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The Minnesota Corporate Farm Law

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"The legislature finds that it is in the best interests of the state to encourage and protect the family farm as a basic economic unit, to insure it as the most socially desirable mode of agricultural production, and to enhance and promote the stability and well-being of rural society in Minnesota and the nuclear family."

So begins that section of Chapter 500 of the Minnesota statutes which sets forth a qualified prohibition of certain "outside interests" from engaging in farming and owning farmland in this state. These outside interests include certain types of corporations, pension or investment funds, limited partnerships, and alien persons or non-American businesses.

This law was enacted in 1973, but has been subject to deletions, amendments, and additions nearly every legislative session since that time. Earlier this year (1991), for example, four separate bills were introduced to alter the wording of this lengthy and complex statute. While it might be argued that certain of the changes already made in the statute were to correct oversights, many of the adjustments and proposed amendments are justified by changes in the organizational structure of farming, the types and sizes of businesses with whom they deal, and the markets in which they participate.

The objective of this article is to summarize the essential features of the Minnesota law, to compare it with similar laws in other states, and to present current corporate farm issues that may become part of the legislative debate in 1992.

Prohibitions and Exemptions

History

Minnesota enacted a statute in the 1930s that prohibited any corporation from owning more than 5,000 acres of farmland. Like other midwestern states during this Great Depression period, the threat of large tracts of farmland being owned by non-farm interests became real as corporate lenders (banks, insurance companies, etc.) foreclosed on farmers indebted to them. Legislators felt that the logical way to keep farms and farming in family-type units was to single out the "corporation" as the potential enemy.[1]

Agricultural history is marked by instances where "outside interests"

[1]*McElroy, "North Dakota's Anti-Corporate Farming Act,"* North Dakota Law Review, *Volume 36, University of North Dakota Law School, Grand Forks, N.D., 1960.*

(See ***Farm Law*** *page 2)*

The Controversy Over Swine Multiplier Units

Bill Lazarus

One of the easiest ways to generate a heated controversy in rural Minnesota today is to propose a large new swine facility. Several recent controversies have centered around proposals for swine "multiplier units" owned jointly by groups of producers under various business arrangements. This article discusses what swine multiplier units are, their role in the swine industry, reasons for interest in joint ownership, and how the Minnesota corporate farm law relates to them.

(See ***Controversy*** *page 5)*

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(Farm Law continued from page 1)

were feared by farmers and those living in rural areas. The "city slicker" with his fancy clothes, glib tongue, and suspicious nature was stereotyped in early tales of the west as someone who would try to take advantage of those trusting, hardworking people who had accepted the role of "stewards of the land."[2] The "corporation" was viewed in this context. Fear of an eventual corporate monopoly in agricultural lands was even referenced in early court opinions.[3]

It became clear that limiting corporations to 5,000 acres could be avoided by starting up as many corporations as the amount of land that was wanted. If a corporation wanted 20,000 acres of land, three additional corporations could be formed to achieve the desired acreage. Even where corporations were totally forbidden to engage in farming (as in North Dakota from 1932 to 1981), alternative types of business organization were used to circumvent the restriction.

Until the 1950s farmers typically organized themselves as sole proprietors or as general partners. The corporate form was used primarily by non-farm businesses. Other types of business organization (limited partnerships, trusts, etc.) were not commonly found in agriculture until the 1970s.[4] The most recent census statistics regarding farm business organization (see table) show that while Minnesota farm numbers declined by nearly 14 percent from 1978 to 1987, the proportion of sole proprietorships in farming remained nearly constant at about 88 percent for each of the census years involved. The importance of farm corporations increased slightly but nearly all of these are **family farm corporations** with fewer than ten stockholders.

