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Thinking Globally — Farming Globally**David M. Saxowsky and Jennifer M. Saxowsky****ABSTRACT**

The agriculture industry continues to adopt business practices based on strategic alliances. Generally these alliances emphasize vertical coordination wherein producers enter into long-term agreements with suppliers, processors, and businesses in other sectors of the food and fiber industry. Alternatively, producers should explore initiating horizontal linkages; that is, strategic alliances among producers. Sharing ownership of seasonal equipment, multi-year land rotations among specialized farm operations, and sharing ownership of several farm businesses are strategies that can offer production and marketing efficiencies, as well as risk management opportunities.

The role of strategic alliances based on contractual agreements among businesses within agriculture is becoming increasingly common and well understood (Boehlje 1995). The poultry, hog, and vegetable sectors in the United States are often cited as examples of agribusinesses that have widely adopted the practice of using strategic alliances (Castle 1998). These contractual relationships provide a means for agribusinesses to reduce costs, secure markets, acquire information, and manage risk.

Generally, strategic alliances involve vertical business relationships, and are used to assure that needed inputs arrive in the quality, quantity, location, and time desired. Such agreements reduce uncertainty by assuring producers a market for their product with less price variation. These relationships also provide producers a source of market information and production technology. In exchange, processors are assured a supply with less price risk (Barkema 1994). Many North American hog producers, for example, have entered into contracts with processing plants to guarantee delivery and acceptance of specified qualities of hogs at specified times.

The initiative for vertical strategic alliances often comes from the agribusiness firm. Generally, a processor identifies a need for and an opportunity to assure a predictable supply of grain or livestock, and then offers producers a contractual arrangement to provide the commodity. Processors frequently recognize such opportunities before producers because processors generally have better access to information about consumer demand and the technology necessary to produce the desired products.

However, producers also have opportunities to initiate strategic alliances.

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For example, about ten years ago, durum producers in North Dakota formed a cooperative to own and operate a pasta processing plant. The producers/owners now control their product throughout the production and processing stages. But like other vertical alliances, individual members are obligated to meet contract expectations to supply durum the same as if the processing firm was not owned by the farmers.

With the practice of strategic alliances in agriculture becoming well-established, it appears legitimate to ask whether there are additional opportunities for horizontal alliances among producers. Are there ways for producers to add efficiency to their farming and ranching operations by working more closely with one another? This question focuses on the production of agriculture commodities; it is different from the questions of whether farmers can improve their revenue by collaboratively processing their produce or whether they can lower their costs by collaboratively purchasing their inputs. These questions ask whether farmers can improve the operation of their crop and livestock enterprises by working with other producers.

The remainder of this paper explores three areas in which producers may be able to gain such efficiencies — sharing ownership of seasonal equipment, developing multi-year agreements to rotate land among specialized farm operations, and sharing ownership of farm businesses. Before exploring these strategies, however, it is important to consider several points.

- These strategies may require a fundamental re-thinking of some values which many producers consider important, such as individualism and independence.
- Many of the ideas are not new, but modern communication and transportation technologies are

creating opportunities to justify a thorough review of existing ideas.

- The issues addressed in this paper arose from suggestions or questions posed by producers; these are not simply theoretical notions offered by university researchers.

Shared Ownership of Equipment

A North Dakota producer wants to update the farm's harvesting equipment to assure reliability as well as take advantage of emerging technology, such as global positioning systems. The producer wants to own the equipment to assure control, rather than face the uncertainty of relying on custom operators. However, the producer is concerned about the financial burden of purchasing large-capacity equipment for a modest-sized farm operation, and therefore is willing to share ownership of the equipment with other producers. But this strategy raises a concern about possible time conflicts among the owners. Is there an alternative?

The North Dakota producer who posed this question recognized several facts:

- his harvesting equipment (a combine) needed to be replaced,
- he wanted the latest technology to assure maximum efficiency for his business,
- smaller scale equipment was more expensive in the long-run than larger equipment, and
- his farm was not large enough to justify the purchase of new equipment.

This producer wanted a way to increase the use of the equipment without forsaking the control and certainty that comes with ownership. He was interested in sharing ownership with his neighbors who were similarly situated. He did not place much emphasis on the seasonal nature of the machine's usage; that is, after a busy harvest

season of several weeks to several months, the expensive machine would sit idle for the remainder of the year. Nor did the producer spend much time reflecting on the alternative of entering into a several-year lease for the combine.

