producer's return is computed. Another form permits the producer to furnish his own corn and receive a percent of the net receipts proportional to the adjusted base price of corn.

In Missouri, this type contract has been geared toward operations engaged in finishing feeder pigs to slaughter weight. For example, the contractor would furnish hogs, medication, and transportation and the producer the labor, facilities, and feed. From the total gross receipts, the contractor might deduct medication and transportation costs. He could further deduct 10 cents for every pound the pigs averaged over 45 at time of initiating feeding. The producer would then receive 6 percent of the remaining receipts. The additional percentage entitled the producer would depend upon the base price of corn. The higher the price of corn during the feeding period, the larger is the producer's share of the remaining receipts.

Since the profit share agreement enables producer and contractor to share production risk and market price risk, economic production incentive on the part of the producer is built-in. Contractors install profitable marketing practices by calculating gross receipts on basis of grade and yield cut-out and/or lowering the percentage return to the producer if the average weight of the hogs falls outside a specified range.

Forward Sale

A forward sale contract is created when a contractor agrees to pay a predetermined price for a specified number of hogs delivered at a designated time. As opposed to the two types of contracts just discussed, the producer operates independently in the production stage furnishing all production components and assuming all production risk. All market price risk is transposed to the contractor by way of the guaranteed price. Economically, this contract is similar to using the futures market to shift price risk.

Floor Price

Similar to the forward sale, a producer with a floor price contract furnishes all the productive resources and carries all the production risk. Unlike the forward sale, however, the producer accepts some as opposed to none of the market price risk. In lieu of a predetermined market

price, a minimum base price is established. The producer assumes some risk by sharing in the return so long as the market price is above the fixed base. His market price risk will cease when the market price falls to or below the fixed floor price. Since this price is stipulated as the minimum amount to be paid the producer, the contractor must absorb all risk when the market price falls below this floor.

Financing Contracts

The four types of contracts just discussed will allow some or most of the production and marketing risks to be allotted between producer and contractor. Financing contracts, on the other hand, leave these risks with the producer. Financing arrangements principally serve as a medium to supply the producer with various inputs essential to hog raising. From an economic view, a contractor employing this type contract is performing a role similar to a money lender.

Breeding Stock Lease

The breeding stock lease is one of the 2 types classified as a financing arrangement. The contractor furnishes to the producer breeding age boars and gilts for the purpose of producing pigs. The producer pays rent for the use of the animals. The lease payments vary depending upon the particular contract. Some require a deposit or rental payment upon delivery. Payments may consist of either a specified number and weight of hog or an equivalent in money at designated intervals. Duration of the contract ranges from four to eight litters. Few contracts permit the producer to purchase the breeding stock or retain any offspring for breeding purposes. Technically, the contract does not terminate until all initial breeding stock and progeny are marketed. The producer usually receives a portion of the salvage from the marketed breeding stock.

There are basically three classes of breeding stock leases in Missouri. The principal distinction between the three is the way the offspring of the leased swine are marketed.

The first two are quite similar. One is a leasing arrangement only. The producer may market the progeny wherever and whenever he desires but they can be sold only for slaughter. The other has a rider attached permitting the contractor at his option to purchase from the producer any number of pigs produced. This lease plus option contract is prevalent where the contractor is interested in securing additional breeding stock. The contractor is not required to take a specific number but does generally pay a premium over market price for those animals selected.

The third lease requires the producer to sell to the contractor at feeder pig weight all desirable progeny of the leased swine. The price paid for the feeder pigs is derived by a formula based on either the cash or futures price for live market weight hogs. Most contracts weight the price to encourage marketing pigs at 40 pounds.

A producer with any one of the three breeding stock leases experiences an income from the sale of hogs directly correlated with the market price. Moreover, he supplies or rents all ingredients of the production process. All price risk and most production risk are his except the fraction related to death loss of breeding stock.

Credit Extension

This type contract is commonly created when a feed firm or similar agribusiness provides feed or other production inputs to the producer on credit. The contract may be open-end in duration or extend over a specified length of time. The producer owns the hogs and, like the breeding stock lease, he is subject to all risks linked to production and marketing. The creditor's interest is limited to a possible lien on the hogs for satisfaction of the debt.

Marketing Agreement

A marketing agreement is an arrangement whereby the producer agrees to sell his pigs to one individual or market through a particular program. This arrangement has proven popular in the feeder pig industry in Missouri by insuring the producers a reputable market for their feeder pigs at a to-be-determined price. Most agreements require specific quality, health, and weight standards. The producer owns all inputs and accepts the price derived by the market. Marketing agreements should not be confused with floor price or forward sale contracts where some or all of the price risk is passed to the contractor.

Relevance of Particular Contract Types

The emphasis of this study was devoted to four of the seven contract types. The following list depicts the four types and the respective risk transferred to the contractor.

<u>Type Contract</u>	Risk Transferred to Contractor	
	Market Price	Production
Type I - Guaranteed Payment	all	some
Type II - Profit Share	some	some
Type III - Forward Sale	all	none
Type IV - Breeding Stock Lease	none	none

These 4 types were included in the sample survey based on a conviction of their relevance in the structure of the Missouri hog industry.