In the late 1950s and early 1960s, the number of farm incorporations increased in Minnesota. Concern was expressed about their number and the purposes for which they were formed. Studies by Philip Raup and Robert Beck showed that farmers were being encouraged to incorporate **either** to solve potential and existing estate planning problems **or**, less frequently, to take advantage of the tax treatment

[2]*Paul Barkley,* Agrarianism, Beliefs, Values and Small Farms. *National Rural Center's Small Farm Project. Lincoln, Nebraska. 1979.*

[3]*John Hancock Mutual Life Insurance Company v. Ford Motor Company (332 Mich. 209, 1948), and Middleton v. Georgetown Mercantile Co. (117 Miss. 134, 1918).*

[4]*D.C. Dahl and T.J. Burke, "Agricultural Limited Partnerships,"* Minnesota Agricultural Economist *No. 611, Agricultural Extension Service, University of Minnesota, St. Paul, July-September 1979.*

Minnesota Farms and Acreages by Type of Business Organization: 1987, 1982, and 1978*

Type of Organization		1987	%	1982	%	1978	%
Individual or family (sole proprietorship)	farms	75,105	88.3	83,010	88.0	87,652	88.3
	acres	21,447,739	80.7	22,347,520	80.7	23,543,423	82.7
Partnership	farms	7,952	9.3	9,530	10.1	9,458	9.6
	acres	3,710,346	14.0	3,863,490	13.9	3,603,332	12.7
Corporation	farms	1,755	2.1	1,582	1.7	1,396	1.4
	acres	1,345,984	5.1	1,397,552	5.0	1,228,643	4.3
Family held:							
More than 10 stockholders	farms	27	--	50	--	23	--
	acres	26,572	0.1	47,910	0.2	19,594	0.7
10 or fewer stockholders	farms	1,568	1.8	1,359	1.4	1,215	1.2
	acres	1,253,272	4.7	1,260,757	4.6	1,117,059	3.9
Other than family held:							
More than 10 stockholders	farms	20	--	31	--	24	--
	acres	7,803	--	28,676	0.1	36,692	0.1
10 or fewer stockholders	farms	140	--	142	--	134	--
	acres	58,337	0.2	60,209	0.2	55,298	0.2
Other—cooperative, estate or trust, institutional, etc.	farms	267	0.3	260	0.3	165	0.2
	acres	69,750	0.3	99,894	0.3	84,392	0.3
Total Farms		85,079	100	94,382	100	98,671	100
Total Acres		26,573,819	100	27,708,456	100	28,459,790	100

**1987 Census of Agriculture: Minnesota State and County Data,* Part 23, Volume 1, Geographic Area Series, Bureau of the Census, U.S. Department of Commerce, 1989, p. 20.

afforded corporations.[5] Legislative concern about the potential for expanded corporate involvement in farming finally prompted an initial statutory requirement in 1971 that farm corporations **report** their shareholders, acres, and production each year so that the state would be able to monitor their activities.

Legislative hearings held in the early 1970s not only permitted farmers, corporations, and investors to express their views, but also allowed others the opportunity to point out that the **corporation**, as a business form, was an improper single focus for monitoring and prohibition. In 1973, the Minnesota legislature developed a statute that prohibited certain types of corporations from engaging in farming or owning farmland. In 1981, the legislature added "pension and investment funds" to the list of business entities disallowed from farming or owning farmland. In 1988, the "limited partnership" was added to the list of prohibited business organizations.

The Prohibitions

The limitations imposed are of two types: (1) to prevent outside interests from engaging in farming, and (2) to foreclose any opportunity to these interests of having an ownership interest in farmland. The definition of "farming" is the production of agricultural products, livestock or livestock products, milk or milk products or fruit or other horticultural products. While certain types of farming activities might be exempted from this broad prohibition, the limitation does not refer to or contemplate the off-farm **control** of farm activity using vertical integration contracts or special credit arrangements. A firm engaged in the slaughtering and processing of livestock or poultry, for example, may be stopped by this law from actual on-farm production activities. But it can certainly achieve its production goals by directing farmers under contract to engage in the type and magnitude of production it would have undertaken itself but for the statute. This assumes, as in practice, that the farmer would agree to be "guided" in his husbandry practices by a company field representative **yet** accept the risk of losses that might result from poor husbandry advice.

