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The Future of Animal Agriculture in North America

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Animal agriculture in North America constantly adapts to changes in markets in order to remain competitive for the future. New products are developed to meet changing consumer preferences. New production systems reduce costs. Private contract arrangements replace open market bids in public arenas and redefine the relationships among the stakeholders in the system. Technological developments increase farm-level productivity, processing efficiency, distribution systems, and marketing. Every facet of the animal food chain—from genetics to retail and food service outlets—is facing rapid change, accompanied by controversy and challenges.

Exploring opportunities in this environment requires going beyond matters of supply and demand, cost of production and transportation to examine basic institutions, customs of trade, law, and social factors, which underlie the production, distribution, transformation, and sale and consumption of animal products.

Farm Foundation recently completed a comprehensive analysis, *The Future of Animal Agriculture in North America*. The report examined the opportunities and challenges facing the livestock sector, the driving forces behind them, and the potential consequences of those forces over the long term in the United States, Canada, and Mexico. The focus of this analysis was on major animal segments of the North American food system—beef, pork, dairy, and poultry.

The report proposed key policy alternatives and business strategies for change and analyzed the potential impacts on key stakeholders. It identified gaps in knowledge, identifying potential research and policy questions for the future. The objective was to give all stakeholders a clear understanding of the current state of the industry, a glimpse into the future, ideas for change and their poten-

tial consequences, and an inventory of issues that need further research, industry actions, or government policy.

This analysis was unique in that it resulted from a partnership between Farm Foundation, government agencies, industry groups, other nonprofit organizations and foundations, and the academic community. More than 150 individuals from Canada, Mexico, and the United States actively participated in the development of this report. The project was divided into seven Working Groups, which are the basis for the reports that follow.

Farm Foundation's *Future of Animal Agriculture in North America* project identified a number of cross-cutting themes, strategies, and policy issues, as well as areas where the knowledge base is thin or nonexistent.

Markets, Structure, and Competition

Traditional open bid commodity markets for animals are fading in importance, but there will always be competition among different value chains offering a variety of products to consumers. The sale barn with multiple buyers and sellers is rapidly disappearing and most animals are marketed through contracts, cooperatives and a variety of arrangements that link production with processing and retailing of final products. Cooperatives play a key role in dairy.

Current production technologies and marketing arrangements have significant economies of scale that encourage large units for production and processing of beef, pork, poultry and milk. The result is that production units are getting larger across the board. Fewer large firms dominate the animal-processing industry in North America. While small, traditional production units are still a major factor in Mexico, the number of large-scale production units similar to those in Canada and the United States is growing rapidly in dairy, swine, and poultry.

This economic environment challenges small- and mid-size producers. But opportunities do exist, and others are evolving. Because different consumers place different values on various product attributes, there will be markets for animal products with specific characteristics for which consumers are willing to pay premiums. For example, demand for niche-market products like certified organic products is growing rapidly. Many small- and mid-size producers can flourish if they are able to position themselves to competitively provide products that command premium prices in the marketplace.

The North American animal agriculture industry also faces competitive challenges from other world producers and processors, in part due to the transferability of technologies and increasing worldwide demand for animal products. This has implications for trade, labor, and the environment.

What we need to know about the future of markets, structure, and competition in animal agriculture includes: Who receives the value from technological and business management innovations such as supply chains and traceability systems? How is this value distributed among producers, processors, retailers and consumers? Are there better ways to identify relationships among parties in these systems? What are the long-term impacts of increased energy production from corn, other animal feeds, and animal waste on animal agriculture? To better understand the competitiveness of the North American livestock industry, a comparative analysis is needed of the cost of producing and processing various animal products in different geographic locales in the world. This analysis must use a standardized methodology to measure costs and

analyze potential value of both commodity products, as well as higher-valued differentiated products.

Value in Integrated Markets

There is economic value in an integrated North American market for animal products. The dairy industry remains protected to different degrees in all three countries, and the Canadian poultry industry remains protected. But, there is significant evidence that NAFTA benefited the beef and swine industries in all three countries. Open borders allowed the industries to specialize with live animals, carcasses and processed products moving back and forth across all borders. The disruptions caused by the closing of the U.S.-Canadian border because of BSE demonstrated the degree of market integration in the cattle sector that had developed in recent years. While some parts of the livestock industry benefited from the border closing, the North American industry as a whole lost. Institutional mechanisms are needed to reopen borders quickly to prevent long-term economic disruptions.