The use of guaranteed payment and profit share contracts in hogs has increased in recent years. They are almost identical in economic objective to the risk transfer contracts used in the poultry industry. The varying amounts of risk transferred under these contracts are associated with a similar transfer of entrepreneurship. The result in poultry has been the transposing of the once independent producer to an economic position resembling a "wage earner" and the deterioration of the free marketing system. It is easy to recognize how an extensive adoption of these two types in the hog business could be significant in determining the future role of the producer and the independent marketing system.

The forward sale contract is used periodically by some hog producers. The extent of its application usually varies with the price cycles and depends upon the producer's current desire to alleviate uncertainty resulting from fluctuations in the live market price. Relative to Type I and Type II risk transfer contracts, the forward sale has not experienced the increase in use in recent years. The three contracts do, however, constitute the bulk of the risk transfer arrangements associated with Missouri hog production.

Breeding stock leases have enjoyed an immense growth in popularity within the last ten years. It is presently estimated that approximately 300,000 sows are leased to producers in the U.S. under this type contract.^{8/} If its adoption continues to increase, it could definitely modify some key structural characteristics of hog production. Contractors employing the lease are altering the structure by shifting the source of ownership of an essential input. By tying the producer to a particular brand of feed and by initiating certain managerial practices, the contractor is implementing a more closely coordinated, vertical system.

The floor price contract has sustained far-reaching utilization in the poultry industry and some contractors are considering its possible merit in the hog business. However, its small use prevented the investigation of its relevance. Credit extension arrangements and marketing agreements are integral mechanics of the hog system. They are recasting the source of financing and the marketing channels used in the hog business. Nevertheless, these contracts impose only a minimal influence on the origin of ownership, management, and risk. They probably will have little impact on the future structure of the industry.

Description of Sample

The sample survey of contract hog producers was selected from a variety of sources. To qualify, it was necessary the producer either presently, or within at least three years have been, be under one of the four types of contract.^{8/9/} Each producer's opinions and characteristics were analyzed in reference to his contract. The contract types were distributed among the producers as follows:

- 5 Type I - Guaranteed Payment
- 30 Type II - Profit Share
- 5 Type III - Forward Sale
- 48 Type IV - Breeding Stock Lease

88 responses^{10/}

The array of contracts may not be an indication of prevalence for specific contracts. The relative use of hog contracts could be roughly proportional to these responses but the number of producers studied were too limited to make such a conclusion. It does, however, indicate the awareness and popularity of certain types.

There was a high degree of adaptation of specific contract types to specialized hog production. Contractors used Type I and Type II risk transfer arrangements exclusively to finish feeder pigs to market hog weight. Five producers used the Type III contract to transfer price risk on finished market weight hogs. The feeder pig producing phase was incorporated within Type IV. At least 28 of the 48 producers with breeding stock leases were specialized feeder pig producers since their contract required them to sell all pigs to the contractor at that weight. The other 20 producers had a lease arrangement in which the contractor could purchase the progeny if he desired. Otherwise no marketing weight or channel stipulation was imposed.

Along with breeding stock leases, profit share arrangements have become especially popular in recent years. To obtain a larger sample of producers on this contract, 18 Nebraska hog men finishing feeder pigs under a profit share contract were included in the survey.

The contract producers were not new to the hog business. The majority of them (91%) had at one time produced hogs other than under contract. They were, however, new in respect to contracting. More than 50 percent of the present contract producers first used contracts in 1970.

Characteristics of Contract Hog Producers

The contract hog producers averaged 41.7 years of age, had 11.6 years of formal education, and began farming in 1954. These producers averaged 159 acres owned, 355 acres operated, and 175 in grain crop. The average net income was \$4,633 from the farm and \$3,963 from non-farm sources in 1970.^{11/}

Sixty-five percent (57 of 88) owned and operated their land. About one-half of these rented additional acreage to farm. Another seven producers in the sample were involved in a partnership which served as an owner and tenant of land. Sixteen respondents were strictly tenants. Another four were hired managers and each of the remaining four were a combination of owner, tenant, and manager.

Thirty-three respondents were members of farm organizations. Nineteen of these were affiliated with the American Farm Bureau Federation. Nine were members of Missouri Farmers' Association and five were members of the Pork Producer's Association. Other organizations in which producers had associated were: National Farmers' Organization, Adult Farmers' Association, Young Farmers' Association, Farmers' Union, and various livestock associations.

One distinctive characteristic of this sample was the 12.5 percent directly involved in the commercial feed business. These hog producers were either employed by or owned a dealership indicating the coordinative compatibility of a hog operation and a feed enterprise.

Missouri producers farrowing pigs from leased sows in comparison to Missouri producers finishing feeder pigs under contract were 5.2 years younger, had a little less education (.6 years), and began farming later in life. The farrowing contractees averaged operating 48 more acreage with an additional 118 acres in grain. They had a smaller net farm income and depended less on non-farm income.

The Missouri feeder pig finishers were older, had more formal education, and had farmed for a longer period of time than the Nebraska feeder pig finishers. In general, the Missouri finishers operated a larger acreage but farmed less than one-half as many grain acres while experiencing a larger farm and non-farm net income. The smaller grain acreage in conjunction with the \$4,363 average, additional non-farm income could reasonably be attributed to the more than 35 percent (6 of 17) of the Missouri finishers who were involved in a commercial feed operation. In comparison, only 2 of the 18 Nebraska finishers received an income from a feed business.

