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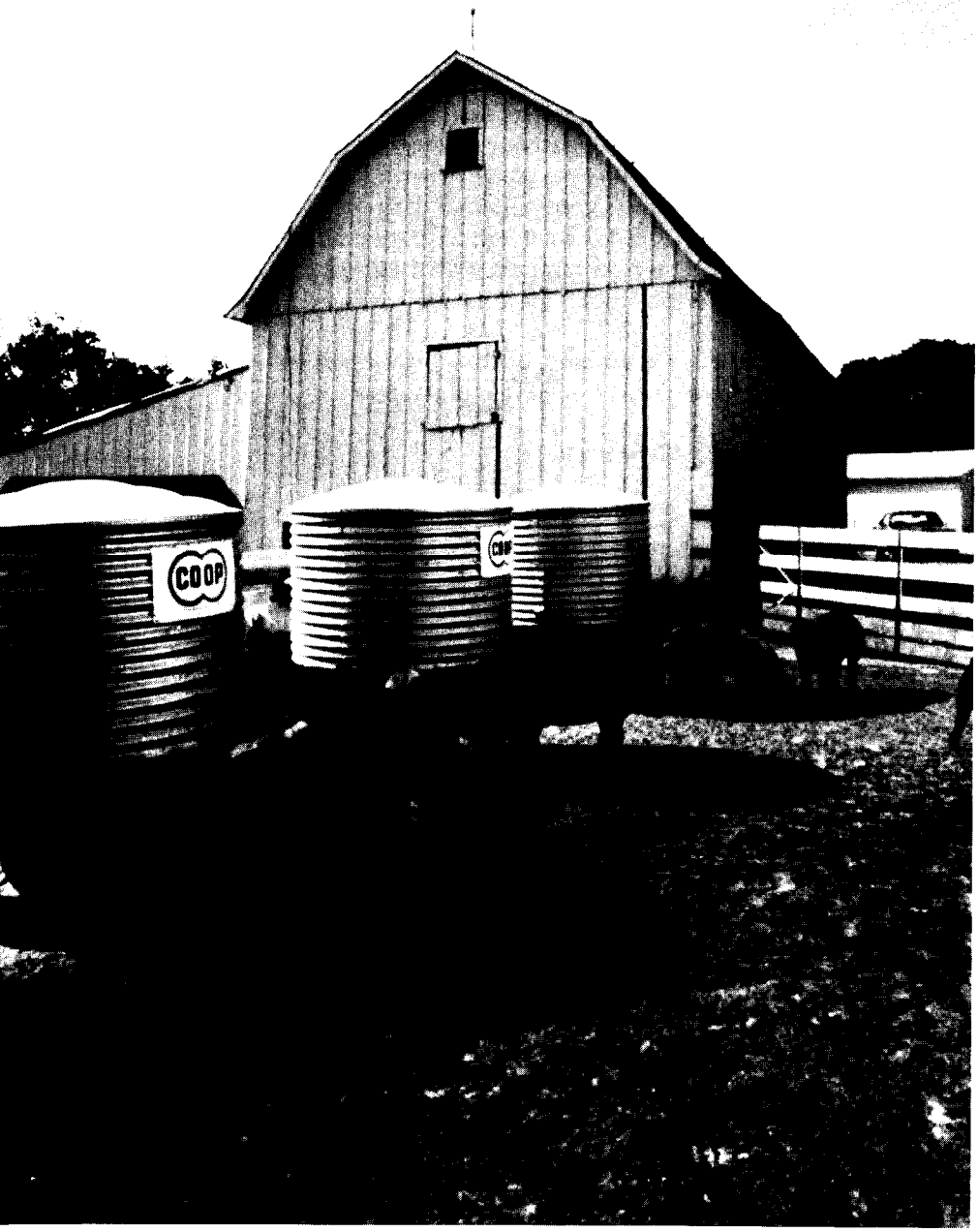
Cooperatives' Role in Hog Contract Production



Abstract

Cooperatives' Role in Hog Contract Production

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In the next 20 years the role of feed supply cooperatives in the hog industry will change greatly or largely disappear. Larger super-producers of hogs continue to grow. Whether vertically integrated or not, super-producers generally mill their own feed. The role of cooperatives needs to be changed. Cooperatives can help their hog producer-members to compete with these super-producers or can become super-producers themselves.

Key *Words:* Cooperatives, contracting, hogs, vertical integration, horizontal integration, feed manufacturers.

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Preface

This report highlights and interprets two national surveys of commercial hog producers, long interviews with several large producers and numerous cooperative managers, and reviews the pork industry press about structural and contractual developments over the past several years. Its purpose is to assist cooperatives in their strategic thinking regarding the hog industry

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Many midwestern farm supply cooperatives have a sizable feed business with small-to-moderate sized hog producer members who annually market 5,000 head or less. Recently, there has been a rapid decline in producers marketing less than 1,000 head a year and a rapid growth in marketings of producers larger than 50,000 head. Many of these super-producers are also using production contracts to facilitate or increase their growth. A few super-producers are major agribusinesses such as Cargill (a major processor and grain merchant) and Tyson Foods (the largest broiler producer and processor in the world).

These structural changes have raised legitimate concerns in cooperative circles about their role in future hog production. Is production by independent producers being endangered? Is contract production the wave of the future? Can cooperatives be effective contractors?