What we need to know about the future of integrated markets includes: What are the true costs of border disruptions? Who benefits and who loses because of these disruptions? Have the "temporary" BSE-related border closings permanently altered animal trade flows in North America?

Increasing Demand

Demand for animal protein depends primarily on income and population growth. Predicted increases in income in developing countries, particularly in Asia and Latin America, will increase global demand for animal products during the next generation. In high-income regions like North America and Europe, consum-

ers are demanding animal products with specific characteristics related to nutrition and health concerns and specific production practices. As noted previously, demand for organic products is growing rapidly.

What we need to know about the future of demand includes: What really influences consumer purchases of meat and animal products? How do consumers react to health and food safety concerns and to concerns about animal welfare? What are the economic impacts of consolidation in the food processing and food retailing sectors, especially impacts on farmers and on consumer choice?

Environmental Regulation and Litigation

Environmental regulations can be a significant cost factor for the industry and will likely be a major factor in future investment decisions by the industry. While predictions of a "race to the bottom" are made, the increasing variability of regulation from location to location will impact decisions concerning the location of future animal production and processing units. Differences in environmental regulation across countries, states, and provinces are problematic for animal agriculture. Broader multi-jurisdictional regulatory approaches may represent an opportunity for more efficient environmental management and lower industry costs.

Litigation related to environmental issues is a growing problem in the United States. While litigation is a symptom, not a cause of conflict, continued litigation can be expected unless there is meaningful legal reform that provides the industry with some "safe harbor" legal parameters in exchange for assuming greater responsibility for environ-

mental concerns. Litigation or legislative outcomes must provide legal rights and responsibilities that balance business practices with environmental concerns to resolve the issues. In the environmental arena, uncertainty is a greater problem than the level or type of environmental regulation.

What we need to know about the future of environmental regulation includes: What are the costs and benefits of various regulatory systems? What are the impacts of regulation on different size operations? What are the public health impacts of possible pathogens in air emissions from animal production facilities? How do we best measure the level of pathogens and their impacts?

Immigration and Labor

Many segments of animal agriculture in the United States and Canada depend on a foreign-born labor force. In the United States, many of these workers are from rural Mexico or Central America and are undocumented. The legal uncertainty associated with this undocumented work force has consequences for the workers and the companies for which they work. Workers may not receive full legal protections and may be reluctant to complain about working conditions. Employers are vulnerable to a variety of legal sanctions and risk the loss of a significant portion of their work force if immigration laws are strictly enforced. This legal uncertainty creates a "cost" that can be mitigated with revised government policies.

What we need to know about the future of labor and immigration includes: What are the labor market needs for animal agriculture? How will specific immigration reform legislation impact the industry?

Animal Identification and Traceability Systems

Animal identification and traceability systems have a key role to play in the future of the North American animal agriculture industry. Whether the underlying issue is animal health, food safety, animal welfare, process assurance, or quality attributes, animal identification and traceability are necessary. Canada is well ahead of the United States and Mexico on this issue. Identification and traceability systems will emerge rapidly during the next few years to enhance the industry's ability to respond to natural and intentional disease outbreaks, improve food safety, and provide assurances of food quality and wholesomeness. Some elements of these systems will be developed and managed by government, other parts may be purely private, and some elements may require public/private partnerships.

What we need to know about the future of animal identification and traceability includes: How could information generated by traceability systems be utilized to develop risk-management strategies to minimize impacts of animal disease outbreaks?

Community Impacts

There are no simple answers to the complex issues facing rural communities affected by animal agriculture. The issues are multi-faceted and link producers, processors, retailers, consumers, and the people living and working near farms and processing facilities. Reaching workable solutions requires patience, partnerships, information, and clear communication. Solutions may require the cooperation of industry and multiple levels of government.

What we need to know about the future of community impacts includes: What are the economic and social consequences of alternative regulatory systems for making siting/zoning decisions about animal production and processing facilities? What incentives or regulations can be instituted to encourage cooperation among industry, government, the public, and the various elements of the food supply chain? What are the actual economic multiplier effects of animal agriculture production and processing facilities on rural communities?

Shaping the Future

While it remains competitive in the world market, the North American animal agriculture industry faces significant challenges and opportunities. This series of articles offers a comprehensive look at the opportunities and challenges facing animal agriculture in North America today. How industry, government, and academia use the information compiled here will help shape the future of this industry in North America and around the globe.

For More Information

Farm Foundation.(2006). *The future of animal agriculture in North America*. Available online: <http://www.farmfoundation.org/projects/04-32ReportTranslations.htm>. Oak Brook, IL.

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