AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

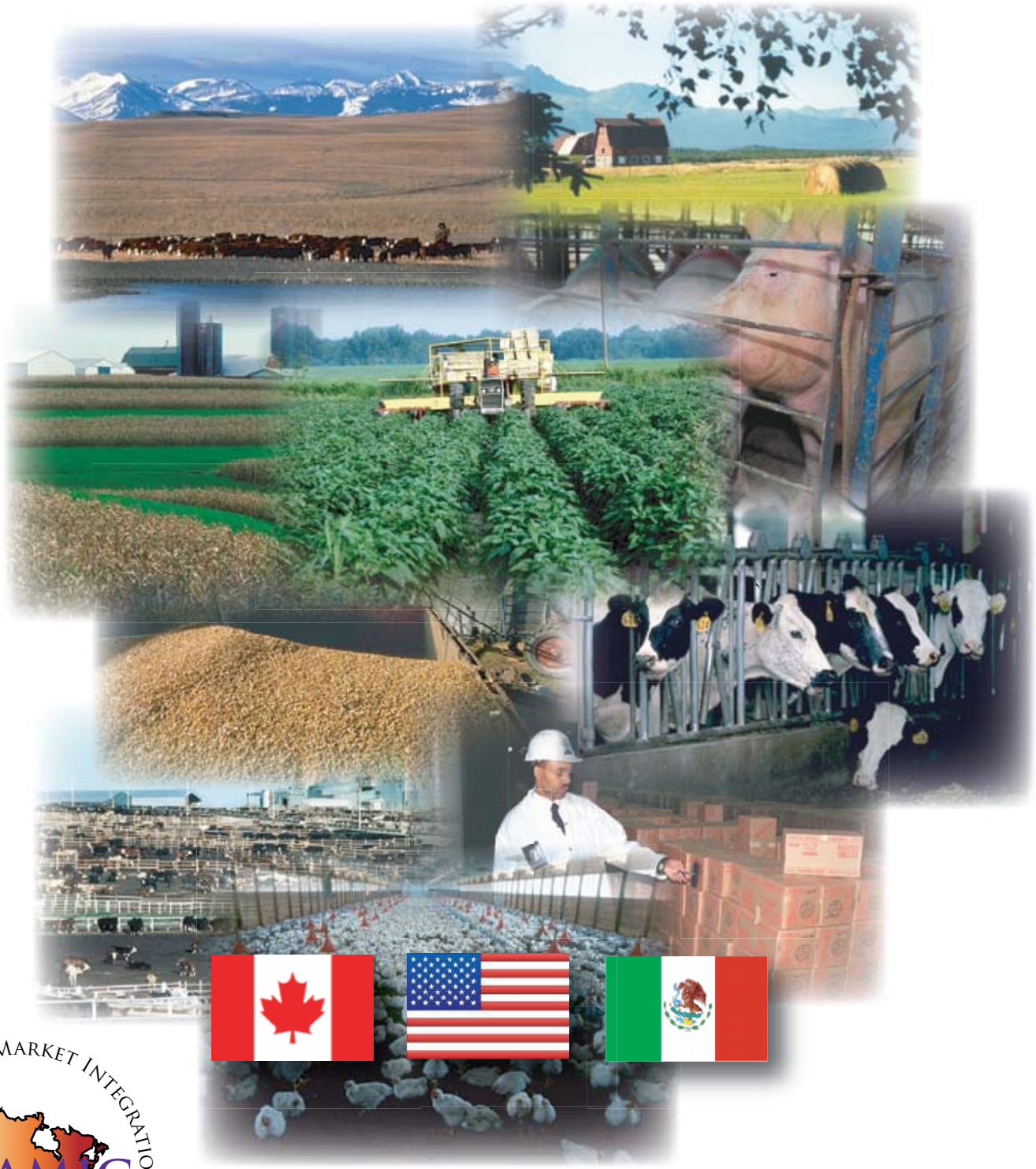
Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

Fourth Annual North American Agrifood Market Integration Workshop

# Contemporary Drivers of Market Integration - Executive Summary



NORTH AMERICAN AGRIFOOD MARKET INTEGRATION CONSORTIUM
NAAMIC

Farm Foundation

# North American Agrifood Market Integration Consortium

Fourth Annual North American Agrifood Market Integration Workshop
*Contemporary Drivers of Integration – Executive Summary*
June 2007, Cancun, Mexico

## Sponsors:

- Agricultural and Food Policy Center – Texas A&M University
- Agriculture and Agri-Food Canada
- Inter-American Institute for Cooperation on Agriculture (IICA)
- Farm Foundation
- Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación (SAGARPA)
- United States Department of Agriculture
  - Agricultural Marketing Service
  - Economic Research Service
  - Foreign Agricultural Service – Emerging Markets Program
- University of Guelph