To throw light on those questions, much information is needed about both the changing structure of hog production and the relative strengths of cooperatives versus investor-oriented firms in contract production. This paper summarizes and interprets information gathered through national surveys of producers taken in 1989 and 1992, as well as long interviews with several super-producers and numerous cooperative managers, and a careful review of the pork industry press about structural and contractual developments during the past several years.

GROWTH OF THE LARGE PRODUCERS

The structure of hog production is shifting toward larger units. According to the Census of Agriculture the number of farms that annually market more than 1,000 head of hogs and pigs as a percentage of all farms selling them rose from 1.1 percent in 1969 to 10 percent in 1987, while the percentage of hogs and pigs marketed by

those larger operations rose from 34 to 58 percent from 1978-87.

Our surveys on slaughter hogs (rather than hogs and pigs) estimate that the share of U.S. commercial slaughter marketed by these larger producers rose from 68.4 percent in 1988 to 78.1 percent in 1991. We further estimate that the share of **U.S.** commercial slaughter marketed by the super- producers (marketing 50,000 head or more) rose from 6.5 to 10.1 percent from 1988 to 1991. (All references to our survey results and estimates for 1991 may be found in Rhodes & Grimes[1,2]). I estimate the structure of U.S. hog production as of the end of 1991 to be as follows:

Percent National Slaughter	Number and Type of Producer
68	**About 29,600 operations, each marketing 1,000 to 50,000 hogs and pigs annually. Of these, 1,225 are contractors and 28,375 are independents.**
22	**About 170,000 independents, each marketing less than 1,000 head.**
10	**About 43* super-producers each marketing 50,000 head or more. About three-fourths are contractors producing part of their output through growers.**
100	

'Survey data **from 41 super-producers and two others indicated they were of minimal super-producer size, but did not answer our survey.**

We found that 37 super-producers grew at an annual rate of 25 percent in rnarketings of total hogs between 1990 and 1991. If they could sustain a rate of growth of even 18 percent for the rest of this century, our 41 super-producers would market nearly 40 million

1 V. James Rhodes and Glenn Grimes, "Structure of U.S. Hog Production: a 1992 Survey," UM Ag. Econ. WP-1992-8.

2 V. James Rhodes and Glenn Grimes, "U.S. Contract Production of Hogs: a 1992 Survey," UM Ag Econ WP 1992-9.

market hogs (1991 national slaughter was 88 million). While they may not sustain that rapid growth rate, there will probably be many more super-producers by then, so that the 40 million slaughter total for the super-producers group is quite possible.

A manager's concept of optimal size seems to exceed proportionately the size he or she currently operates. When our 1992 survey asked the ideal upper size limit on farrowing, those marketing 1,000 to 1,999 indicated 180 sows while those marketing 2,000 to 2,999 said 300 sows. Those marketing 50,000 head or more of hogs and pigs said 43,000 sows.

Our recent survey found that 31 of the 41 super-producers were engaged in production contracting. They marketed 30.5 percent of their market hogs in 1991 from their own facilities and 69.5 percent from their contract growers' facilities. Generally, they relied less heavily on contract growers for farrowing, but exact percentages are not available. Smaller contractors marketed nearly as many market hogs as the super-contractors. The combined total of all contractors was 15-16 percent of national slaughter in 1991. Contractors are a very significant portion of the larger producers (including super-producers), so we need to look carefully at the role of contract production in hogs.

CONTRACT PRODUCTION OF HOGS

Contract production has traditionally been viewed as an alternate form of vertical integration. There are insights to be gained in considering contract production of hogs to be an alternate form of horizontal integration (*horizontal expansion of firms*). As hog production in large units, and by much larger firms, has become feasible, it has become apparent that contract production can facilitate such firms' growth. Each concept-horizontal and vertical-is useful and each applies well to a particular group of integrating contractors.

Contract production is a flexible institution that may be used in a variety of circumstances to serve various purposes. Because contracting is generally seen as a voluntary relationship between two or more parties, each party is presumably expecting his/her betterment. However, to understand better the forces at work in the contract production of hogs, we need to identify more specific objectives of the participants.

Contract production of hogs involves the following relationships and activities. An owner of feeder pigs engages a producer to take custody of pigs and feed them in the producer's facilities to slaughter weight with feed furnished by the pigs' owner. This producer (grower) receives a set fee per pig received and/or per hog marketed and often some performance incentives for providing the custodial care. The pigs' owner (contractor) bears all market risks and most production risks.

Alternatively, the owner of breeding stock may engage a grower to produce feeder pigs or to produce farrow-to-finish under the same type of contractual arrangement. Contracts tend to be incomplete in the sense argued by 0. E. Williamson.3 Outcomes depend upon the qualities provided in facilities, feed, pigs, contractor supervision, and grower care. Such qualities are difficult to specify and are not easily monitored by the other party, especially by growers.

Opportunistic behavior by either side can hurt the returns for the other. As owner and riskbearer, the contractor makes all the important decisions and often supervises the grower's caretaking as if he or she were an employee. Some growers find the degree of supervision to be oppressive.[4] On the other hand, ***some*** growers appreciate the training and technical support. Others like to concentrate on production and forget procurement and marketing.

Early History

In the 1950s, the early production contracts in hogs followed close behind the early broiler contracts. Many feed companies offered contracts that bypassed the normal market. Contracting was viewed as a way to gain market share for feed sales or, for the less aggressive, a way to defend market share. A few packers offered contracts to increase slaughter hogs available to them in their local areas.

Thus, contract production of hogs began as a contractual form

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[3] 0. E. Williamson, "The Vertical Integration of Production: Market Failure Considerations," *Am. Econ. Review* 61(1971):112-123.