What constitutes an ownership interest in farmland? Apparently, land can be leased by an otherwise prohibited "outside interest" and then re-rented to a qualified farmer. Also, an unqualified non-farm corporation could become a limited partner and act to finance a qualified general partner who is a farmer.

The Exemptions

The Minnesota Corporate Farm Law has a lengthy list of exemptions. First, "family farm corporations" and "authorized farm corporations" are excused from the limitations imposed by this law. Family farm corporations are defined with the intent of describing a farm family unit: the corporation is founded for the purpose of farming, and the majority of the voting stockholders are related to each other by at least the third degree of kinship (to cousins, aunts, and uncles). "Authorized farm corporations" are corporations having no more than five shareholders who are natural persons, most of whom reside on the farm. The authorized farm corporations must also derive at least 80 percent of its revenue from sales of farm products, government payments, or custom service fees. No one shareholder in an authorized farm corporation can also have a shareholder interest in another such farm corporation that would together own more than 1,500 acres of land.

In effect, legislators have said "Not all corporations are bad. We will allow family and authorized farm corporations to own land and engage in farming." They have said a similar thing for "beneficial trusts" that are established by owners of a family farm, and for "family and authorized limited farm partnerships" as well. The intent is clear. The prohibition is not meant to apply to family farmers and other "close-knit" people who are farming even if they are not related.

Also excused are those non-farm corporations that owned farmland before the 1973 law was passed. They are even permitted to increase their holdings by no more than 20 percent in any five year period, or as needed to meet pollution control rules. Exemptions are also granted to business or non-profit organizations that acquire farmland as an encumbrance, in the collection of debts, or as a gift **provided** that they dispose of this land within a ten-year period to a type of exempted farm business organization.

While there are some unusual situations (special asparagus acreage, religious corporations engaged only in farming for income, etc.), the exemptions that are receiving the most recent attention for interpretation or change are (1) land operated for research or experimental purposes and (2) land used for raising breeding stock, including embryos, for resale to farmers (see companion article "The Controversy Over Swine Multiplier Units") or for the purpose of growing seed, wild rice, nursery plants or sod. Each session of the legislature is confronted by special interest groups asking that a new agricultural product or category be exempted.

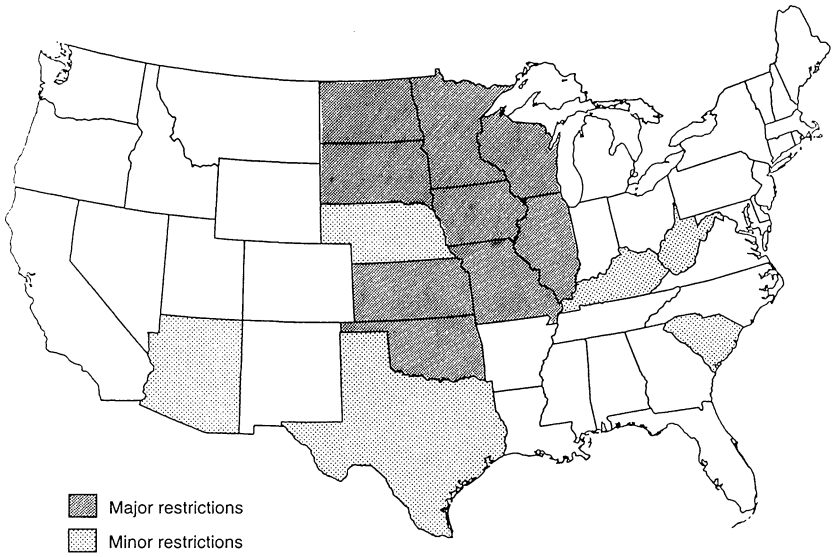
Laws in Other States

The Minnesota Corporate Farm Law is one of several laws like it in other states (see map). The Kansas limitation on farm incorporation was one of the oldest (initially enacted in 1931) and is one of the most comprehensive. It is the North Dakota anti-corporate farm law that was the most prohibitive for the longest period. In 1981 family-held farms and ranches were allowed to incorporate. Oklahoma is unique in that until 1971, the courts interpreted that corporations were prohibited from owning farmland by the wording of the state's constitution.