## Coordinating Committee:

Gloria Abraham – IICA – Mexico
Karen Huff – University of Guelph
Ronald D. Knutson – Texas A&M University
Karl Meilke – University of Guelph
Rene F. Ochoa – SAGARPA
Luis Ribera – Texas A&M University
James Rude – University of Manitoba
Renée A. Schwartz – U.S. Department of Agriculture/Foreign Agricultural Service
Tulay Yildirim – Agriculture and Agri-Food Canada
Steven Zahniser – U.S. Department of Agriculture/Economic Research Service

*The Fourth in a series of workshops organized by the North American Agrifood Market Integration Consortium designed to foster dialog among policy makers, agrifood industry leaders, and academics on agriculture and food-related market integration issues among NAFTA countries.*

Photo Credits: The USDA Photography Center (http://www.usda.gov/oc/photo/opchomea.htm); Agricultural Research Service Image Gallery (http://www.ars.usda.gov/is/graphics/photos/); David Hollander, Lincoln University, New Zealand; and David P. Ernstes, Texas A&M University.

Farm Foundation

This publication was produced by Farm Foundation in the pursuance of public policy education and understanding.

Farm Foundation
1211 West 22nd Street, Suite 216, Oak Brook, IL 60523-2197
Telephone (630) 571-9393 FAX (630) 571-9580
Internet http://www.farmfoundation.org
E-mail walt@farmfoundation.org

http://naamic.tamu.edu
September 2007

# Contemporary Drivers of Market Integration - Executive Summary

*Ronald D. Knutson, Luis A. Ribera, Rene F. Ochoa, Karl D. Meilke, & David P. Ernstes*[1]

**The** 4th Annual North American Agrifood Market Integration Consortium (NAAMIC) workshop addressed three contemporary drivers of integration that will influence the member countries of the North American Free Trade Agreement (NAFTA) – Canada, Mexico, and the United States – in the years to come. These drivers are:

(1) the diversion of additional agricultural resources to biofuel production,
(2) further development of cross-border supply chains, and
(3) the troubled status of the multilateral agricultural trade negotiations at the World Trade Organization (WTO).

## BIOFUELS

A sustained increase in the real price of crude oil over the past 5 years, widespread replacement of methyl tertiary butyl ether (MTBE) as an ingredient in U.S. gasoline, and augmented policy incentives for biofuels have resulted in a dramatic expansion of U.S. ethanol production and the possibility of similar growth in the U.S. biodiesel industry. The immediate economic effects of these developments include a near doubling of corn prices over the past 18 months. Over the long term, expanded biofuel production is expected to have important implications for North American market integration in terms of the economic linkages between the grain and oilseed sectors and the agrifood businesses that rely on these commodities as inputs.

### Future of World Oil Prices: Some Keys to the Puzzle

The prices of ethanol and biodiesel will be determined largely by the prices of gasoline and diesel fuel, whose prices in turn depend on the price of crude oil. The price of oil is determined in one worldwide market. Although the different varieties of crude oil consist of different mixtures of chemicals, many varieties of crude oil are fungible, and transportation costs tie oil producing and consuming countries together. The flexibility and low cost of transporting crude oil in supertankers mean that, if the price of one particular crude oil variety becomes cheaper, it will be bid away and redirected to the higher priced market. As in the case of farm products, both the supply and demand for crude oil are highly price inelastic in the short run, which creates high price volatility. This adds an important risk factor to the biofuel market and its investors. While the Organization of Petroleum Exporting Countries (OPEC) seeks to maximize its profits by assigning production quotas to its members, market forces such as a supply surge from non-OPEC countries or a significant decline in demand can easily overwhelm OPEC.

World oil demand has been growing rapidly due to strong rates of economic growth in many developing countries. China is the largest contributor to this increased demand, with its gross domestic product rising 10 percent per year. Fast economic growth in the developing world raises the key issue of whether the world's oil supply can keep up with growing demand.

Griffin believes that contemporary concerns about limited oil re-

[1]The content of this Executive Summary was abstracted by the authors from the proceedings of a the Contemporary Drivers of Integration workshop held in Cancun, Mexico, on June 13-15, 2007. The six base papers commissioned for the Workshop are identified at the end of the Executive Summary and are referenced within it. These base papers are published on the website of the North American Agrifood Market Integration Consortium (NAAMIC) at http://naamic.tamu.edu and subsequently will appear in print by Agriculture and Agri-Food Canada. From time to time, key statements by conference participants are also referenced.