[4] Bill Fleming, "Contracting: Don't Get Caught in a Lop-Sided Contract," *National Hog* Farmer, August 15, 1989, pp. 20-24.

of vertical integration and bypassing the market. Discussions of this institution and its future role focused exclusively on contract production as a form of vertical integration. Generally, contractors were motivated to more fully use existing facilities and organizations-either feed milling or meat packing.5

In the Cornbelt, these efforts to contract largely subsided within a few years. Most good producers were not interested in a quasi-employee status that did not provide access to the profits of the good years of the hog cycle. Farmer acceptance was greater in the South in areas already accustomed to broiler contracts, but success was fairly limited. Many of the large companies lost their enthusiasm for vertical integration in hogs in any form.

In the Cornbelt, markets for both feed and slaughter hogs worked well enough that bypassing them yielded few, if any, gains to the contractors. The technical difficulties of large-scale hog production in the 1950s and 1960s limited contractual growth, even though lesser market efficiency was more permissive of vertical integration in fringe areas. (This argument says that the more poorly open markets work, the easier it is for vertical integrator to obtain lower transaction costs than possible in the open-market system. In fringe areas where agricultural production is often too sparse to support competition among efficient-size firms, markets may be less efficient.)

What Drives Four Super Producers

Gradually, since the early 1970s, the techniques of efficient large-scale hog production have been developed. It has become common for ordinary producers to move from 30 sows to 100 or more. A new breed of "super-producers" such as National Farms in Nebraska and Colorado, Tyson Foods in Arkansas, and Murphy Farms and Carroll Foods in North Carolina has developed. The combined annual marketing of these four firms are estimated to be about 4 million head. Small businessmen, Murphy and Carroll started contracting in the 1970s to utilize better their small feed mills.

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5 Robert Schneidau and L. A. Duewer, *Symposium: Vertical Coordination in the Pork Industry,* Westport, Connecticut, Avi Publishing, 1972, p. 277.

Eventually, each firm recognized that hogs were the primary business. Instead of hogs being a marketing outlet for feed, the central mill became an integral part of a large-scale hog production unit. Today, most large producers and contractors are not in the commercial feed business. Their feed mills are simply a facility essential to producing hogs. While Murphy's feed mill technically represents vertical integration, it is no more bypassing the market than is a 10-sow producer who grinds his own feed with a PTO-mill.

These four firms are major producers of hogs in their own facilities. National Farms does no contracting while the others have supplemented their own resources by contract production. In effect, they have integrated (expanded) horizontally to increase their rate of growth in sales much as McDonalds has done through franchising a majority of its fast food outlets. While contracting facilitates their growth, contracting does not appear indispensable to these operations; this new breed can grow strictly on its own. National Farms nearly doubled its capacity in 1990 by adding an operation in Colorado with 16,800 sows[6]; recently, it built a similar facility in the Texas Panhandle. Murphy Farms was reported to have added 30,000 sows to its herds in 1990 of which only 7,000 were placed with growers.[7] Generally, the larger contractors have relied more on growers for finishing pigs to slaughter than for pig production.[8] In our 1992 survey, 71 percent of the largest contractors contracted for farrowing and/or farrow-to-finish while 100 percent contracted for finishing.

However, some modern contractors are still driven by the desire to use facilities. Numerous feed dealers--cooperative and investor owned (IOF)—feed some hogs because of excess milling capacity. An eastern packer (Smithfield) contracts to reduce its need to bring hogs from the Midwest.[9] The firm has recently said its objective is vertical integration?"

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6 Kerry Knudsen, "On This Scale, Numbers Add Up Fast," Pork 90, February 1990, pp. 28-31.

7 Betsy Freese, "Giants in the Backyard," *Successful Farming,* July 1990, p. 10.

8 Bob Swain, "Swine Production Contracting in North Carolina," Area Extension Memo, 4 pp., 1989.

9 Steve Marbery, "Tarheel Express," *Hog Farm Management,* July 1990, p. 14.

10 *Feedstuffs,* August 31 , 1992, p. 6.

SUPER-PRODUCERS AND COMPETITIVE PRESSURES

In competitive markets, efficient producers are expected to drive out the inefficient. How quickly and completely that process occurs depends upon a number of conditions. The more rapidly efficient producers expand, the more rapidly the less efficient are pressured out. Likewise, the more readily the less efficient exit, the faster the pressure of industry production on prices is reduced and the greater the profit opportunity for the more efficient to expand. If overall demand is static or declining, competitive pressures on the inefficient are greater than when demand is expanding.

The cost of production for a specific producer in any given period is likely to be affected partially by chance occurrences — drought, disease, and storms. These events affect costs in the short term. Thus, it is the more *consistently* efficient who may be expected to drive out the more *consistently* inefficient. Presumably, the greater the difference in efficiency of the two groups, the more rapid the exit of the least efficient. However, various circumstances may slow their structural change. Some highly efficient family producers may limit their expansion because they refuse to hire labor or borrow capital. In our 1992 survey, about 72 percent of the independent producers (all marketing 1,000 head or more annually) claimed they did not hire full-time nonfamily labor (FTNFL) for their hog operation. Within that group, only 14 percent felt positive about hiring FTNFL. Another complication is that over time the efficient producers also exit for reasons of age or ill health, a change in interest, or taking a better opportunity elsewhere. A superior hog producer may be an even more superior corn producer who decides to focus on corn rather than hogs.