TABLE 4
SOCIO-ECONOMIC CHARACTERISTICS OF CONTRACT HOG
PRODUCERS, 1970*

<u>Characteristics</u>	All con- tractees	Farrowing con- tractees**	Finishing Contractees**		
			<u>Mo.</u>	<u>Neb.</u>	<u>All</u>
Number of Respondents	88	48	17	18	35
Present Age	41.7	40.9	46.1	42.6	44.3
Education (year)	11.6	11.8	12.4	10.7	11.5
Acreage Owned	159	177	160	129	143
Acreage Rented	170	203	101	149	126
Acreage Operated	355	366	318	277	287
Acreage Tillable	261	282	176	236	207
Acreage in Grain	175	198	80	170	126
Median Year Began Farming	1954	1954	1946	1956	1951
Number of Respondents	86	46	17	18	35
Net Income (\$)					
Farm	4,633	4,466	6,258	4,364	5,284
Non-Farm	3,963	3,193	7,433	3,070	4,977

* All figures, except median year began farming, are computed averages based on the number of respondents indicated.

** Missouri producers farrowing pigs from leased breeding stock.

*** Producers finishing feeder pigs under contract.

Producer Evaluation of Contracting

Most of the respondents began production and/or marketing under contract in 1969 or early 1970. Table 5 lists the reasons producers gave for using a contract.

TABLE 5

PRODUCER REASONS FOR INITIATING PRODUCTION AND/OR MARKETING UNDER CONTRACT

Reason	Responses	
	Number	As % of total
Smaller Investment	57	37.3
Less Risk	28	18.3
Acquire Better Quality Hogs	22	14.4
Expectation of Additional Income	20	13.1
Convenience; Guaranteed Supply and Market	15	9.7
Better Utilization of Labor and Facilities	11	7.2
TOTAL ^{12/}	153	100

The specific item most often cited as the one producers looked for in a contract was the clause stipulating the gross return they could expect. As Table 6 shows, almost one-third of the total responses designated the provision for either the guaranteed price, the specified percentage of total receipts or salvage, or the formula for price determination as paramount. The second concern was the responsibilities and restrictions of each party. This included feed specifications and programs, payment of taxes, possible allowance for purchase of contract animals, and quantity of management supervision provided.

Forty of the 88 respondents said they experienced no problem with contracts, contractors, or fieldmen. Table 7 summarizes the responses.

TABLE 6
 MOST IMPORTANT ITEMS LOOKED FOR IN A CONTRACT

Item	Responses	
	Number	As % of total
Gross Returns	62	31.0
Each Parties' Responsibilities and Restrictions	52	26.0
Amount of Personal Investment or Cost	28	14.0
Accountability for Death Loss	23	11.5
Quality and Health Specifications	21	10.5
Reputation of Contractor	8	4.0
Duration of Contract	6	3.0
TOTAL	200	100

TABLE 7
 PROBLEMS EXPERIENCED BY HOG PRODUCERS
 WITH CONTRACTS, CONTRACTORS, OR FIELDMEN

Problem	Responses	
	Number	As % of total
Lack of Cooperation	19	27.9
Poor Quality or Health of Hogs	14	20.6
Loss of Independence	14	20.6
Compulsory Involvement with Feed Firm	12	17.6
Inexperienced Fieldmen	4	5.9
Complicated or Vague Contract	3	4.4
Cost Relative to Independent Production	2	3.0
TOTAL	68	100

One-half of the respondents dissatisfied with the involvement of feed firms elaborated on the channels sale receipts must pass. These channels resulted in an extensive lapse of time before any return was received by the producer.

The quality and health of their hogs has been a major selling point of agribusiness contractors. They have expressed confidence in their ability to assemble and deliver a large volume of superior quality animals. To obtain the producer's opinion, the 83 respondents under guaranteed payment, profit share, and breeding stock arrangements were asked if the contractor had ever delivered unhealthy or low quality hogs to their farm. Sixteen of the 35 producers finishing feeder pigs under either a Type I or Type II contract and 19 of the 48 leasing breeding stock were displeased with the animals delivered. Those discontented accounted for 42 percent of the sample with contractor hogs on their farm. Fifty-three percent of the Missourians finishing feeder pigs were dissatisfied compared to 39 percent of the Nebraska finishers.

In conducting this survey, the failure of the producer to read and/or understand his contract was typical. This was exemplified when the 83 respondents in possession of contractor owned hogs were asked if the contract permitted other hogs to be on the farm. Twenty-seven said "yes," 49 said "no," and 12 said "no, but had some anyway." However, an evaluation of 78 available contracts revealed 77 specifically stated that no other hogs were allowed on the premises.

Almost no contract allows the contractee to retain or purchase for his own breeding herd hogs covered by the agreement. Nevertheless, due to either misinformation or a subsequent arrangement, nine respondents indicated they could purchase if they so desired.

The cost of transporting hogs to the designated market is the major marketing expense generally carried by the contract producer. The 28 feeder pig producers trucked their pigs an average 41 miles. All but three of the respondents withstood the entire transportation cost. Thirty-eight of the 40 producers under Type I, Type II, and Type III risk transfer contracts were responsible for moving their finished market hogs an average 73 miles. The producer paid the cost in five instances and the contractor in three. The other 30 responses attested to a sharing of the expense either by dividing the cost from total gross receipts.