*Developing an export market for Brazilian ethanol while still satisfying the country's domestic needs has been a big challenge for Brazilian producers and policymakers.*

**Table 1: Top-Ten Ethanol-Producing Countries, All Uses, Million Gallons, 2006.**

| | |
|---|---|
| United States | 4,855 |
| Brazil | 4,491 |
| China | 1,017 |
| India | 502 |
| France | 251 |
| Russia | 171 |
| Spain | 122 |
| South Africa | 102 |
| United Kingdom | 74 |
| Saudi Arabia | 52 |

Source: Renewable Fuels Association.

serves are grossly exaggerated. He notes that Venezuela's oil reserves are larger than the huge reserves of Saudi Arabia. Moreover, given high oil prices, there is substantial capacity to expand petroleum production from oil sands in Canada and the liquefaction of natural gas. This makes the potential supply of oil-based products far more price elastic in the long run than in the short run. Likewise, long-run demand will grow more slowly and become more price elastic as consumers find ways to conserve energy and automobile manufacturers develop more fuel-efficient vehicles. The result is that OPEC, like many monopolists of the past, may be over-reaching as opposed to exercising moderation in pricing and at the same time may be failing to make needed investments in exploration and refining. This uneconomic behavior is typical of state-owned companies, which are treated as "cash cows" by the treasuries of national governments. State-owned oil companies control about 70 percent of the world's known oil reserves.

The big question in the discussion period was the likely size of alternative sources of petroleum. The Gulf of Mexico has great potential, but there are doubts about whether Mexico's state-owned petroleum company, PEMEX (Petróleos Mexicanos), can make the needed investments to extract oil from deeper parts of the Gulf. Several persons suggested that the Mexican people would be much better off if private oil companies were involved in the exploration and development of the Gulf reserves. There was also skepticism about the feasibility of recovering significant oil from shale at today's prices.

### Bioenergy: Agricultural Issues and Outlook

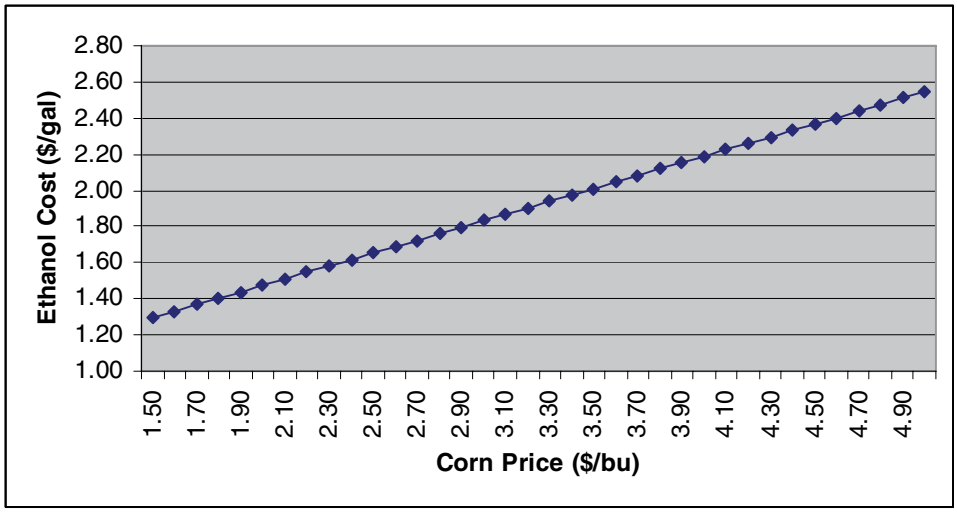
In order to understand the agricultural issues associated with biofuels, it is necessary to review the status of ethanol and biodiesel in the key producing and consuming countries. Brazil and the United States are by far the largest producers of ethanol in the world, while Canada and Mexico have been minor players up to this point (Table 1). Brazil's experience with ethanol started in 1975 through the effective utilization of the country's capacity to produce sugarcane. Flex-fuel cars are another cornerstone of the Brazilian ethanol program. These vehicles can run either on hydrated ethanol, gasoline composed of 25 percent anhydrous ethanol, or some other combination of these fuels. Developing an export market for Brazilian ethanol while still satisfying the country's domestic needs has been a big challenge for Brazilian producers and policymakers. Domestic consumption absorbs about 80 percent of Brazil's ethanol production.