Perhaps a more fundamental issue, however, is whether this producer, or any producer, can afford to have such capital-intensive investments not in use for a major portion of each year. Has the business environment of agriculture changed such that producers can no longer assume that it is prudent to use seasonal equipment (whether it is for harvesting, planting, or tillage) for short periods of time and then have it not used for the remainder of the time? This question applies to owned as well as to leased equipment — can producers adopt business practices that reduce the opportunity cost of capital invested in seasonal equipment?

Production agriculture is certainly a business and farmers need to carefully weigh their considerations in making decisions, just like any other business manager. Likewise, advances in communication and transportation technologies that are affecting most sectors of the global economy and society (including agriculture) also may be creating opportunities not available in the past. Can producers find ways to use their equipment during the off-season? Can a North Dakota grain producer share ownership of a combine with a wheat producer in southern Texas, a grain producer in Kansas, and a corn producer in Iowa, for example? Can four such owners plan their farm operations so a machine could be moved from one farm to another as needed? Can they develop an arrangement that will keep their co-owned machine operating for most of the year? For the right combination of producers, the answer could be “yes.”

An initial reaction to this suggestion is

that custom operators have been doing this for decades; that is, they begin the harvest season each year in the southern states and move north throughout the harvest. However, a strategy of shared ownership provides the producers a larger degree of control than if they would rely on custom operators, even though the producers are sharing ownership with others.

Another concern that is expressed when this strategy is suggested centers on how a producer would identify others with whom to share equipment ownership. There is no doubt that identifying potential co-owners, developing a mutual trust with one another, and creating a workable arrangement will be time-consuming. Co-owners will depend on each other to abide by their agreement, including terms such as the initial capital investment, maintaining the machine, adhering to the timetable for use, replacing the equipment in the future, and dissolving the arrangement when it is no longer mutually advantageous to continue it. Again, business practices that were uncommon years ago may offer part of the solution — the networking among producers that has arisen in recent years as they have traveled and met, as well as using the internet to indicate an interest in such an arrangement may be the foundation on which these relationships will be built. It is clear, however, that such relationships will be established by producers; not government or agribusiness firms.

The ease of communicating through e-mail, conference phone calls, fax and other modern devices also removes some of the hurdles of sharing ownership with distant producers. Likewise, a modern transportation system with improved roads and trucks reduces the obstacle of distance.

Sharing ownership of equipment requires that producers be willing to take the

risk of trying a different approach. But sharing ownership of equipment is not a new idea; neighbors have been co-owning equipment for decades. For producers who are willing to share ownership, the novel issue is overcoming the challenge from not having the co-owner as an immediate neighbor.

Shared equipment ownership offers producers an opportunity to pool their equity capital. For example, rather than paying 25% of the machine's cost and borrowing 75%, four co-owners could each invest 25% and not have to borrow any capital. As a result their investment is entirely equity capital. But the capital of each producer is still leveraged; no one invested more than 25%.

Another concern is that the more intensive use of the equipment will shorten the time until the machine needs to be replaced. But this should not be a disadvantage. If transporting the equipment does not reduce its useful life, more intensive use means more rapid recovery of the investment, less opportunity cost, and a chance to replace the equipment more frequently so producers do not fall behind in acquiring the latest technologies. From an equipment manufacturer's perspective, a strategy of co-ownership among producers will mean fewer machines in the field at any given time but more frequent replacement. Manufacturers should not see an overall decrease in demand for their equipment. The overall impact of this strategy would be a reduction in the amount of time that agricultural equipment is standing idle.

Developing a system to share equipment also could lead to the sharing of labor and other equipment. For example, the equipment owners may decide to hire an individual to maintain, operate and transport the co-owned item. This would assure consistent operating practices and prevent the

owners from having to take time away from the remainder of their farm operation. Thus, when the machine arrives, so does an additional worker and an additional truck -- just in time for the peak busy season.

A system for co-owning equipment also could be developed for other seasonal equipment, such as planters, tractors, and tillage equipment. Any equipment that has a peak seasonal use and is needed by other producers at a different time of the year could be managed with such a strategy. But this strategy will not work for everyone; only producers with excess capacity in their seasonal equipment and who are willing to adopt an alternative ownership strategy will benefit from this strategy.