Delays in receiving from the contractor either breeding animals or feeder pigs was a "costly inconvenience," agreed some respondents. Eleven of the 48 producers leasing breeding stock suffered a delay in receiving breeding age gilts. Likewise, 6 of 35 contract finishing pro-

ducers had to wait on feeder pigs. In the producer's opinion, the wait was chiefly due to the inaccessibility of the animals to the contractor--a situation discovered by many contractors during that period of relatively high hog prices and increased demand for hogs. Nevertheless, some of the producers expressed their annoyance at the upset farrowing schedules and facilities operating at less than capacity.

The involvement of feed firms in the contract hog business was evident in the study. Even in instances where other than a feed company was the original contractor, various feed dealers would function as a middleman. While handling and receiving the contract, they would strive to tie the producer either formally or informally to a particular brand of feed. In this sample, the majority of the producers (81 of 88) paid for the feed for their contract hogs. Of these, 26 percent with breeding stock leases and 71 percent under risk transfer arrangements were required to buy a specific brand of feed.

Parallel with each type of contract was a varying producer attitude as to which party carried the risk associated with death loss of the contract hogs. The producers with a forward sale contract withstood the entire loss since they retained ownership and furnished all inputs. Twenty-six of the 35 guaranteed payment and profit share producers felt the contractor took this risk. Eight of the same type producer said the burden was shared while one argued the producer was still responsible. Farmers producing pigs from leased sows indicated they assumed nearly all production risk except that connected with death loss of breeding stock. The majority (39 of 48) of these producers said the contractor carried this particular risk and an additional six designated the risk as one that was shared. From the wording of the particular contracts available, it was not possible to determine how many of the producers sampled were incorrect in their judgement. The sharing of death loss depending upon various inputs supplied and weight of the hogs was not explicit.

The 88 respondents were limited as to informational sources and flexibility within the contracting mechanism. Their knowledge of the process was gained from feed dealers, contractors, trade magazines, and other producers with feed dealers the recipient of 58 percent of the total responses. When approached by the contractor, 29 respondents were offered a choice of contracts. But, only 3 of 88 were ever able to negotiate more favorable terms than those first offered.

The sentiment was that many producers were not only unfamiliar with other hog contracts but with their own as well. The lack of understanding of their contract was due to either: failure to read, failure to comprehend, or failure to have possession of the written document. The

latter was verified by the fact that 8 of 88 respondents had oral agreements and another nine with written contracts said they never received their copy.

Respondents were asked to specify the type contract they preferred. Twenty-nine of the 88 preferred "none." Another eight indicated they had no preference. As a percentage of that specific type in the sample, guaranteed payment pocketed the largest share of preferred votes. The lease plus option version of the breeding stock lease recorded the smallest percentage. These responses should be evaluated in terms of the limited knowledge of respondents about other contracts.

Volume and Returns of Contract Hog Producers

There existed within the sample a wide variation in production volume and net return of contract hog operations. The actual number of hogs produced under the four types of contracts ranged from a low of 3¹³/₁ to a high of 3,500. Net income attributed to the hog enterprise varied from zero to \$15,000.

Also present was a broad latitude of hog production experience. Initial production of hogs encompassed a 1934 to 1970 span with 36 percent of the respondents first producing within the last 5 years. Moreover, nearly 65 percent of all respondents have continued to raise hogs every year.

This section, devoted to the producer's hog enterprise, is not without its possible sources of discrepancy. Some producers had hogs on their farm, in addition to those under contract, requiring a detaching of data pertinent to the contract animals. To be applicable, it was necessary to sort the data obtained from the ranks of three other groups. These included: The contract producers who had terminated their agreement prior to interviewing, individuals who launched their contract hog program in 1970 resulting in no marketings during the year, and those respondents failing to divulge specific information.

It should be emphasized that the data reflects experience during a year with a constant decline in the market hog price. It can be assumed that the analytic picture of income and returns is affected by the circumstance.

Analysis of the hog operation could have been handled in numerous ways. To include all qualified respondents, the investigation process was focused on two clusters; (1) producers with leased breeding stock, and (2) producers under risk transfer contracts.

Breeding Stock Lease

Producers with breeding stock leases were categorically analyzed under either specialized feeder pig contracts or lease plus option arrangements. Statistics were based upon 27 of the original 28 feeder pig producers and 19 of the original 20 lease plus option contractees.

TABLE 8

PRODUCTION AND MARKETING STATISTICAL AVERAGES OF
PRODUCERS ON BREEDING STOCK LEASES, 1970

<u>Production Feature</u>	<u>Feeder Pig Production</u>	<u>Lease Plus Option</u>
Sows Farrowed	74	75
Litters Farrowed	104	85
Pigs Farrowed Per Litter	9.4	8.9
Pigs Weaned Per Litter	6.7	7.6
Total Contract Pigs Sold	697	***
Weight Per Pig Sold	44.1	***
Price Per Cwt.	\$26.92	***

*** no specified marketing channel.

In 4 of 19 lease plus option contracts, the contractor chose to purchase. On the average, 20 percent of the progeny of these four herds was selected.

The swine venture was a significant aspect of all 48 respondent's total farm operations. The producers on both subtypes of lease raised an average of 786 hogs in 1970. Thirty-nine of the 48 respondents farrowed in central confinement units ranging from converted chicken houses to modern slatted floor houses. Over the last 5 years, these same producers have invested an average \$1,557 per year in hog facilities.