In the long-run, relative costs will determine whether biofuels are legitimate economic alternatives to gasoline and diesel fuel

*Making a meaningful dent in energy consumption with biofuel depends on cellulosic ethanol.*

in North America. Brazil has greatly advanced the process of converting sugarcane to ethanol. Ethanol yields per land area are higher for sugarcane than for any other currently available feedstock, although the yields and conversion costs associated with corn and sorghum based ethanol are improving. Sugarcane's superiority as an ethanol feedstock may change, however, if scientists successfully develop a low cost method of converting cellulosic biomass to ethanol.

**Figure 1: Ethanol Cost of Production GIven Changes in Feedstock Cost Assuming No Return from DDGS.**




The cost of producing corn based ethanol depends in large part on the technology employed, the price of corn, and the income derived from selling the co-products generated by ethanol production. Perhaps the most notable ethanol co-product is distillers dry grains with solubles (DDGS), which can be used in livestock rations. In the United States, a typical new dry mill ethanol plant has an annual capacity of 100 million gallons (378 million liters). The authors estimate that the total cost of ethanol production in these plants is $1.81 per gallon ($0.48 per liter), given a corn price of $3.01 per bushel and no credit for the sale of DDGS. With an average ethanol price of $2.10 per gallon ($0.55 per liter) and a credit of $0.35 per gallon ($0.09 per liter) for DDGS sales, the plant obtains an expected profit of $0.64 per gallon ($0.17 per liter), without any consideration of the blenders' tax credit.[2] The cost of ethanol increases about $0.25 per gallon ($0.07 per liter) for each $1.00 per bushel increase in the price of corn, as long as DDGS prices maintain their normal relationship with corn prices (Figure 1). In contrast, the cost of sugarcane based ethanol production in Brazil is just $1.22 per gallon ($0.32 per liter), excluding capital costs, but this estimate is highly dependent on the exchange rate. Given the U.S. support price for sugar of $24.00 per metric ton, sugarcane based ethanol production in the United States is not competitive with corn based production.

North American energy consumption is enormous when compared with the region's agricultural resources. For example, even if the entire U.S. corn crop were devoted to ethanol, the resulting fuel would supply only 15 percent of U.S. gasoline use. This is the main reason why most industry observers believe that making a meaningful dent in energy consumption with biofuel depends on cellulosic ethanol. More optimistic estimates suggest that cost-competitive commercial production of celluosic ethanol is some 3-10 years away, as scientific breakthroughs are needed to bring down the cost of converting cellulose into the sugars that are used to distill ethanol. The collection, transportation, and

[2] In the United States, refiners and other gasoline merchants receive a tax credit of $0.51 for each gallon of ethanol ($0.13 per liter) that they blend into gasoline.

*North America's comparative advantage in pork and chicken production will deteriorate if the current emphasis on biofuels is sustained or expanded.*

storage of the biomass feedstock are other costly aspects of cellulosic ethanol.

While the biodiesel industry is in its infancy in the Americas, it is a mature industry in Europe (Table 2). The primary differences within the biodiesel sector are the cost of the feedstock and the quality of the biodiesel produced from alternative feedstocks. It takes about eight pounds of vegetable oil to produce one gallon of biodiesel. Feedstock accounts for two-thirds of production costs, and different feedstocks yield different qualities of biodiesel. For instance, while palm oil is an inexpensive feedstock, biodiesel derived from palm oil functions poorly in cold weather. Canola oil is believed to be a superior feedstock. Unlike the ethanol industry, there do not appear to be many areas where biodiesel costs could be reduced through technological advancements. One potential area is the production of biodiesel by hydrotreating vegetable oil in the same facilities that produce petroleum diesel. Successful application of this innovation would give oil refiners economies of scale and a product that is fungible with petroleum derived diesel. Currently, renewable diesel qualifies for the U.S. blender's tax credit that has been provided to biodiesel.

Soybean oil is the feedstock for roughly 90 percent of the biodiesel produced in the United States. The estimated cost of producing biodiesel in a small scale plant is $2.94 per gallon ($0.78 per liter), given a soybean oil price of $0.33 per pound. At current feedstock prices, even with the U.S. excise tax credit, biodiesel producers cannot cover their costs with crude oil prices much below $50 per barrel (Table 3). In contrast, ethanol can cover its production costs at current feedstock prices with crude oil below $40 per barrel with the blenders' tax credit and $50 per barrel without the blenders' tax credit. This assumes that the price relationship between ethanol and gasoline does not change.

**Table 2: Top-Five Biodiesel-Producing Countries, Million Gallons, 2005.**

| | |
|---|---|
| Germany | 507 |
| France | 147 |
| United States | 75 |
| Italy | 60 |
| Czech Republic | 36 |

Source: F.O. Licht.