Independents surveyed about circumstances limiting the expansion of their hog enterprise most frequently mentioned age or health. They also indicated concerns about anticipated low profits, hassles of hiring labor and of environmental regulations, and the absence of any family successor. In family farming, the exit of a producer can mean closing that operation because there may be no family successor *or* none interested or skilled in that specific enterprise. Thus, the speed and completeness with which more-efficient family producers compete market share away from less-efficient producers tend to be slowed by the fact that many of the more effi-

cient may limit output or eventually exit, rather than continually expand.

The presence of sizable corporations in specialized agricultural production increases the speed and completeness of industry change. These corporations tend to have goals of much greater production and can ordinarily obtain the capital for faster expansion than the typical family farmer. Their skills and interests are not usually tied to the health and lifetime of a single individual. The ambitious, well-financed corporations possess superior efficiency and can more swiftly and completely claim market share.

For example, there has been a major concentration of cattle feeding in commercial-size lots (1,000 head plus) in the past 25 years. USDA reports that less than 200 feedlots marketed more than one-half the fed cattle in 1989. A private newsletter estimated that only 20 feedlot firms fed about one-third of those cattle." Broiler production-also in the hands of sizable corporations-became much more concentrated than cattle feeding during the last 30 years.

The particularly large differences in current efficiency of hog production will probably be squeezed down in the next 10 years. Differences of $10 or more per hundredweight (cwt) in average cost of production for a given year between groups of high- and low-cost producers are often reported by recordkeeping agencies. Such $10 differences seem remarkably large compared to an average cost for all producers somewhere near $40 in most recent years. Super-producers are reported to be in the top 10-25 percent of the industry in terms of efficient production.'*

Some super-producers probably operate down in the second quartile but still above average in efficiency. As they expand and are joined by similar firms producing in a fairly static total market for pork, many inefficient producers will be squeezed out. To the extent that the least efficient realize their disadvantage, they may cease making substantial capital investments and drop out before being forced out. Thus, the expanding efficient corporate producers may find that the combined output of their less efficient competi-

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[11] USDA *Farmline,* June 1990, pp. 2-3.

[12] *The* **Iowa Pork Industry:** *Competitive* **Situation** *and* **Prospects, Iowa** State University STFI, December 1988, p. 60.

tors is declining. Even with a static national demand for pork, such a process could be very profitable for the most efficient because their expansion could be financed by generally favorable hog prices.

Many of today's independent producers feel somewhat threatened by the growth in the 1980s of the new breed of huge producers. Given the static or slowly expanding demand for pork, it can be argued that each expansion in output of 1 million hogs by the super-producers will lead to the exit of 2,000 less efficient operations of the 30-35 sow size. Many independents recognize that their best defense is to match the efficiencies of the super-producers. They must regularly and consistently increase their production efficiencies. Many have not yet developed the information system and the managerial disciplines to match the efficiencies of the more efficient producers.[12]

Given the various indivisibilities of people and facilities and production techniques, achieving top efficiency by the independents will frequently require considerable expansion of output, which demands substantially more capital. One super-producer indicates that an independent with at least 2,000 sows can be reasonably competitive.[13] Roy Van Arsdall and Ken Nelson of USDA found the lowest costs for the period 1980-83 at 10,000 head marketed per year but that was the largest size they studied.[14] Murphy is now building farrowing units of 3,400 sows.[11]

Two Types of Growers

Just as there are two types of contractors-one thinking vertically and one horizontally-so there are two types of growers (contractees). The first type, typical of the Cornbelt, includes experienced hog producers who-willingly or forced by financial problems-convert to contract production. They accept a more certain and minimal short-term return (contract fees) in place of a larger but more highly variable income in the regular market. The second

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13 Interviews with Roland Mohesky of Cargill and Wendell Murphy, June 1990.

14 Roy Van Arsdall and K. E. Nelson, *Economies of Size in Hog Production*, USDA Technical Bulletin 1712, December 1985.

type, typical of the South, includes new producers-often characterized by low-alternative income-who ordinarily lack the capital to enter the hog business as independent producers. While the first type may feel a loss of independence and even resentment of contractors, the second type generally feel neither sentiment.

Instead, contracting has provided access to hog production for this latter group. The contractor trains the grower in production techniques and simplifies considerably the management tasks because the contractor decides about breeding stock, rations, and marketing. The contract enables the grower to finance a substantial investment that he or she could not have financed otherwise and to operate a unit that has much larger financial risks than growers would be willing to assume as independents. They have no contractual assurance of continuing indefinitely on contract. So growers have considerable long-term risk exposure, just as if they were independent. Growers typically require 7-10 years to repay the cost of building new facilities. Contracts are typically for a much shorter period-often for finishing one batch of pigs, or 3-5 years for farrowing operations.

In today's world of rapid change and corporate takeovers, no contractor can guarantee being in business 10 years hence. While the pessimist may view the grower's large investment as a heavy weight endangering the grower's future well-being, the optimist sees it as an entry into the hog business. As long as contractors are expanding production in an area, the optimistic view may be justified. If and when contractors begin to cut back or leave an area, the pessimists' fear may be realized. Competition among two or more contractors in a county may yield better returns and more security to the growers.