The portion of the net farm income that could be attributed to the hog enterprise was difficult to calculate. Sufficient information on 32 of 48 producers revealed an average net return of approximately \$2,672. This accounted for nearly 47 percent of their net farm income in 1970.

Risk Transfer Contracts

Data was adequate to allow a partial, tabular summary of 36 of 40 risk transfer contractees. Included were all 5 guaranteed payment feeders, 12 Missouri and 16 of 18 Nebraska profit share feeders, and 3 of 5 respondents selling under a forward sale arrangement.

TABLE 9

PRODUCTION AND MARKETING STATISTICAL AVERAGES OF
PRODUCERS ON RISK TRANSFER CONTRACTS, 1970

Production Feature	Guaranteed Payment	Profit Share			Forward Sale
		All	Mo.	Neb.	
Total Hogs Raised	1,269	601	1,065	296	989
Total Contract Hogs Sold	302	467	850	179	366
Weight Per Hog Sold	228	220	217	222	225
Median Year First Raised Hogs	1967	1953	1948	1958	1967

As Table 9 shows, many producers had contract hogs as a supplement to their entire swine operation. In all but one of the 40 instances the risk transfer contract was used in the feeder pig to finished market weight phase of production.

In total, the 40 respondents averaged raising 733 hogs in 1970. Only nine finished hogs in confinement and another 23 pasture fed all hogs. The result was a limited \$498 per year investment in all hog facilities

Estimates of net return to the contract hogs were difficult to compute. Data was gathered for the total hog operations of 33 of the 40 respondents. Their average net return was \$764 or 36.3 percent of their net farm income.

Missouri profit share contract producers have raised hogs longer than the Nebraskans. In 1970, the Missouri averaged 774 more hogs raised and an additional 671 fed under contract. Ten of 12 Missouri respondents averaged a \$727 net return to hogs while 14 of 18 Nebraska producers averaged \$560. These returns accounted for 46.9 percent and 23.6 percent of their respective net farm incomes.

Respondents adopting risk transfer contracts first raised hogs in 1957 as compared to 1955 for those leasing breeding stock. The risk transfer contractees had less invested in facilities, raised fewer hogs in 1970, and experienced a smaller net return to their hog operation.

Economic and Legal Implications of Contracting

The gradual acceptance of contracts in the hog business is generating a number of economic and legal implications for the producer's entire farming operation. A precautionous analysis and defining of all contract term is imperative.

The provisions discussed are not applicable to all contracts. The objective is to point out some general clauses the producer should be concerned with.

Economic

The composition of the contract should be clear, concise, and complete without being unduly long. No purpose is usually served by a complex, wordy contract that fails to define all provisions. The producer should outline each contract term in relation to his particular operation and judge its feasibility.

Some significant aspects to consider are: the duration of the contract, delivery date and weight, and the number of feeder pigs or sows to be delivered. Most of these contracts also supply management assistance and supervision. Knowing the availability, capability, and cost of this input is important.

Many contracts, though not stated in writing, require the producer to feed a particular brand of feed. This feed could be higher in price or lower in quality than the kind ordinarily fed. Other costs are associated with the quality and health of the animals delivered. Equally important is the division of death loss and determination of the party responsible for payment of taxes and insurance.

Individuals producing or finishing feeder pigs should evaluate the marketing segment of the contract closely. Not only the payment or share of the receipts but when, where, and at what weight to market have an economic significance. The buying of feeder pigs by the contractor at 40 pounds intensifies his opportunity for gains and profit as opposed to a 50 pound purchase. Likewise, the producer's potential for a feed conversion premium may be affected by the weight to which he is to feed the hogs. Transportation to the market is important from a standpoint of both out-of-pocket cost and shrink. These allowances should be stipulated in the

contract along with a time interval within which the producer can expect payment for his service and reimbursement for any added costs.

A producer leasing breeding stock should inspect the type and amount of compulsory rent payment. Whether the payment is in cash or a specific weight hog at designated intervals, the monetary value should be tabulated and converted to an annual interest rate. If the rent is in cash, the contractor will usually base the payment on a terminal market price. This will sometimes be a market in the Eastern Corn Belt where prices are usually 25 to 50 cents higher than those in the Western half.

The actual interest rate varies considerably with each lease as do the services provided. Some contracts computed in excess of a 90 per cent simple, annual interest charge over the life of the contract. This surplus charge is the net income given up to rent as opposed to owning. Assuming, that is, the production is comparable under both conditions and an alternative source of capital is available.

Various lease qualifications may compensate for part or all of this extra cost. A monetary value needs to be established for the possible higher sow conception rate, additional pigs per litter, higher rate of gain, better feed conversion, and/or higher market price as a result of increased quality. Management supervision and in some cases a guaranteed market for the pigs produced are important.

The amount of return from salvaged breeding stock and the average number of hogs the contractor will select under a lease plus option arrangement are relevant. In most instances where the hogs selected return a premium to the producer, additional work is necessary on his part.

The final prominent feature the producer must consider is the procedure for replacing non-productive breeding stock. This is important for operational capacity and for having accurate basis of productive sows for rent. Some leases state that rent is calculated on the total number of breeding animals delivered with no mention of allowances for death or nonbreeders. The formula for rent determination should be subject to rebate on nonproducing animals. Also, to be equitable, the contractor must pay for the gilts if replaced from those raised by the producer. If not, the contractor's replacement punctuality should be determined before signing.