The discussion period focused primarily on the tradeoffs between food and fuel, especially in relation to the livestock sector, and environmental issues. Klein believes that the positive impacts of ethanol production on rural employment have been overstated, while Dominquez indicated that U.S. biofuel decisions have had a big impact on feed and food prices in Mexico. It was also emphasized that DDGS cannot be as readily consumed by monogastric animals (i.e., chickens and pigs) as by bovines. Several participants anticipate that North America's comparative advantage in pork and chicken production will deteriorate if the current emphasis on biofuels is sustained or expanded.

### Financing Bioenergy

Mexico is a surplus producer of fossil fuel, so biofuel is much less of a priority in Mexico than in the United States. As a major importer of corn, Mexico is not likely to import additional corn just to produce ethanol, and Mexican sugar prices are regulated by the government, which presents an obstacle to sugarcane based ethanol production, just as the U.S. sugar program does in the United States. As Mexico's most important public institution in the area of agricultural credit, FIRA (Banco de México's agricultural trusts) is positioning itself to evaluate proposals related to biofuels. In this area, Mexico's basic

*The need for clarifying the extent to which obligations under the WTO have implications for the biofuel policies of WTO members is becoming more acute.*

**Table 3: Estimated Gasoline, Diesel, and Ethanol Prices Given Various Levels of Crude Oil Prices.**

| Crude Oil | Gasoline | Diesel | Ethanol |
|---|---|---|---|
| US$/barrel | ----------US$/gallon---------- | | |
| 30.00 | 1.03 | 1.58 | 1.45 |
| 40.00 | 1.34 | 1.96 | 1.76 |
| 50.00 | 1.65 | 2.34 | 2.07 |
| 60.00 | 1.96 | 2.34 | 2.07 |
| 70.00 | 2.27 | 3.10 | 2.69 |
| 80.00 | 2.58 | 3.48 | 3.00 |

need is to fund research and development, technical assistance, and the adoption of new technologies. FIRA fosters agricultural credit as a second-floor lender (i.e., lending to other banks), and the activities supported by FIRA commonly feature training and technological components.

### Bioenergy Policies and Their NAFTA Implications

Ethanol and other forms of bioenergy are unlikely to be freely traded commodities because of the extensive policy measures used or contemplated to promote this sector. A wide range of current programs foster investment, research, and development in the sector – including various tax benefits, mandated levels of biofuel use, and incentives to redesign cars and gas pumps to be compatible with biofuels. In addition, policies at the State and Provincial levels have been designed to attract investment, develop rural areas, and stimulate demand for biofuels.

Federal support for ethanol, compared with the support of State or Provincial governments, plays a more significant role in the United States and Mexico than in Canada. Provincial commitments to ethanol in Canada are more uniform than State-level commitments in the United States, where support is highest in the grain producing states of the Midwest. Canadian grain producers have already benefited substantially from the higher grain prices associated with the U.S. ethanol boom. By virtue of Canada's small share of world corn production, recent Canadian policy initiatives in support of ethanol are unlikely to have much additional effect on corn prices.

The need for clarifying the extent to which obligations under the WTO have implications for the biofuel policies of WTO members is becoming more acute. Three issues need to be clarified: (1) whether ethanol should be treated as an agricultural, industrial, or environmental good, (2) how to treat ethanol subsidies in terms of the existing subsidy categories and rules of the WTO, and (3) the compliance of biofuel policies with WTO standards on technical barriers to trade and most favored nation treatment.

In the discussion period, it was noted that one of ethanol's main impacts will be on the structure of the livestock sector and on meat prices. Among the livestock subsectors, pork may the one that is most adversely affected because it is traditionally the slowest to adjust to economic change. Rice noted that the livestock industry initially was not very engaged in terms of the potential impacts of increased ethanol production on livestock output and profitability, but the recent rise in grain prices has now gotten their attention. There are some indications that Canada's competitive position in livestock may be improved due to its extensive use of wheat and barley, whose prices have not increased as rapidly as corn. Likewise, the European Union (EU), Brazil, and Argentina have not been as adversely affected.

Marroquin of Industrias Mexstarch emphasized that the success of the Mexican biofuel industry will depend on flexibility in the

*NAFTA has done a great deal to foster the development of cross-border supply chains. Yet, the full potential for deepening North American market integration remains unrealized.*

use of feedstock. Industrias Mexstarch is developing techniques for utilizing alternative feedstocks at different times of the year, thereby spreading its fixed costs across a higher level of output, and it has developed a way to extract 15 percent more fermentable sugar from baggase. The Mexican agricultural secretariat (SAGARPA) has supported Industrias Mexstarch's nascent ethanol operation by providing investment shares to farmers who meet their contractual obligations to supply the company with corn over a three-year period. PEMEX may support additional efforts in the biofuel industry – for instance, the blending of ethanol into gasoline – if the Mexican Congress earmarks money for such efforts.