Super-Producer Strengths and Weaknesses

Larger producers are winning larger and larger market shares because they are, on average, more efficient than a majority of the smaller ones and their large corporate organization is more conducive to continual expansion. Successful, efficient producers must: (1) have access to and quickly adopt new technology, (2) have access to and use market information, (3) have increased specialization so the first two points are feasible, (4) have access to and use

adequate capital, and (5) produce the volume and quality of hogs that attract packer premiums rather than discounts.[15] These success factors are less available to smaller producers; good managers of larger organizations are more likely to obtain them. While a consistently efficient operation provides the profit incentives for contractual expansion and generates the equity capital base, it is not a sufficient condition. As already noted, many family operations limit their growth, not wanting to take larger risks or supervise nonfamily labor or because further expansion seems irrational given the operator's age or poor health and lack of a family successor.

What are the weaknesses of the large operations? Clearly, management is not the limiting factor until operations get many times larger than today's average. Community attitudes have kept contractors and other super-producers out of certain communities and even States. Large operators ordinarily avoid areas where they are not welcome-especially if the regulatory authorities are hostile. It is more difficult to sell the contract idea to potential growers in the Midwest and outside the areas that have experienced poultry contracts.

Areas of limited opportunity-poor soils and limited off-farm jobs-tend to welcome more readily the larger operations, and the opportunities presented to labor and growers. Large operations make larger targets for concerns-and litigation-about air and water pollution. Areas of low humidity and low population density are, **hence,** more attractive. Some shift of hog production from the Cornbelt toward the West and Southwest appears likely. Thus far, environmental zoning and other regulations have been more inconveniences to be maneuvered around than solid barriers.[16]

It's likely many areas of the Nation will welcome large operations, but a more difficult and widespread set of barriers could arise in the future. Certain countries such as Taiwan and the Netherlands seem determined to reduce their national hog populations to reduce the waste-disposal problems.

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[15] John Lawrence, "The U.S. Pork Industry in Transition," ISU Staff Paper No. 240, May 1992.

[16] Steve Mnrbery, "Carolina Group Presses for Hog Industry Controls," *Feedstuffs*, June 1, 1992, p. 22. Steve Mnrbery, "By Moving Hog Operations to Oklahoma, Tyson Finds Welcome," *Feedstuffs*, June 29, 1992, p. 9. Debra Switzky, "The Smell of Trouble," *National* Hog *Farmer*, Feb. 15, 1992, pp. 18-27.

A more probable factor that will hamper rate of growth of the big producers after the year 2000 is that the differential in efficiency will have been squeezed down so that profit margins for the most efficient are much narrower. Once the engine of growth has less fuel, it will run slower.

COOPERATIVE ROLES

Both local and regional feed supply cooperatives are concerned about the rapidly changing hog industry. Super-producers typically mill their own feed. Many other large producers mill their own feed except for certain specialty rations. The feed business lost to cooperatives by the exit of thousands of small independent hog producers during the past quarter century has not always been replaced by the growth in the feed demands of remaining members. Contract production of hogs looks increasingly attractive to cooperative feed managers as a way to hold market share. After all, a few of their IOF competitors are already involved in contracting.

Another strong motive for cooperatives is to protect or aid the economy of the local community. Many people perceive livestock production as a valuable industry that brings income and jobs into the local area. A cooperative may also see contract hog production as a profitable use of capital to pep up a possibly mediocre income statement. Finally, independent hog producers may turn to their cooperatives for help in meeting the competition of "those big boys."

Cooperatives have considered and tried a variety of programs tied to one or more of these listed objectives. There are two types of program-helping existing hog producer members to compete more effectively, and helping the cooperative to survive and prosper. This dichotomy may seem arbitrary, but it reflects tensions that have long existed in cooperatives. They are reflected in the writings of Richard Phillips[17] (the cooperative is a jointly owned plant-an extension of the members' farms) and Helmberger and Hoos[18] (the cooperative is a separate firm). Some Midwest regionals are deploy-

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17 Richard Phillips, "Economic Nature of the Cooperative Association," *Journal of Farm Economics,* (1953) pp.74-87.

18 Peter Helmbergh and Sidney Hoos, "Cooperative Enterprise and Organization Theory," *Journal of Farm* Economics, (1962) pp. 275-90.

ing the assistance program and would develop the second if members permitted.

Member Assistance Programs

Most independent producers need help. Only the more efficient producers producing appropriate quality pork at low costs can survive in the next two decades. They need help to buy inputs cheap, sell hogs at high prices, and improve their productive efficiency. Most need help to obtain the capital required for greater economies of specialization and size. Some will need help to face the greater risks of high leverage and specialized output. Some producers do not realize their needs. Some, recognizing their needs, are unwilling to make the necessary adjustments. Inevitably, there must be a further shakeout of the producers because pork demand is expanding quite slowly and there is not room for all, or even for most, of the existing producers to expand output significantly.

Following is a general message a cooperative board might send to its member-producers. "Many of you must reduce your average costs and increase your average revenue per hog to survive the next decade. We can help you do both. First, we will help lower costs by improving your techniques, gradually standardizing building and equipment, obtaining inputs-including credit-more cheaply through volume purchasing, and helping to provide the record keeping that pinpoints inefficiencies. Over time, we will help you expand to obtain more operational economies. On the revenue side, through breeding and production techniques, we will help you produce high-value pork that commands a premium price. To achieve all this, we must have contractual commitments with one another. Together we can achieve the economies of scale to match a Murphy or Tyson and we will share the consequent earnings in a fair and rational way."

A program to help their independent members compete as hog producers is compatible with the conventional principles and activities of a cooperative. The efficiencies of a super-producer derive from a production system that integrates efficient feed processing and delivery with efficient hog production. As a producer moves out on the learning curve, every step in the system is refined and improved.