South Dakota and Missouri have adopted statutes modeled after the Minnesota law, and strong similarities are also found in Wisconsin, Iowa and Nebraska. Texas prohibits the corporate combination of cattle-raising and meat packing, but (surprisingly) meat packers are allowed to own feedlots and feed cattle. West Virginia and South Carolina provide a special tax on valuation for farm corporations, while Arizona limits corporations from purchasing more than 160 acres of Arizona-owned agricultural land or more than 640 acres of Arizona-owned grazing land. Kentucky limits the length of time a corporation can hold farm land "for its business" to five years; after that it must be sold.

[5] *P. Raup and R. Beck.* Incorporating the Family Farm Business, *MN Agricultural Experiment Station Bulletin No. 461, St. Paul, Minnesota, 1962.*

States with Corporate Farming Statutes 1991



Source: This map is an **updated and modified** version of one appearing in K. Krause, *Corporate Farming: Importance, Incentives and State Restriction*, AER No. 506, ERS-USDA, 1983, p. 31.

Current Issues

There were four bills introduced into the Minnesota state legislature in 1991: (1) to exempt all livestock operations from the law, (2) to allow an authorized farm corporation to have up to 25 shareholders (rather than 5), (3) to remove the exemption for limited partnerships or corporations (including cooperatives) to raise livestock for breeding stock, and (4) to exempt aquatic farms from the corporate farm law.

These proposed amendments raise both old and new questions about the Minnesota Corporate Farm Act. One old question addressed again is whether the prohibition of a group of persons or businesses can **ever** be drafted in such a way that it accomplishes its purpose: to prevent "undesirable" corporations or other institutional units from farming or owning farmland. As soon as limited partnerships, for example, were added to the list of excluded businesses or organizations it became necessary to permit family and authorized limited farm partnerships. It is possible, of course, to form a business as a **joint venture**, as a **franchise**, or in some other legal form not specifically mentioned by the statute that will allow it to own farmland and engage in farming. Efforts to expand the qualifying limits of what are authorized farm corporations further complicate the scope of the exemptions allowed and the ability of the legislator to understand "who is being let in and left out" by this change in definition for the term "farming."

A similar type of "old question" is the listing of exempted **activities** rather than organizational forms. To increase the exclusion to encompass all livestock operations is close to repealing the law itself. To exempt aquacultural activities raises the issue of whether they were, or should have been, included in the first place. Did the legislature intend to protect family fish farms (or family logging operations)? These business activities appear to be only marginally encompassed by the word "farming" or "farmland."

One of the new questions raised by the proposed amendments is whether the changing structure of agricultural and related industries require us to question the validity of certain exemptions. The authors of the 1973 act that excused the raising of livestock for breeding may not have anticipated the developments taking place in the swine industry today.[6] Vertical integration by **corporations** or limited partnerships, "unauthorized" by the Corporate Farm Act, may allow "outside interests" to engage in one aspect of a vertically related flow of input-providing, production, and marketing activity **in competition with** traditional hog farmers. This has the potential of creating regulatory inconsistencies not experienced earlier.

Also brought to the forefront is the proper role of agricultural cooperatives with respect to this statute. While many regard farmer-owned cooperative businesses as an **extension** of the farmer's interests into input and product markets, the same cooperatives are **incorporated** under the laws of Minnesota, and must be evaluated as to whether they can be involved in "farming activities." Does "farming" include the raising of livestock for breeding purposes? Should agricultural cooperatives and other corporations be permitted this exemption?