## DEVELOPMENT OF CROSS-BORDER SUPPLY CHAINS

### Agrifood Supply Chains in the NAFTA Market

An important aspect of market integration is the realignment of commercial transactions across borders into vertically integrated supply chains. A major incentive for developing supply chains of this type lies in reducing the uncertainties associated with product quality, supply reliability, and timeliness. NAFTA has done a great deal to foster the development of cross-border supply chains. Improved protection for foreign investments and generally liberalized trade within the region have facilitated cross-border investments in food production, processing, and retailing. In the beef industry, these provisions – including the prohibition of import quota restrictions on beef – have increased the willingness of U.S. buyers to rely on Canadian suppliers. Yet borders still matter within the NAFTA region. While international boundaries within the EU are virtually invisible, border crossings for people and goods among the NAFTA countries are far from fluid. Thus, the full potential for deepening North American market integration remains unrealized.

Cross-border supply chains in North America are more costly that those that operate wholly within one country because of border procedures and differing regulations. Some of the key border frictions that increase costs are: (1) U.S. trucking regulations that make it difficult to implement just-in-time delivery systems and long-haul efficiency gains; (2) inspection and security systems that discourage direct marketing from businesses to consumers; (3) a breakdown of NAFTA systems designed to harmonize standards, resulting in the growth of more costly and less reliable private standard initiatives; (4) a lack of publicly authorized traceability systems, with the effect of making firms potentially liable in the courts of national governments for failures in the cross-border food system; (5) changing currency values; and (6) immigration restrictions on the movement of people needed to implement efficient supply chains.

The tendency of governments to seek national rather than regional solutions in times of crisis is also an important deterrent to the development of NAFTA-wide supply chains. National solutions often have large scale and widespread economic effects and greatly increase the risks associated with investing in activities associated with transborder supply chains. The most important potential disruptions include: (1) the potential for major currency devaluations, causing firms to diversify supplies and to be less willing to make long-term supply commitments and investments; (2) political instability resulting in major changes in policies affecting trade; (3) border security reactions to threats and acts of terrorism; and (4) uncoordinated reactions to plant, animal, or human disease threats; and (5)

*One of the main factors influencing the development of supply chains is to maintain the safety of the food supply, which is the responsibility of all participants in the food supply chain and of government food safety regulators.*

the persistence of antidumping and countervailing duty actions.

## NORTH AMERICAN FOOD RETAILERS AND THEIR IMPACT ON FOOD CHAINS

Since the creation of NAFTA, changes in food retailing have been most dramatic in Mexico, where supermarkets are a relatively new phenomenon. Changes in the retail sector have had a significant impact throughout the supply chain, but particularly at the shipper and producer level. One of the main factors influencing the development of supply chains is to maintain the safety of the food supply, which is the responsibility of all participants in the food supply chain and of government food safety regulators. This is particularly the case for microbial food safety, where production and handling requirements have evolved to encompass entire industries. While both Canada and United States have enhanced their food safety regulations, Mexico has lagged in this effort, with many of its mandatory standards affecting only export markets. Increasingly, retailers and commodity groups are facing the choice and potential duplication among private sector initiatives and government-imposed mandatory food safety standards.

While everyone is affected by new food safety regulations, the greatest requirements for change may fall on farmers. Some Mexican growers, mainly smaller operations, are being forced out of the lucrative export market and having to refocus their efforts on the domestic market because of the cost of complying with safety requirements. Over time, there is little question that both private and public standards will increase due to the demands of supply chains, consumers, and government regulators.

Large retailers and food service firms are increasingly concerned with food safety. With well-known brand names to protect, they are not willing to take unnecessary risks. Most large retailers demand third-party audits for compliance with Good Agricultural Practices (GAPs), the U.S. Food and Drug Administration's voluntary guidelines for food safety practices in the field to minimize the risk of microbial contamination for fresh produce. Many retailers require additional food safety and quality practices above and beyond the GAP guidelines.

Retailers are most likely to require GAPs for products that have been associated with food borne illness outbreaks in the past, including leafy greens, tomatoes, cantaloupe, green onions, and herbs. Retailers may also require Hazard Analysis Critical Control Point (HACCP) systems and other food safety systems for produce packinghouses. HACCP has become more common, and in the case of meat, it is mandated in several export markets, including the United States.