Cooperative management could conceivably lead its members into copying that system while retaining their independent hog operations; buy top genetics and operate multiplier herds to supply the best breeding stock"; and buy and deliver the latest technology to producers. Such assistance serves directly the interests of existing members. However, it is not without possible problems. Capital requirements can be large to the extent that the cooperative needs a new mill and/or many of the producers need credit for larger herds and new facilities.

A bigger obstacle may be human relations. To mimic the efficient feed system of the super-producers, independent producers should buy all their hog feed from their cooperative and accept a standardized set of rations. Each producer should largely follow the same "cookbook" system of management supplied by the cooperative. For best marketing, all producers should use the same superior genetics. Moreover, a high concentration of producers within 30 miles of the cooperative mill is needed to minimize hauling costs. Will independent producers accept standardization and make and keep such a commitment?

Any fallout of producers and their associated feed volume would weaken the whole system. Producers will probably compromise their independence when market pressures are sufficient, but will investor-oriented contractors dominate the field by then? Even though a cooperative effort may fall short of developing all of the efficiencies of a super-producer, it may improve materially the competitiveness of its members. Small groups of hog producers have associated together to produce breeding stock, purchase inputs, and/or market hogs. Some of these cooperatives, or corporations, seem to be quite successful in serving their moderate-size members. Hog, Inc., a not-for-profit corporation organized by hog producers in Illinois, has operated successfully for 3 decades in group purchasing and more recently as a marketing cooperative. However, a

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[19] Allen Gerber, executive director of the Minnesota Association of Cooperatives endorsed cooperative assistance to hog producers, particularly in procurement of seedstock, in "Cooperatives Could Help Producers Regain Lost Ground in Hog Industry," *Farmer* Cooperatives, March 1992, p. 20.

rather ambitious program in Iowa to extend this concept across the State in 1990-91 was rejected by farmers.[20]

Farmland Industries, Inc., with its pork packing plants and feed mills, may be able to develop a marketing option. The production of leaner and more uniform pork is desirable but difficult to achieve within an open market system. In its 1991 annual report, Farmland said, "Through participation in Farmland's Coordinated Swine Production System, producers maintain control and share in the benefits of coordinated production. These benefits include economies of scale, improved genetic quality, and capital risk sharing." This option is not pursued further within this paper because a major presence in meat packing by other cooperatives in the near-future seems highly unlikely.

A 500-sow operation will require about $1.5 million of capital for facilities and operating inputs in addition to the cost of the land needed for the site and, ordinarily, for the spreading of wastes. It should produce annually about 9,000 to 10,000 market hogs. Each 240- to 250-pound hog can vary in value by nearly $50 from the top to the bottom of a normal price cycle. Many producers can't visualize themselves living with that amount of price risk. As an alternative, cooperatives may offer a risk-sharing program. It could include various forms of floor price contracts. In return for guaranteeing a certain minimum price to the producer, the cooperative takes a certain percentage of the higher market prices.[21]

An obvious question is how the cooperative finances these various assistance programs and particularly the potentially large cash flows of risk-sharing contracts. While some service may be on a fee basis, there will be pressures to increase participation by subsidizing the programs. Under the best of circumstances, the increased feed volume may pay the bills. The risk-sharing program presents the greatest difficulties. If the cooperative consisted only of hog producers, how could they collectively bear risks that they couldn't or wouldn't individually bear, given that the low hog prices occur

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[20] Jim McNabney, "Some Dirty Words Whose Time Has Come," Pork 92, February 1992, p. 5. Marlys Miller, "The New Co-ops," *Pork 92,* May 1992, pp. 29-33.

[21] Farmland, for example, offers such programs. Jim McNabney, "Farmland Unveils New Buying Plan," *Pork 91,* Jan. 1991, p. 101.

at the same time for all the members. If the cooperative has many members who specialize in dairy, crops, and other enterprises, they may be able to furnish the capital to meet the cyclical cash flows. But how will non-hog producer- members view such programs?

Perhaps cooperatives can form partnerships with IOF packers or investors to handle the risks. Countrymark Cooperative, Inc., reportedly is serving as an intermediary to enlist contract hog growers for Indiana Packing Company (IPC). Countrymark enlists and supervises the growers, provides breeding stock from its multiplier herd and feed from its mills on a cost plus basis with IPC.[22] Likewise Farmland, if they had not been stopped by a county zoning commission, would have joined DeKalb Swine breeders and outside investors in a facility to produce 230,000 pigs a year.[23] A local cooperative at Buffalo Center, IA, has agreed to provide a small contractor (North Iowa Pork, Inc.) with feed, nutrition consulting, record keeping, and computerized projection of costs and returns for each group of feeder pigs purchased by the contractor.[24]

A group of 38 farmers near Renville, MN, recently formed a closed cooperative called ValAdCo to operate a 1,250-sow farrowing unit. Apparently, most of the owners are seeking a better market for their corn production. It isn't clear whether production contracts will be used for finishing some of the pigs.[25]

Cooperative Survive and Prosper Programs

Instead of focusing on member assistance, the cooperative could simply emulate the contract production of certain national feed companies or that of the big producers. As the cooperative reaches for economies of larger size, it recruits growers wherever they may

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[22] Steve Marbery, "Co-op Links With Hog Packer in Indiana Joint Venture," *Feedstuffs,* March 9, 1992 and telephone interview with a Countrymark vice president, March 17, 1992.

[23] Steve Marbery, "Corporate Farming Law in Kansas Tested by Swine Investors," *Feedstuffs,* Dec. 16, 1991.