The risk transfer contracts are of a special nature. Shifting of ownership, though not economic in temperament, takes on this connotation.

Profitability in all phases of production is most surely affected by the source of decision making. Also, the amount of production risk shifted is not dependent upon ownership alone but is linked as well with the party furnishing feed. In relation to transferring market price risk, a sharing of the losses when prices are low also means a sharing of profits during high prices.

Legal

A contract is defined in general terms as an agreement between two or more persons to do or not to do a specific thing. The breach of such an agreement gives remedy by law. You probably should always consult a legal authority before signing any agreement.

The contract should be explicit about the rights, duties, and responsibilities of both parties involved. It should contain at least five elements: names of the parties, description of property, date and time in effect, how much and in what manner rent is to be paid or profits shared, and signatures of the parties. The right to terminate the contract or to assign the performance to another producer is also notable.

The pork industry might profit by some legal issues experienced in the broiler sector. An arbitration provision in the contract may help to avoid costly court procedures. Even though disputes should not arise, a clause of this type designating an outside party as a nonbiased arbitrator can save much time and money if disagreements do arise. As a supplement, a liquidated damages clause can stipulate the amount of damages, if any, each part would be entitled to if the other defaulted in his performance.

In most instances, the phrasing of contracts is done by the contractor. The producer needs to be familiar with the implications of these clauses. One term common to many contracts specifically states that all hogs, even those produced from leased breeding stock, will at all times remain under the ownership of the contractor. The producer may not mortgage or otherwise encumber the animals. Yet, these same contracts specify the producer is responsible for paying all taxes and insurance on these animals that he legally does not own.

Another aspect is the legal relationship created by the agreement. Contractors try to avoid a partnership, joint venture, principal-agent, or master-servant relationship with their contractee. To avoid responsibility for the debts or actions of the producer to third parties, the terminology applied by the contractor to the producer will be one of an

independent contractor. However, what is attempted by the contractor has little impact on what actually exists. Rather, it is only an indication of the contractor's intent. There is a fine line drawn as to the amount of control the contractor may exercise to retain ownership while still not being susceptible to liability.

An oral contract covering one year or less is just as legal and binding as a written agreement. The difficulty might arise, however, in proving validity, nature, or extent in case of a disagreement. Oral agreements or evidence prior to a written contract are in no way enforceable if it contradicts the written.

Though not included in the study, the implications of one particular contract detected during the survey deserves mentioning. The conditional sales contract allows the producer to purchase the sows during the course of production by paying specific amounts at designated intervals. The possible danger of this type agreement is in the contractor's right to enter and take full possession upon the producer's failure to either make payments on time or care for the animals in a reasonable manner. Similar clauses stipulating timely payments and prudent husbandry practices were customary in most breeding stock leases and risk transfer contracts.

However, the risk of direct monetary loss is increased where neither management practices are outlined nor amount of remittance specified.

Producer Future Involvement in Contracts

The intent of the hog producers sampled as to their future involvement in contracts was studied. With reference to the total hog operation, 14 were preparing to increase, 45 contemplated producing about the same volume, 21 planned to decrease and eight were quitting the hog business.

At time of interviewing, 4 of 88 respondents had terminated their respective contracts in 1968 or 1969. Another 34 ceased participation under the contract either during or at the conclusion of 1970. The remaining 50 were still under agreement.

Twenty-nine of the 38 producers who concluded their contract prior to the interview were under a risk transfer arrangement and the remaining nine had breeding stock leases. The batch to batch or year to year duration of most risk sharing varieties would partially be responsible for the high discontinuence concurrent with this type. Ten of these 38 said they signed again with their previous contractor for 1971. Another three producers indicated that if they signed it would be with the same contractor. Of the remaining 25, three were uncertain whether they would consider any contract and 22 would definitely not produce and/or market under contract in 1971.

Forty of 50 respondents presently under contract expressed their termination date as follows: 25 in 1971, 11 in 1972, and 4 in 1973. The other 10 said their agreement was continuous in duration, subject to cancellation at the discretion of either party. In actuality, the written contracts held by 7 of these 10 respondents stipulated a specific expiration date of which they were unaware.

Relative to future participation, a grouping of intentions of the 50 revealed: 21 would continue with the same contractor, three said if they sign again it will be with the same contractor, nine were uncertain about ever signing another agreement upon termination of present, and 20 stated they would not sign with any contractor.

Summarizing the intentions of all 88 respondents.
31--did or will sign with same contractor.
6--will sign with same contractor if sign at all.
9--uncertain about signing with any contractor.
42--will not sign a contract.

The 42 not planning to produce and/or market under contract consisted of 21 of 48 with breeding stock leases and 21 of 40 on risk transfer contracts.

The various reasons given by the 42 for not signing another contract reflected both the general nature of some contracts and the problems experienced with various types. Thirty-three percent of the total responses were dissatisfied with monetary gains possible under contract. Another 18 percent showed producer disgruntlement over involvement of feed firms in their business including feed brand requirements, added expense, and delays in receiving returns. Thirteen percent symbolized accumulation of adequate experience and/or capital to initiate hog production independently and another 13 percent signified quitting the hog business as the reason for cancellation. The health or quality of hogs below expectation received 9 percent of the total responses while loss of independence and various contractor problems accounted for the remainder of the reasons mentioned.