After the outbreak of food borne illnesses caused by U.S. spinach in 2006, the California leafy green industry adopted a State marketing agreement requiring all participants to sell only product grown under new food safety standards. Several components of the new program will raise costs, such as more frequent water testing and the requirement to maintain buffer zones of 100 feet around fields. These rules will have detrimental impacts on small growers.

Expansion of supermarkets in Mexico has imposed requirements that are often at odds with the capabilities and structure of small farms. Although Canada and the United States have large numbers of small farms, the owners of these farms tend to have off-farm jobs that provide the bulk of family income. In Mexico, 76 percent of the country's farms are subsistence farms, and 18 percent are transition farms, which produce some surplus to be sold. Only 6 percent

*Substantially higher prices are the reward for producers who become part of a supermarket's supply chain, and growers who are not prepared to supply supermarkets may become marginalized.*

of Mexico's farms are commercial operations, which have demonstrated the ability to adapt more readily to the requirements of modern retail supply chains.

Supermarkets generally have more stringent transaction requirements than traditional markets, and small growers must be able to meet these standards if they want to sell their output to supermarkets. Substantially higher prices are the reward for producers who become part of a supermarket's supply chain, and growers who are not prepared to supply supermarkets may become marginalized. The alternatives to supermarkets include traditional street markets and public markets which accept virtually any product but pay lower prices. As long as traditional markets continue to exist, most small-scale farmers will keep selling to them. But the continued growth of supermarkets will eventually reduce the size of the traditional market in Mexico.

Cantaloupe provides an excellent case study of the impact of food safety issues on small Mexican producers. Cantaloupe is grown in 13 different Mexican States for both the domestic and export markets. There are many small producers, and the industry is not well organized because of it is geographic dispersion. In 1999, U.S. cantaloupe imports from Mexico reached a record $72 million, accounting for 39 percent of U.S. cantaloupe imports by volume. From 2000-02, the United States experienced outbreaks of food borne illnesses associated with Mexican cantaloupe contaminated with Salmonella. Between 1999 and 2006, U.S. cantaloupe imports from Mexico declined 92 percent, and in 2006, Mexico accounted for just 3 percent of U.S. imports. Before the 2002 import alert, an estimated 80 percent of production from Mexican small growers was accepted for export. Growers received higher prices in the export market than in the domestic market. The problems of 2000-02 reversed this situation, and currently, 83 percent of smallholders' production is sold to the domestic market.

Producer education and the promotion of efficient farmer organizations have to be intensified if direct trade between supermarkets and small-scale farmers is to flourish. The creation of farmer based associations must be accompanied by efficient extension services, such as technical assistance, market and production information, infrastructure for transport, efficient financing services, education and training. These are necessary to improve producer capabilities to meet market requirements and be more responsive to market demands.

In the discussion, Zecchini underscored that the lack of harmonized NAFTA food regulations continues to be a major problem for the Canadian food industry. In particular, she emphasized that the tyranny of small differences in food standards is alive and well, with excessively restrictive Canadian regulations forcing processed food companies to abandon plans of pursue the combined continental market from Canada. Examples cited included: changing Canadian requirements on cheese composition; restrictions on marketing fortified food; the arduous if not impossible process of securing approval of a scientifically validated health claim from the Canadian Government; and Canadian regulations vary by jurisdiction. It is been very difficult to deal with regulatory issues without the development of a trilateral structure in NAFTA.

Traceability is another crucial aspect of managing the supply chain, and the issue of who has the ultimate responsibility for traceability is critically important. The preference is that the system should be market oriented, but industries must be heavily involved with governments on a cooperative basis.

In open discussion, it was pointed out that there is greater interest

*Pre-clearance inspection could make trade flow more smoothly. Uniform standards could be facilitated by the establishment of trilateral laboratories that cut across countries.*

in mandatory production standards, but it is very important that these standards be harmonized across countries to minimize barriers to trade. Some participants questioned whether the standards applied by U.S. regulators to imported produce are also being applied to U.S. produce. The Mexican Government is beginning to establish standards on an individual product basis, but some traders have objected to higher and more uniform mandated systems, and monitoring compliance with production standards is difficult.

Institutional change under NAFTA is difficult, so there is a need to find other mechanisms for bringing about harmonization and freer trade. Pre-clearance inspection could make trade flow more smoothly. Uniform standards could be facilitated by the establishment of trilateral laboratories that cut across countries. Greater dialogue among policy makers is necessary to develop the alliances necessary for making such changes.