[24] Linda Tank, "Cooperating With Contracts, " *Cooperative Partners,* CenexLand O'Lakes, Mar/Apr. 1991, pp. 8-9.

[25] "Hog Industry Insider," *Feedstuffs,* July 20, 1992, p. 26. Jane Fyksen, "Minnesota Swine Co-op to Add Value to Members' Corn," Agriview, May 14, 1992.

be found. It works with credit agencies to help potential growers obtain loans for hog producing facilities. It may develop considerable farrowing in its own facilities tended by its own employees. Wherever feasible, a large cooperative may site its hog production to use the excess productive capacity of its feed mills. However, if the business grows at a quite profitable pace, the emphasis may shift from vertical integration (selling feed through contract hogs) to horizontal expansion (contracting to obtain the attractive return on investment).

Cooperatives that enter fully into contract production of hogs may contribute directly to their own earnings and to the economic base and earnings of their communities. Goldkist has demonstrated that a regional cooperative can successfully contract-produce in this mode. A local cooperative may feel that this new activity is as justifiable as opening a convenience store or a motel that benefits the community.[26]

However, such direct entry into contract production with new growers, who were, and may remain, non-members, has its problems. The cooperative might be well advised to operate in the South and/or in an area that has few or no hog producers. In the North, existing independent hog producer-members are likely to regard their cooperative as competing directly and "unfairly" with them.[27]

The Iowa legislature has given serious consideration to legislation that would have materially hampered a cooperative's ability to enter into contract production.[28] Several cooperatives have felt the ire of some of their members. It's possible that this opposition to contracting of perhaps a minority of members can be overridden, and that much of it will disappear in a few years.

However, the general personal opposition of independents to becoming growers seems to have broadened in the past few years. In our 1992 survey, 56 percent of the independents (50 percent in 1989) said that they wouldn't be growers under any circumstances.

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[26] "Diversification Strengthens Co-ops, "*WF Challenge,* Wisconsin Federation of Cooperatives, Jan/Feb 1991.

[27] Gene Meyer, "Missouri Hog Farmers Fear Farmland Will Be Competing," *The Kansas* City Star, May 27, 1990, p. E-3.

[28] "Hog Industry Insider," *Feedstuffs,* May 4, 1992, p. 26.

This same sort of opposition is often raised by the retail affiliates of a food wholesaler when it acquires and operates some corporate stores. Most wholesalers are quite circumspect in competing with their customers.[29]

What about the other members who use their cooperative as a source of cattle feed, fertilizer, petroleum, etc? Do these members want to become a major corporate hog producer? Would they prefer the return of their equity capital or its investment by management in hog production? Will they view cooperative contract hog production as driven by their interests or other interests? Some nonmember business is typical in farm supply cooperatives. Is contract production of hogs any different in principle from pet food sales to urbanites?

Nonmember business can vary greatly in size and purpose. When a farm supply cooperative sells fertilizer to neighboring town folks for their lawn, it is a simple courtesy. When a cooperative targets a nonmember group as a major source of earnings, the cooperative has become an investor-owned firm (IOF) in function if not in form. On the one hand, James Baarda, vice president of the National Council of Farmer Cooperatives (NCFC), has been positive about adding urban business?" However, Randall Torgerson, administrator of USDA's Agricultural Cooperative Service (ACS), editorialized that a cooperative is not an investment club.[31] It needs to be debated whether or not large-scale contract hog production is a legitimate non-member business for cooperatives. Is it okay for a Midwest farm supply cooperative, but not for coastal marketing cooperatives such as Ocean Spray Cranberries or Sunkist Growers?

What is the relation of growers to the contracting cooperative? This projected shift in focus, toward a cooperative's hog production being driven by returns on investment, raises questions for the future.

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[29] Steve Weinstein, "Retailing: A Wholesale Dilemma," *Progressive Grocer, Nov.* 1990, pp. 35-40.

[30] Baarda is quoted extensively in Patrick Duffey, "A Growing Urban Business is Shaking Traditional Roots of Supply Co-ops," *Farmer Cooperatives, Nov.* 1991, pp. 12-16.

[31] Randall Torgerson, "Managing Conflicts in Cooperative Organizations," *Farmer Cooperatives,* April, 1991, p. 2.

Most new growers will be, at least initially, nonmembers and occasionally nonfarmers. These growers may or may not be granted membership and/or access to patronage refunds. They will be capital-users not capital-providers to the cooperative. In any case, their status will be much closer to employees than user-owners. This user status may not obtain any user benefits.

Some observers have argued that broiler-growers have been trapped by their sunk investments in a vulnerable and disadvantaged position.[32] Such a condition could conceivably develop for hog growers as the contracting side becomes much larger and more concentrated. It is unclear whether a grower for a cooperative is better off than a grower for an IOF.

A federated regional faces special problems in this era of changing structure of hog production. The safe approach is to encourage its locals to engage in any of the programs just described. Its direct payoff may be some gains in feed sales. However, regionals that want to become hog super-producers, themselves, will likely want direct contact with growers. Such bypassing of independent locals by the regional can be irritating and even threatening to them. The centralized regional appears to have considerable advantages over the federated cooperative in developing hog production programs. However, federated regionals such as Land O'Lakes, Inc., and Farmland Industries, Inc., are developing contract production.

The scenario of a cooperative that copies a Murphy in both technique and objectives presents a somewhat new type of cooperative activity. Is there any reason why it should be disapproved other than producer resentment of "competition"? The activity and the grower-members would seem to fit those activities covered by the Capper-Volstead Act. While a producer can do too *much* activity beyond the farmgate to qualify under Capper-Volstead,[33] apparently growers do not do too little to qualify.