Summary and Conclusions

Vertical coordination via contract has emerged in the hog industry to accompany four principal factors. These structure altering factors are:

1. Continued commercialization, specialization, and increase in average size of hog operations.
2. Competition among packers and input suppliers to reduce costs and improve efficiency.
3. Technological advancement in all phases of production and marketing.
4. Increasing demand for uniform quality and quantity of pork at a stable price.

With the share of farm receipts spent for production increasing and the profit margin per dollar of receipts decreasing, some producers have been attracted to the contract. It has served as a valuable tool to aid financing or shift a portion of the growing amount of risk associated with the hog business. The meat packers and feed companies feel the contract is an attractive instrument for increasing the level of operating efficiency and laying claim to a share of the market.

Relative to the production and market price risk transferred to the contractor, the following economic classification of all hog contracts was derived.

- A. Risk Transfer
 1. Guaranteed Payment
 2. Profit Share
 3. Forward Sale
 4. Floor Price
- B. Financing
 1. Breeding Stock Lease
 2. Credit Extension
- C. Marketing Agreement

The contractor owns all hogs under the guaranteed payment or profit share allowing the producer to shift some production risk under either type. The producer transfers all market price risk with the guaranteed payment and some with a profit share. The producer retains ownership with the other two types of risk transfer contracts thus assuming all

production risk. Relative to market price risk, all is shifted to the contractor with a forward sale but only some with a floor price.

Little, if any, risk is shifted through financing contracts. Breeding stock leases and credit extension arrangements primarily serve to facilitate buying production inputs by the producer.

Producers with marketing agreements also carry all production and price risk associated with the hog business. The contract is created when the producer agrees to sell all pigs to a specific individual or through a particular program.

Producers with the following four types of contracts were surveyed.

- Type I--Guaranteed Payment
- Type II--Profit Share
- Type III--Forward Sale
- Type IV--Breeding Stock Lease

In general, the four types were adapted to specialized production phases. The 30 respondents with Type I and Type II contracts finished feeder pigs to slaughter hog weight. The five producers with a Type III used the contract to shift price risk on finished market weight hogs. Twenty-eight of 48 with a Type IV were specialized feeder pig producers selling their pigs to the contractor at 40 to 60 pounds. The remaining 20 under Type IV could market as they desired unless the contractor chose to exercise his option to purchase the progeny.

The 88 respondents averaged 42 years of age, 12 years of education, and operated 355 acres. In 1970, their average net income was \$4,633 from the farm and \$3,963 from non-farm. A significant portion of the non-farm income can be attributed to the 13 percent of the respondents directly involved in a commercial feed business.

The hog enterprise was a vital segment of each respondent's total operation in 1970. They averaged 761 hogs produced and received 42 percent of their net income from the sale of hogs. In general, producers leasing breeding stock as opposed to those with risk transfer contracts were younger, farmed more acreage, raised more hogs and experienced a larger net return from their hog enterprise in 1970.

Most of the producers first initiated contractual production and/or marketing in 1969 or 1970. The majority of the respondents (91%) had raised hogs before involvement in contracts. Many still had hogs on the farm in addition to those contracted.

The year 1970 was plagued with a constantly declining market hog price requiring a sorting of the problems related to contracting. Lack of contractor or fieldman cooperation, inferior health and quality of hogs, loss of independence, and involvement of feed dealers were among the major problems expressed by the respondents. The complexity of most contracts and producer failure to read and/or understand resulted in a misconception of the process in many instances. Producers began to realize their tie to a non-farm interest and transfer of risk also meant giving up some entrepreneurship and profit sharing.

Analysis of contracts paired with a producer evaluation revealed a number of economic and legal considerations. A contract should be complete, concise, and define the rights and responsibilities of both parties. Each provision should be outlined and appraised both economically and legally.

Only two respondents had experience with more than one type of contract. Almost one-half of the producers indicated this first entangle was to be their last. Forty-two of 88 signified they would definitely not sign another contract.

Contracting—Its Future Role

There has been and will most probably continue to be regional differences in contract application. Even though contracting does exist in the Midwest, the incidence is manifest in the fringe production areas rather than in the Corn Belt where about 75 percent of the hogs are produced. These areas are more susceptible to contracting by feed companies for two reasons. First, it is more profitable for the feed firm and receives more emphasis in feed deficit areas where complete rations are purchased as opposed to feed surplus areas where only supplements are purchased. Secondly, these areas are experiencing a relatively high percentage of growth in hog production and are in need of management assistance and financing for new operations. Meat packers building plants in these new areas are more inclined to offer contracts to obtain supplies than are packers who have adequate supplies in traditional production areas.

It seems likely that risk transfer contracts and breeding stock leases must provide significant services and yield a return more comparable to independent production. Otherwise, producers will not intentionally forego the possibility of windfall profits and accept a loss of independence. On the other hand, the agribusiness contractor feels he needs a higher return because of the added financial strain and risk he encounters. The contractor has assembled larger amounts of working capital and competent

personnel trained in swine management. He also assumes a high degree of risk when disease strikes or prices fall.

The swine industry, to remain competitive, must find a more efficient way to move pork from farm to consumer with a stable volume, quality, and price. Marketing cooperatives and bargaining associations that already exist in agriculture may become more important in the hog industry to negotiate marketings and regulate production. Currently, however, the trend is toward vertical integration by contract.