Sharing ownership of equipment and hiring the operator could evolve into a business entity that is distinct from the owners' farm operations. Alternatively, agribusiness firms could offer a competing service. For example, equipment could be leased on a seasonal basis (three month periods, for example) rather than for several years. The agribusinesses would then be able to lease it to more than one producer each year. Again, the result would be that the equipment is used for longer periods, instead of sitting idle for extended periods of time. The incentive for the agribusiness firm would be the opportunity to set a lease rate that reflects having the machine available only when the producer needs it.

Regions of the world with a variety of growing seasons, or where crops with different growing seasons are raised, will be the first to take advantage of this idea. Producers can do this for themselves, and do not need to wait for someone else to offer the service.

Multi-year Land Rotations Among Farm Operations

“He says he has so many things to try to encompass that he ends up doing his book work on Sunday afternoons or mornings before church. He believes that farmers need to learn (and sacrifice their independence) to pool their resources and their expertise.”

(excerpt from an Extension agent e-mail message summarizing a producer’s comments, March 1999)

For more than seventy years, producers have been encouraged to diversify their crops as a strategy to manage disease, soil fertility and erosion, and production, marketing, and financial risk. However, diversification is not without cost. Diversified producers may need additional specialized equipment to meet the unique requirements of each crop. Likewise, understanding the production and marketing practices for each commodity places increased demands on the managerial skills of diversified producers (“a manager’s nightmare,” according to one North Dakota producer). Finally, producers may not have adequate capital and time to develop a size of operation to take full advantage of the maximum economies of scale for each enterprise. These challenges are only likely to increase in the future as producers need to manage more production and marketing information and as advancing economies of size require more capital.

An alternative strategy is for producers to specialize -- select one enterprise and become knowledgeable and efficient in producing and marketing that commodity. This would include producing at a size of operation that captures most available economies of size.

Specializing is not a new business practice, even though it is opposite of the current

philosophy in agriculture (Harwood et al, 1999). For example, in the medical profession many doctors specialize in part due to the insurmountable task of knowing everything about several areas of medicine. Agricultural producers may need to do the same by selecting no more than a few complementary enterprises and becoming a highly efficient producer and marketer. It is important to recognize the difference between diversification within a business, diversification within a community, and diversification among investments. In this section, the topic is diversification (or specialization) within a business and diversification within a community or region. The next section of this paper addresses diversification among investments.

Specialization presents the problem of crop rotation; producers would once again face increased production risk as a result of raising the same crop on their land every year. One alternative may be a horizontal strategic alliance wherein producers rotate land with their neighbors (other producers in the community), thereby managing production risk and capturing the economies of specializing. An example of this is a farmer who specializes in potato production, processing and marketing. The crop requires a four-year rotation, so neighboring producers raise other crops on the land for three years, before the producer returns to grow potatoes again. Such a strategic alliance provides producers with the advantages of specializing *and* diversified production on the land.

A question, however, may be why would a producer of a high-value crop (such as potatoes) want to cooperate with the producer of a lower-value crop (wheat, for example). Another consideration may be that each producer still faces the risk of having all their capital invested in a single (and now, specialized) business. An innovative approach

to horizontal coordination may again be part of a solution, such as sharing ownership of their farm businesses.

Sharing Ownership of Specialized Farm Businesses

Producers who achieve economies of scale by specializing in only a few complementary commodities still face the financial risk of price fluctuations, cost increases, and production uncertainties. How can a producer specialize to achieve economies of scale, yet diversify to manage non-production risks?

Sharing ownership of specialized farm operations can offer producers a mechanism to achieve economies of scale and other benefits of specializing while managing financial risk through diversification. Instead of investing all of their capital in one business, producers would invest in each others' farm operations. Each producer would rely on the specialized expertise of the other producers to manage their respective businesses.

A simple example of such an arrangement would be a wheat producer and a neighboring cow/calf producer. Rather than each producer owning 100% of their farm operation, each would own 50% of both farms. The wheat producer would manage the grain production while the cow/calf producer would manage the livestock enterprise. Both operators would have managed their risk exposure by diversifying their investment between two firms, rather than being solely invested in a single business.