Conclusions

The Minnesota Corporate Farm Law prohibits domestic businesses from farming and land-ownership. An earlier part of Chapter 500 of the Minnesota Code (referenced earlier in this article) also demonstrates that legislators have been concerned about non-U.S. persons and businesses. While difficult international policy questions are raised by these restrictions, the limitations underscore the

[6] *B. Lazarus and D. Dahl, "The Changing Structure of the Swine Industry,"* Minnesota Agricultural Economist, *No. 660, February 1990.*

continued concern that rural Minnesota may become unduly and adversely affected by the presence of "outside interests."[7]

It is reasonable to question whether or not any state has the constitutional right to limit particular types of business organizations from engaging in farming or owning land that can be used for agricultural purposes. One U.S. Supreme Court case concluded that state corporate farming restrictions do **not** violate the U.S. Constitution or the Fourteenth Amendment (due process and equal protection).[8] Property law is chiefly a state matter, and it is in the state codes that we find prohibitions that are not attempted at federal levels. Besides, it has been pointed out that:

"It is difficult to justify most types of large corporations in farming by conventional economic tests of efficiency in resource use and management. Those we now have are largely a consequence of farm price support and tax policies, which were aimed at family farmers and badly missed the target."[9]

Arguments directed to granting farming and land-ownership permission to "corporate America" raise hackles in periods of unabated conglomerate mergers, corporate takeovers, failed financial institutions, economic recession, and government deficits. However imperfect the Minnesota Corporate Farm Law is and will be as new technology, vertical integration and horizontal mergers define new markets and industries, it still may represent a valuable barrier to adverse change in our food and fiber system.

Additional Readings

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Raup, Philip M. "Corporate Farming in the United States," *The Journal of Economic History*, Vol. 33, No. 1, March 1973.

[7] *Fred Morrison, "Limitations on Alien Investment in American Real Estate,"* Minnesota Law Review, *60, No. 4, 1976.*

[8] *Asbury Hospital v. Cass County (326 U.S. 207), 1945.*

[9] *Philip M. Raup, "Corporate Farming in the United States,"* The Journal of Economic History, *Vol. 33, No. 1, March 1973.*

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*(**Controversy** continued from page 1)*

Sources of Breeding Stock

Prior to the 1970s, the swine industry consisted of a large number of producers who sold their hogs for slaughter purposes and retained replacement breeding gilts from their own herds. To improve their genetics, they purchased purebred boars for breeding purposes. These animals were purchased from a smaller group of other producers, generally local and small-scale, who specialized in producing high-quality, purebred breeding stock. A 1980 study by Hayenga, et al. showed 65-70 percent of boars were purchased from purebred breeders and 85 percent of gilts were selected from producers' own herds.[1]

The primary sources of purchased replacement gilts, if more were needed than could be raised, were local slaughter hog producers or purebred breeders.

A few large corporations entered the swine breeding stock market in the 1970s, emphasizing such practices as performance testing, research and advertising to differentiate their animals from those of the smaller purebred breeders. Nationally, corporate breeding stock suppliers sold 15-20 percent of the boars and 2 percent of the gilts entering producers' herds in 1980, with Babcock, DeKalb, Farmers Hybrid, Kleen Leen, and PIC distributing nationally plus a number of smaller firms serving national or regional markets. A 1988 survey of 74 Minnesota producers showed that corporate suppliers' share of their boar purchases was up to 36 percent, with 21 percent of gilts.[2] The Minnesota legislature included an exception in the Corporate Farming Law for "Agricultural land operated by a corporation or limited partnership for the purpose of raising breeding stock, including embryos, for resale to farmers ..." even though they were prohibited from raising livestock for other purposes.