As already suggested, questions can be raised about user-con-

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[32] Clay Fulcher, "Vertical Integration in the Poultry Industry: The Contracteral Relationship," *Agricultural Law Update,* Jan. 1992, pp. 4-6.

[33] Thomas Paterson and Willard Mueller, "Agricultural Marketing Cooperatives and Section 1 of the Capper-Volstead Act: Conditioning (Limited) Antitrust Immunity on Capper- Volstead Policy," NC117 WP 84, December 1984.

trol from the growers' viewpoint, but reasonable people may disagree on the answers. One basic question is whether the contract-growers of a cooperative, as essentially piece-wage employees of that entity, have the independence essential to taking part in the "ownership" and governance of that cooperative. Perhaps they can eventually grow into such a position. Perhaps cooperative governance can be changed to help them.

The second basic question concerns the extent to which a cooperative should become an investment vehicle. Traditionally, IOF's and mutual funds have been considered superior to the cooperative from the viewpoint of investors. Can cooperatives be operated, or modified to operate, so that Midwest cash grain and cattle producers will willingly invest many millions of dollars in contract hog production?

The Phillips view of a cooperative as a jointly held plant extending the members' farming excludes this contracting approach. On the other hand, many modern views of the cooperative see it as a firm entitled to survive in any legal way that the market will allow. Perhaps now is the time for a more open and vigorous debate within cooperative circles about the role of cooperatives in contract production of hogs.

LOOKING TO THE YEAR 2000

Rapid structural adjustments will continue during the 1990s, barring society's erection of some significant barriers such as environmental or animal welfare regulations. It is widely expected that slaughter weight will approach 290 pounds as leaner genetics and the use of ractopamine and porcine somatotropin make such weights feasible.

Thus, slaughter weights will likely rise faster than pork consumption while hog numbers will decline. Rising productivity of pigs per sow-year is another factor that will continue to reduce the size of the breeding herd. One expert predicts a breeding herd by the year 2000 that is one-half its present size.[34]

The feed industry is concentrating and big sellers are going

[34] Steve Marbery, "Pork Industry's Numbers Shrink as It Heads to Maturity," *Feedstuffs*, April 13, 1992, p. 1.

direct, bypassing dealers. One consultant predicts only 10-12 major players in feed manufacturing when the shakeout ends.[35] A few of these firms may become deeply involved in contract production and probably all will finance much of their feed sales.

Further vertical integration involving packers is expected. Packers presently involved-mostly in a minor way-in contract production include Smithfield (East coast), Cloughtery (with Boswell Farms on the West coast), Bryan and Tyson Foods (South) and Indiana Packers (Corn Belt). Seaboard Corporation, which owns Farmstead Pack, recently announced plans for a packing plant--and contract production in the southern high plains. However, Purdue University experts argue that pork quality considerations will lead packers to more contractual coordination that falls short of contract production.[36]

It appears likely that by 2000 or shortly thereafter, the distribution of market hogs may be:

- 40-50 percent by super-producers of whom a majority are contractors (including some packers and feed companies)
- 45-50 percent by independents and small contractors producing 1,000 to 49,999 hogs/pigs annually
- 5-15 percent by small (under 1,000 head) independents

Super-producers may include 3 or 4 regional cooperatives and possibly as many superlocals. None are likely to be among the few top super-producers that may range in size from 1 million to 3 million head marketed per year.

These projections reflect a judgment that cooperatives will not become dominant major producers on their own or through the horizontal contract production route. Compared with the Murphy and Cargills, cooperatives do not have a comparative advantage in generating and deploying capital and in finding receptive communities and regulatory agencies.

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[35] Sarah Muirhead, "Consolidation of Feed, Animal Health Industries," *Feedstuffs*, Nov. 19, 1991.

[36] Chris Hurt, Kenneth Foster, John Kadlec, and George Patrick, "Industry Evolution," *Feedstuffs*, Aug. 24, 1992, pp. 1 and 18-19.

However, cooperatives may play a major role in keeping the mid-size producers in the industry. The rate of change in the industry is likely to be too great for some cooperatives to keep pace with. Cooperatives may well develop a useful role from a member assistance point of view. Cooperatives may find various niches to help keep mid-size producers in a competitive position.

This projection also indicates very sizable losses by the year 2000 of market share by the small (under 1,000) and medium size (1,000 to 49,999) producers that have been the customer-member base of most feed supply cooperatives. In some cases, the loss of feed business and of member base will be trauma tic for cooperatives. Given that concentration in fewer units will be associated with a less even dispersion of hog production across the Corn Belt and probably a smaller share of national production in that region, the impact on some Corn Belt communities of the loss of value-added hog production may be severe.

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Agricultural Cooperative Service (ACS) provides research, management, and educational assistance to cooperatives to strengthen the economic position of farmers and other rural residents. It works directly with cooperative leaders and Federal and State agencies to improve organization, leadership, and operation of cooperatives and to give guidance to further development.

The agency (1) helps farmers and other rural residents develop cooperatives to obtain supplies and services at lower cost and to get better prices for products they sell; (2) advises rural residents on developing existing resources through cooperative action to enhance rural living; (3) helps cooperatives improve services and operating efficiency; (4) informs members, directors, employees, and the public on how cooperatives work and benefit their members and their communities: and (5) encourages international cooperative programs.

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