Once producers are comfortable with this arrangement, they could expand their investments to include additional operations, possibly even outside their region. A well-diversified investment could include operations in North Dakota, Iowa, Texas,

California, Columbia, and South Africa. In this way, producers would begin to *farm globally*.

Each business would be managed by an individual specializing in the production and marketing of their respective commodity. Specialized farms are more likely to achieve economies of scale, allowing them to increase their profitability. Producers will have the same amount of capital invested in production agriculture as before, but they will have reduced their risk by diversifying their investment.

When forming such a relationship, it is crucial that the businesses remain separate entities so the performance of one does not affect the performance of another. Such arrangements cannot be partnerships. Instead, the operations would need to be structured as legal entities that permit shared ownership yet preserve distinctive business status. The arrangements could be cooperatives, limited liability companies, or corporations.

A strategy of shared ownership of agricultural operations could be compared to a mutual fund. A mutual fund in the financial sector is defined as “pooling capital to invest in a series of distinct business entities.” Investors use mutual funds as a means of managing their investment risk through diversification. This practice is based on the idea that an asset held as part of a portfolio is less risky than that same asset held on its own (Brigham and Houston 1996). Is there any reason why producers should not be able to realize these same benefits by co-owning a series of farm businesses?

Investors could be limited to a specific group — the farmers who already own the businesses. In this way, the business structure would be similar to that used in other sectors of the economy, but producers would not

relinquish control to investors outside of production agriculture -- a major concern for some agriculturalists.

Many sectors of today's economy have businesses owned by investors, and then managed by a few specialized employees. Agriculture remains one of the few sectors that expects the risk of ownership to be borne by a small number of people, such as a sole proprietor, a married couple, or a few family members. Agriculture also is unique relative to other sectors of the economy in that individuals are expected to invest nearly all of their assets in a single business, thereby assuming large levels of risk. Through shared ownership of farm businesses, agriculture would divide the risk of business ownership among a larger group of investors, and each investor would have diversified their capital among several businesses.

Sharing ownership of farming operations would require some fundamental changes. The first challenge would involve changing some values held dearly by agricultural producers. They need to be willing to share ownership of their operations, and to invest their capital in operations managed by other producers. Selecting a co-owner will be a time-consuming process and will require establishing a level of trust among producers--similar to establishing a system of shared ownership of equipment, as described previously.

A producer who wishes to enter into shared ownership will likely need to have extensive production and financial documentation. When choosing which operations to place capital in, investors will need to study historical records to determine the profitability of an operation. They will want to invest in operations specializing in

different commodities, located in different regions, and thus, have diversified their investment as a risk management strategy.

Perhaps the most difficult challenge for producers will be accepting that they are no longer the sole owners of their operations, nor are they the sole decision maker. The advantage is the diversity of experience and knowledge that the co-owners will be able to draw on in collectively directing their businesses. Again expanding technology will facilitate communication among distant co-owners.

A system of shared ownership will not create additional capital for the operations, because no new investors will enter production agriculture. Farmers will find themselves with the same amount of equity and debt; the only difference will be the number of operations in which they have invested their capital. Changes in public policy regarding multiple-owner farm operations will need to be made in order to enable this type of arrangement. For example, current state legislation in the United States restricts certain business structures, such as corporate farming operations.

The issue of co-ownership raises both a social question (will the political unit enact laws to allow non-farmers to invest in production agriculture) and a question for current farm owners (will they sell ownership interest in their business to non-farmers, if legally able to). The answer lies in how producers choose to proceed in the future.

CONCLUSION

Producers need to explore innovative means of achieving their goals of low-cost production, risk management, and involvement in ownership, management, and operation of a farm business. The initiative needs to be taken by producers. They should consider opportunities provided by horizontal alliances, which include sharing ownership of seasonal equipment with producers whose needs arise at different times during the year, multi-year land rotations among specialized farm operations, and sharing ownership of several farm businesses.

Such strategies require that producers be willing to cooperate and recognize they

may no longer be sole proprietors. They will have to understand the need to operate like other businesses with detailed production and financial documents, and that some laws will have to be changed to permit innovative business strategies. Prudently structured horizontal alliances implemented through careful thought processes offer opportunity. The challenge is to identify and address obstacles (including those we impose on ourselves) through our own innovation and initiative. Agriculture is changing and if producers want to share in the rewards of innovation, they need to carefully reassess their values, consider change, and understand risk.

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