Swine Industry Trends

One industry trend that has accompanied the growth in corporate breeding stock suppliers is an increase in size of Minnesota slaughter hog operations. The 1987 *Census of Agriculture* showed nine percent of the state's hog

[1] *Hayenga, M.L.; D.L. Boyd and L.L. Christian, "The Changing Economic Structure and Behavior of the Swine Breeding Stock Market."* WP-55 N.C. Project 117 Working Paper Series, *Iowa State University, September 1981, p. 5.*

[2] *Lazarus, William F. "Midwest Pork Producers' Business Characteristics, Performance and Technology,"* Economic Report ER90-2, *Department of Agricultural and Applied Economics, University of Minnesota, May 1990, p. 10.*

marketings coming from operations with more than 5,000 head marketed per year, up from five percent in 1982. Managers of these larger operations tend to purchase breeding stock in greater numbers proportionate with their larger herds.

A second trend is an increasing awareness of productivity gains to be made by using "terminal" crossbreeding strategies rather than "rotational" strategies. It has long been known that crossbred sows produce larger litters than purebred sows because of increased hybrid vigor or heterosis. Heterosis is the superiority of the crossbred compared to its parental breeds.[3] A traditional breeding strategy to capitalize on this trait is a three-breed rotation. The number of breeds rotated can vary from two to as many as six, and other variations exist. In a three-breed rotation, a sow of one breed is bred to a boar of another breed. Then, gilts from this crossbred litter are bred to a boar of a third breed to produce animals for slaughter. Replacement gilts for breeding are selected from among one's own or a neighbor's slaughter animals. When replacement boars are needed, three breeds are rotated to maintain heterosis.

A rotational crossbreeding strategy requires careful attention to the genetic backgrounds of different sows to make sure that each is bred to a boar of a different breed to maintain heterosis-related vigor. Even if boar selection is correct, heterosis over several generations in a three-way rotation is limited to about 86 percent of what can be attained in a more sophisticated strategy because some genes of the boar's breed are present in the sow from crosses of previous generations. As the sow herd becomes a mix of older and younger sows of different breeds, it may be difficult to have boars of the proper breeds on hand at the right times. Errors in boar selection may be a factor behind the lack of genetic progress in the industry.

For improved productivity, replacement gilts can be crossbred specifically for the breeding herd rather than being selected from among the slaughter animals. Breeds can be selected to emphasize maternal traits and so to improve reproductive efficiency under this strategy. The boar used to breed the gilts or sows for production of slaughter animals is selected for lean carcasses, rapid growth and feed efficiency, but does not have much impact on reproductive efficiency. Such a strategy is called a "terminal cross" because all offspring of the cross are marketed rather than keeping some gilts to continue the genetic line. The increased productivity of a four-breed terminal cross can be expected to net $35.49 more per litter than a three-breed rotation, or $4.73 per head at 7.5 pigs per litter.[4] While the degree of improvement will vary from farm to farm, one producer recently reported an advantage of $13.90 per pig from such an improved breeding strategy.[5] While separate breeding strategies for replacement gilts and slaughter animals improve productivity, they greatly increase management complexity. Separate breeding strategies can be difficult for producers of slaughter hogs to follow properly, especially while meeting other demands on their time.

A third trend is heightened concern about herd health. Information about and control over the health status of the herd where replacement animals originate is desirable to reduce the probability of bringing disease problems into the herd where slaughter animals are produced. If severe health problems do occur, one solution is to depopulate the facility, sanitize it and then repopulate with breeding stock that is free of disease. The short-term financial consequences can be great depending on how quickly the facility can be brought up to full capacity again. Either purchasing gilts or raising them at a different location can reduce the cost of a depopulation/repopulation because they remain free of a disease that breaks out in the main herd. Repopulation requires many gilts to be available at one time.

Multiplier Units

Genetic advancement in any species involves first, development of a few superior individuals and second, multiplication of their genes throughout the rest of the population. Breeding stock suppliers both private and corporate are involved in the development function to varying degrees. The multiplication function is also largely carried out by the breeding stock suppliers, although in the traditional rotational crossbreeding strategy slaughter hog producers share in the multiplication function when they produce their own crossbred replacement gilts. When they switch to a terminal crossbreeding strategy using maternal cross-replacement gilts produced elsewhere, this multiplication step is shifted away from these slaughter hog operations to someone else.

