

# **FARMING IN THE 21<sup>ST</sup> CENTURY**

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## Preface

The U.S. agricultural industry is in the midst of major structural change — changes in product characteristics, in worldwide production and consumption, in technology, in size of operation, in geographic location. And the pace of change seems to be increasing. Production is changing from an industry dominated by family-based, small-scale, relatively independent firms to one of larger firms that are more tightly aligned across the production and distribution chain. And the input supply and product processing sectors are becoming more consolidated, more concentrated, more integrated.

Agriculture in the 21<sup>st</sup> century is likely to be characterized by: 1) adoption of manufacturing processes in production as well as processing, 2) a systems or food supply chain approach to production and distribution, 3) negotiated coordination replacing market coordination of the system, 4) a more important role for information, knowledge and other soft assets (in contrast to hard assets of machinery, equipment, facilities) in reducing cost and increasing responsiveness, and 5) increasing consolidation at all levels raising issues of market power and control.

These profound changes in the agricultural industry present new challenges and new opportunities that require new ideas and concepts to analyze and implement. They require new learning and thinking. Some of those new ideas and concepts are presented here, not as empirically verified truths, but as “thoughts” to stimulate different and better thinking. They have been developed based on observations, analysis and discussions with numerous managers and colleagues in agribusinesses in North America and Europe. This series focuses on Farming in the 21<sup>st</sup> Century; companion series are also available on Financing and Supplying Inputs to the 21<sup>st</sup> Century Producer (Staff Paper 99-11), and Value Chains in the Food Production and Distribution Industries (Staff Paper 99-10).

Our purpose in sharing these “thoughts” is to invite discussion, dialogue, disagreement — in general to encourage others to develop better “thoughts”.

Keywords: qualified supplier, biological manufacturing, strategic risk, process control, economies of size, franchise grower

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## **Decision Structure Alternatives in Production Agriculture**

The transition of production agriculture from commodity crop and livestock production to biological manufacturing and more tightly aligned supply chains is challenging the traditional decision structure used in most of mid-western production agriculture — the independent family farm. The value many family farmers place on independence may in many cases be in direct conflict with becoming a qualified supplier in a more tightly aligned supply chain. For some, their perspective of their future role in this new agricultural industry is that of a low income piece-work contractor who has little decision authority and no autonomy. And rightly so, they do not find this prospect very attractive.

But there is a “middle ground” between the independent family farmer on the one end and the low income piece-work contractor on the other end of the decision structure spectrum. One alternative in this middle ground is the multiple-plant entrepreneur. This is the structure that we increasingly see being used in the pork industry as well as in milk production. With this alternative, the farm business is comprised of a general manager and his staff who oversee the strategic, financing, marketing, procurement, and human resource functions of the enterprise; plant managers at each of the production locations who are responsible to implement and oversee the specific activities associated with crop and livestock production; and workers who are responsible to carry out those specific production activities. This decision structure acknowledges the concept that not all farm firms of the future will be comprised of a single production unit or plant, and that in many cases there will be significant efficiency advantages of separating operating management at the plant level from strategic and functional management at the firm level. As suggested earlier, this is not new to production agriculture as evidenced by the adoption of this decision structure in many of the larger as well as modest size pork production systems in the last ten years.

A second decision structure between the two extremes of independent producers and piece-work contractors is that of networked qualified suppliers. In this structure, individual firms develop joint programs for procurement, marketing or other activities to obtain the economies of size and scope as well as market presence without becoming fully merged or integrated. This approach has been the classic way that cooperatives have enabled individual family farmers to more effectively buy inputs and sell products in the past. The additional dimension of such programs that is expected in the future is that participants in a networked qualified supplier program will be required to be more committed, and in many cases jointly decide on program elements such as minimum quality specifications, minimum quantities delivered, scheduling of delivery, and probably even sources of key suppliers of inputs and key product merchandisers.

A third alternative is what might be described as a franchise grower. A franchised grower system would be not unlike the franchised retailer that is common in the fast food industry, but in this case it would be on the raw material rather than the merchandising side of the supply chain. A franchise grower/qualified supplier would be one who has the right and opportunity to supply agricultural raw materials to a particular processor or end-user as long as he or she meets certain specifications. Franchise growers would be given unique or privileged access to superior markets, superior technology, or superior opportunities that would be available on an exclusive basis to them but not to other growers. Franchise growers, like franchised fast food retailers, would be required to use very specific procedures in their business to produce the desired raw material, so in that sense they would lose some of their decision authority and autonomy. But

also like the fast food industry where franchisees of a local McDonald's store are compensated well not for their decisions about the proper amount of ketchup to put on a hamburger, but instead for their ability to organize the personnel and other resources to produce the franchise product in a consistent and timely fashion, franchise growers or suppliers would be paid for their implementation and organization skills rather than their strategic decision-making skills. Franchisees in the fast food industry are well compensated for this important task of getting the job done — McDonald's knows that it is more efficient to have that done at the local level than to try to do it from corporate headquarters. One can envision a group of franchise growers in production agriculture in the future who are well compensated to implement qualified supplier programs that deliver specific attribute raw materials to processors and other end-users in the food and industrial use market of the future.

One final point concerning the future decision structures that might exist in production agriculture. Many of these alternatives between the two extremes of independent production and piece-work contractors may be available only for a limited time as the industry is transformed to a more tightly aligned biological manufacturing/qualified supplier structure. You can no longer obtain McDonald's franchises in many locales, and once a company chooses its qualified suppliers, others may find it difficult if not impossible to supply to that firm. The implication is that the opportunities in this "middle ground" may be time limited. Many independent family farmers are committed to maintain their status as an independent businessman who buys and sells on an open market. But if the agricultural production industry moves to more tightly aligned supply chains as has happened in most other industries, those who do not participate in this transformation will not only find that the open markets of the past are increasingly disappearing, but that the opportunities to be a franchise grower or networked qualified supplier are increasingly unavailable. The real strategic risk for these independent producers is that the independent option may not be available in the future, the decision structures associated with being a networked qualified supplier or franchise grower are no longer open to them, they don't have enough capital or other resources to be a multiple plant entrepreneur, and so they (or more likely their heirs) are by default relegated to being piece-work contractors with limited financial opportunities.