Attitudes differ among the participants of the hog industry as to the relevance of the present tendency toward contracts. Over the last two decades contracts have experienced a somewhat cyclical popularity. Some feel no significant influence will be exerted on the structure of the industry by the contract trend. Others acknowledge it as one that could reach a magnitude similar to the poultry sector.

The authors feel the hog industry, at least in the near future, will remain largely in the hands of the independents. Our assumption is based on the theory that until hog diseases can be better controlled, the contractor can not assume the high degree of production risk associated with raising hogs. If diseases can ever be satisfactorily controlled, management will not be such a critical factor. It would be possible then to increase production rapidly through adoption of technology. A few producers will be able to handle a large volume of hogs. When this happened in the poultry industry, contracting flourished and live markets disappeared. Agribusiness contractors managed and virtually controlled all facets of production, marketing, and financing. Whether or not the same thing happens to the hog industry will depend upon changes made once the disease problem is overcome.

Appendix

Sampling Procedure

A major difficulty in conducting the study was obtaining a sample of hog producers who were, or recently had been, producing and/or marketing under contract. Through correspondence and personal contact with farm management specialists and livestock specialists of the Extension Division and the cooperation of various packers and feed dealers, a population was determined.

A sample of 85 hog producers was chosen from the last 3 years in one or more of the four contract types. The total of 88 respondents resulted from the simultaneous involvement of two producers in more than one contract hog operation.

The producers sampled were concentrated in the western one-half and southeastern corner of Missouri, and the northeastern one-quarter of Nebraska. The 28 counties in which the Missouri producers resided were: Barton, Buchanan, Caldwell, Cape Girardeau, Carroll, Cass, Clinton, Daviess, Gentry, Grundy, Howard, Jasper, Johnson, Lafayette, Livingston, McDonald, Mississippi, Moniteau, Newton, Nodaway, Pettis, Platte, Randolph, Ray, St. Clair, Saline and Vernon. The three Nebraska counties were: Cuming, Dodge, and Wayne.

The data was obtained by personal interviews with each producer. The University of Missouri Field Research Team conducted the interviews during the month of January, 1971. Copies of specific contracts were obtained from producers, contractors, and other sources.

The information secured is considered confidential in nature. Statistics, other than those presented in this publication, cannot be released. However, any interested party may obtain a sample copy of the questionnaire by contracting the Department of Agricultural Economics.

Footnotes

1. William Gallimore and James Vertrees, A Comparison of Returns to Poultry Growers, USDA Marketing Research Report #814, Feb., 1968, p. 1.
2. Eric Thompson and V. James Rhodes, Contract Production of Turkeys, University of Missouri Agricultural Experiment Station Bulletin B879, 1969.
3. Ewell P. Roy, Contract Farming, U.S.A., (Illinois: The Interstate Publishers and Printers, 1963), p.3.
4. United States Department of Agriculture, Livestock and Meat Statistics, Statistical Bulletin No. 333 and Annual Supplements (USDA-ERS Washington: Government Printing Office, 1970).
5. Richard L. Trimble and John A. Hopkin, "Use and Management of Sales Financing by Hog-Feed Dealers in Central Illinois," Illinois Agricultural Economics, University of Illinois Agricultural Experiment Station Publication, Vol. 10, No. 2--Vol. 11, No. 1, July, 1970-Jan., 1971.
6. V. James Rhodes, "The Danger in Contracts," Missouri Ruralist, March 14, 1970, p. 53.
7. A. Producing feeder pigs involves the entire production process until the pigs usually reach 40 to 60 pounds.

B. Finishing feeder pigs is the feeding of hogs from feeder pig (40 to 60 pounds) to slaughter weight.

C. Producing farrow to finishing hogs is the combination of the two phases.
8. Wilbur Jenny, "Coordination in the Swine Industry," (paper read at the National Symposium on Vertical Integration, Purdue University, Lafayette, Indiana, April 14-16, 1971,) p. 4.
9. Only four of the producers were not on contract in 1970. These four were on contract in 1968 and/or 1969.
10. There are two basic systems for appraisal of contracts: (1) Classifying contracts to enable comparison with independent production,

and (2) Comparing one contract to another. Since this study was exploratory in nature, we assessed the first approach most feasible.

Our objective was to sample the producer's response relative to each contract with which he was involved. This would give us a basis for analysis and comparison between the four economic types. From this, the reader might draw inference and compare contract production to his own conception of an independent operation. The total number of individual respondents was 88 while in actuality only 85 producers were interviewed. The additional three were a result of two producers simultaneously operating under more than one contract. Eighty-eight was considered the realistic basis for computation since the individual responses of the two producers varied with each contract type. Thus, their evaluation of each type was analyzed independently.

11. A. Net farm income is the net return, including cash and nonmoney items, to the farm operator for the use of his labor, capital, and management (realized gross farm income minus farm production expenses). Net non-farm income is the gross income from non-farm sources minus the out-of-pocket expenses incurred in obtaining the income.

B. Net income tabulations were based on the number of producers supplying sufficient information.
12. The totals in Tables 5, 6, and 7 indicate that more than one response per respondent was applicable in certain instances.
13. The 3 was recorded by a producer who experienced a major disease outbreak in 1970.