

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

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Staff Paper # 99-9

August 31, 1999

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**Purdue University**

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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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## **Career Opportunities in Production Agriculture**

The concentration and consolidation of production agriculture that is part of the current on-going industrialization process has raised numerous questions about the future of family vs. factory farming. One of the controversial issues in this contentious debate is what will happen to the career opportunities in production agriculture — will there be fewer opportunities for a career in this industry or more opportunities?

As the number of commercially viable farm firms declines, opportunities to pursue a career as an independent family farmer are obviously also reduced. But will the expansion of industrial firms in production agriculture result in new and different career opportunities, and will these opportunities be as attractive and accessible as those associated with the traditional family farming structure of the industry.

It is quite possible that industrialized agriculture will offer a broader set of career opportunities, and more accessibility to those opportunities. The traditional career path in production agriculture has been to either join an already ongoing business as a family member, or to start farming as an employee for a current farmer and eventually accumulate enough funds to buy machinery and rent land to start an independent farming business. Both of these approaches — joining a family business or climbing the agricultural ladder — have been quite restrictive in terms of who qualifies and the determinants of success.

Larger, industrialized farms may offer a wider variety of employment opportunities including several levels of managerial positions. The first opportunity is at the immediate production-unit or farm level where local production is managed either by the landowner, or in some sectors such as strawberries, by a non-owner who enters tie-in agreements that include sub-leases, exclusive marketing commitments and financing guarantees. Some landowners that manage local-unit production may have been “family farmers” who have elected to enter a more structured or integrated operation. In some labor-intensive, small-acreage sectors, the non-landowner/sub-lessee/producer has been drawn from the ranks of former employees who are pursuing a more entrepreneurial career in farming.

At a second level coordinating the individual production-units may be found middle-level production management personnel which may include positions such as: crops manager, planting manager, harvest manager, equipment manager, and possibly labor manager or coordinator. Each of these managers would be coordinating specified activities across individual production units. At the third level more senior-level management would be involved in such decisions as evaluating the economics of existing and potential enterprises, choosing quantities and varieties to raise, and implementing fundamental marketing strategies and agreements. These senior level-managers may be responsible for the overall finance, marketing, procurement and operations functions of the business much like in a non-farm business. Overall direction of the enterprise is provided by a chief executive officer (CEO) and his management staff.

Of course, these structures will vary — and may combine two or more of these managerial levels — with size and type of enterprise. Thus, a substantial dairy operation may include hired milkers and field and feed-lot staff, a managerial-level herdsman, and an owner-CEO.

Within industrialized production operations, many tasks (and inputs) may be outsourced to independent contractors such as: fertilizer, pesticide and veterinary service providers, labor contractors, and custom machinery operators — providing additional career and often entrepreneurial opportunities.

As agriculture becomes more integrated upstream and downstream, who performs the management role is changing. Some, owner-operators are becoming contract-producers wherein the discretion for determining both production processes and the timing and conditions of sale are transferred to the integrator. The farmer assumes more of the role of a middle-level or production manager. While this trend may appear to reduce the farmers' need for some entrepreneurial-producer skills (e.g., which variety to crop or livestock to raise; how long to feed or hold), it calls for heightened abilities to analyze complex contractual documents and arrangements and evaluate the long-term advantages of, or returns to, the often greatly increased — and leveraged — real estate investment.

Some former owner-operators may move into middle-level managerial positions such as planting and harvest supervisors, and some may become outside contractors such as pesticide or fertilizer advisors. The extent to which current agricultural education or experience enables individuals to qualify for any of the above-described managerial roles is not clear. Also unclear is the extent to which agriculture's wage-and-benefits structure for these positions is competitive with non-agricultural sectors. To ensure adequate supplies of workers at all skill levels, agriculture will have to compete successfully with other sectors of the U.S. economy.