The term "multiplier unit" refers to an operation where maternal cross replacement gilts are produced for distribution to slaughter hog producers who are using terminal crosses. It is so named because it multiplies the genetics of a small number of foundation purebred gilts and boars rather than being involved in the development function. Information is not readily available on the numbers and locations of multiplier units owned by the corporate suppliers to produce the gilts they market. Some private breeding stock suppliers may also focus on the multiplication function and operate multiplier units, purchasing foundation animals from others who focus on the development function. Other private breeders may perform both functions within the same firm. Large swine producers such as the contractors in the southeastern states require enough gilts that they operate their own multiplier units to meet their needs, purchasing foundation stock from corporate or private breeders.

Minnesota slaughter hog producers appear to be increasingly interested in jointly owning multiplier units under cooperative, other corporate or limited partnership arrangements. Joint ownership of multiplier units can provide producers with better information and control over the health of gilts than is possible when gilts are purchased from an independent third party. Such joint ownership also provides an assured market for the animals without the need for advertising and other marketing activities. In at least one case, a Minnesota limited partnership

[3] *Ahlschwede, W.T.; C.J. Christians; R.K. Johnson; and O.W. Robison. "Crossbreeding Systems for Commercial Pork Production." PIH-39,* Pork Industry Handbook, *Purdue University Cooperative Extension Service, West Lafayette, Indiana, December 1987, p. 1.*

[4] *Ibid, p.5.*

[5] *Lewis, James. "Coordinate Producer Groups: The Camalot Concept," In:* Proceedings, Minnesota Swine Health Clinic, *School of Veterinary Medicine, University of Minnesota, New Ulm, Minnesota, December 14, 1990, p.2.*

with 22 producer-shareholders is currently operating a multiplier unit with the gilts distributed to the shareholders. A disadvantage of joint ownership is that a disease could strike the jointly-owned facility so that the shareholders might have to temporarily go to some other source for gilts while still incurring the cost of capital tied up in the facility. Communication among the shareholders and delegation of management responsibilities must receive careful attention in the planning of a jointly owned facility. In the case described above, a veterinary consultant group coordinated the management of the operation.

While jointly owned multiplier units are relatively new, jointly owned sow corporations producing feeder pigs for slaughter have been around since 1968. A 1987 survey of mid-size and large hog operations found 406 sow corporations out of a total of 27,206 operations. Twenty nine of the corporations were started before 1970, 259 in the 1970s, and 118 between 1980 and 1982. There were no startups of sow corporations reported between 1983 and 1986, the last years studied.[6] One reason for the decline in interest in the 1980s was that economic conditions for hog operations of any kind were less favorable. The problem of sharing management responsibilities among the producer-shareholders and managers of sow corporations was apparently another important factor. Changes in the economic climate since that time are leading to the current resurgence of interest in joint ownership, however. Clear lines of communication, realistic expectations, and careful planning may lessen the likelihood of management problems.

For an individual slaughter hog producer, going to purchased replacement gilts increases per-litter sales of slaughter hogs and operating costs (by the purchase cost of replacement gilts). Sales increase as the more productive purchased gilts farrow more pigs and as all are sold, instead of keeping some for breeding.

The purchase of breeding gilts shifts the value-added economic activity involved in breeding gilt production and some slaughter-barrow production away from producers of slaughter hogs to the multiplier units. If animals farrowed in a multiplier unit are either sold as feeder pigs or contracted out for finishing, less economic activity will be shifted to the multiplier unit than if it does the finishing.

The barrows, extra gilts and cull sows that are farrowed in multiplier units are part of the aggregate supply of pork. For example, if 25 percent of slaughter producers' sow herds are culled and replaced after each litter and if litter size averages 9 pigs, the multiplier unit would produce roughly 3 gilts per 100 slaughter animals produced by slaughter hog producers (100/9 x 0.25 = 2.8). At a higher culling rate, say 40 percent, 4.4 gilts would be needed per 100 slaughter animals. Most male pigs produced in the multiplier unit would not be needed for breeding and so would go as byproducts to the slaughter market along with gilts that either do not meet quality standards or that are not needed for breeding. Multiplier units farrowing a 50/50 mix of gilts and boars would then add about 3-4 percent to the slaughter barrow supply in the process of producing the needed number of replacement gilts.

Also, demand for replacement gilts fluctuates. If the capacity of the multiplier unit is sized to meet peak demands, some gilts intended for breeding will be sent to slaughter when demand is lower. Added production of barrows or gilts taking place in multiplier units or anywhere else will tend to dampen prices and profits compared to a situation in which the added production does not take place.

Policy Questions

The above discussion suggests that terminal crossbreeding strategies offer significant productivity advantages compared to rotational crossbreeding. Location of multiplier units at separate locations and with separate management from slaughter hog facilities appear to offer improved health and simplified management. Rapid development and multiplication of improved genetics also appears to be important to compete with other protein sources for the consumers' dollars and to compete with other states for packers. A question that state policymakers and industry leaders seem to be faced with is: How do policies such as the Minnesota corporate farm law and its breeding stock exemption affect slaughter hog producers' adoption of more productive crossbreeding strategies, availability of the breeding stock required, and overall genetic progress?

The larger corporate suppliers would apparently still be able to import breeding stock into Minnesota from their multiplier units in other states regardless of any restrictions on units in the state. Transportation costs and disease risks would rise with increased shipping distances, however, placing us at a competitive disadvantage compared to other areas for that source of breeding stock.

It should be recognized that multiplication of foundation purebred genetic lines into large numbers of uniform crossbred gilts is at least to some degree a separate economic activity from the development of the superior genetic foundation purebred animals themselves through testing, research, and development. The large-scale testing that the corporate suppliers can carry out would appear to give them an advantage in development, but opinions differ about the degree to which smaller private breeders are able to compete in developing the foundation lines for multiplication. Multiplier units owned by small private breeders or groups of slaughter hog producers will need to have access to superior foundation animals to be successful.

It has been argued that voluntary cooperation among slaughter hog producers may be required to maintain access to favorable genetics which may otherwise be controlled by a few large producers to their advantage.[7] Does this mean that by jointly owning multiplier units, slaughter hog producers might have greater ability to select foundation animals to respond rapidly to changing packer quality demands, compared with purchasing gilts from a multiplier unit controlled by someone else? How large does the producer group need to be in order to negotiate with developers for the best foundation animals in competition with other large producers? Would public policies such as increased public support of genetic testing make it easier for smaller breeders to develop improved foundation animals in competition with corporate suppliers, increasing access

[6] *Rhodes, V.J.; D. Flottman; and M.H. Procter. "Basic Data on U.S. Mid/Large Size Hog Operations 1986-87."* Agricultural Economics Working Paper 1987-17, *University of Missouri-Columbia, pp. 26, 28.*

[7] *Ginder, R.G. "Changing Structure of the Pork Industry,"* American Cooperation, *1991, National Council of Farmer Cooperatives, p. 218.*

to superior genetics by multiplier units owned by private breeders or slaughter hog producer groups?

The clause "... for the purpose of raising breeding stock ... for resale to farmers ...." in the law would appear to put the burden on a corporately owned multiplier unit to prove that its purpose is to produce replacement gilts for breeding, even though it is also producing as byproducts barrows and some gilts that go for slaughter. Could the law be clarified in a way that makes clear the distinction between breeding stock production and slaughter hog production, if the desire is to treat them differently, and still allow enough flexibility to allow for future technological developments? Such aspects as the breeds on hand and breeding strategies in a multiplier unit would likely be different from those in a typical slaughter hog operation.

In summary, public policies toward the swine breeding stock industry may have effects on genetic advancement, productivity and competitiveness that are difficult to predict. Careful consideration of policy directions would appear to be of vital importance to the future of the Minnesota swine industry.

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