### Using Marketing Programs to Strengthen NAFTA

The U.S. Department of Agriculture's Agricultural Marketing Service (AMS) operates several programs that could be utilized to reduce trade barriers. The main areas where AMS has potential for facilitating NAFTA harmonization relate to establishing and improving market news information systems; facilitating prompt payment in the marketing of products and the quality of perishable products; promoting the harmonization of payment conditions across countries; establishing and harmonizing grade standards; assisting in the development of GAPs; providing technical assistance; and identifying funding sources for a new fresh produce inspection program.

### Implications of WTO Developments for Market Integration

Reaching agreement at the WTO agricultural negotiations is difficult for many reasons. First, farm groups in developed countries are strongly resistant to major changes, particularly in the area of domestic income supports. Second, the WTO's decision making process is cumbersome and inefficient, with rigid adherence to a consensus model. Third, given that developing countries make up the majority of WTO members, they can form coalitions and demand that any agreement meets their priorities. Fourth, there is a louder chorus of anti-globalization, anti-trade rhetoric coming from many quarters, including some nongovernmental organizations, most labor unions, and adherents of Marxian/dependence-dominance paradigms such as Fidel Castro and Hugo Chávez. Fifth, there has been an explosion in regional and bilateral trade agreements. To some proponents of trade liberalization, agreements with like-minded neighbors may seem to be a safer way to go than the WTO, while some protectionists may perceive regionalism and bilateralism as providing greater possibilities for securing exceptions for import sensitive products.

No one believes that the Doha Round will bring about full liberalization of either agricultural or nonagricultural goods trade, even though such a sweeping policy reform would likely benefit developing countries as a whole. Economic modeling suggests that developing countries would gain a larger percentage increase in their gross domestic product from full trade liberalization than developed countries. Moreover, almost all of the gains obtained by developing countries would come from lower tariffs and better market access. The finding that reducing the agricultural subsidies of rich countries would not help developing countries very much is at odds with the notion that these subsidies greatly damage developing countries. In terms of agricultural sectors, the biggest gains are in rice, sugar, and meats.

The G-20 proposal, minus the large exemptions for sensitive and special products, is the absolute mini-

*Without a new WTO agricultural agreement, a proliferation of trade disputes along the lines of the U.S. cotton subsidy case is quite possible.*

mum for generating sufficient economic benefits to have any chance of selling in the national capitals of the WTO members. This proposal calls for a 75 percent cut in the top tariff tier, an 80 percent cut in the aggregate measurement of support (AMS) of the EU, and a 70 percent cut in the U.S. AMS. Economic models suggest, however, that the G-20 proposal would generate fewer benefits for the developing countries than full trade liberalization.

A G-20 type deal would have several positive outcomes for the NAFTA countries. First, global tariff reductions are the only potential for real gains since virtually all tariffs governing agrifood trade within the NAFTA region are already zero. Second, assuming that the agreement would also address domestic subsidies and export assistance, Mexico and Canada may see a benefit from further controlling big subsidies to U.S. farmers. Third, a positive outcome of the Doha Round would keep the trading system moving forward, however slowly, toward a more freely functioning world market.

The consequences of no deal are much worse: (1) diminished and delayed prospects for future trade liberalization; (2) the already agreed upon abolition of export subsidies would be lost; (3) without the Peace Clause, more trade disputes will be filed using the WTO dispute settlement mechanism; (4) increased pressure to broaden regional trade agreements; and (5) an inevitable retrogression toward protectionism.

## Current Situation and Doha Scenarios for Agricultural Negotiations

The challenge undertaken in the Doha Round is to arrive at an agreement that allows for the more equitable global distribution of the gains from free trade, which, until now, have mainly flowed to developed countries. The negotiations contemplate fundamental reform while enabling developing countries to meet their needs, particularly in the areas of food security and rural development.

The most relevant actors in the Doha process are: the EU; the United States, whose interests generally coincide with those of the EU; Japan and other developed countries, and, finally, the G-20, a bloc of developing countries formed at the 2003 WTO ministerial meeting in Cancún. Among the G-20's members are Brazil, China, India, and Mexico.

There have been significant differences of opinion on issues that make up the so-called "negotiating triangle" – access to agricultural markets, domestic subsidies, and access to markets for industrial products. It is these three issues that have impeded consensus on a final package. What we have seen during the negotiations is a confrontation between developed and developing countries on core issues. As such, the blame for the Doha Round crisis falls equally on the shoulders of all members, both developed and developing.

The current crisis in the negotiating process creates complex situations on a global level, and these situations are likely to have significant consequences for international trade. Risks are associated with:

- More trade disputes
- A strengthening of regionalism and bilateralism at the expense of the multilateral trading system
- Elimination of preferential bilateral agreements
- Enhancement of domestic subsidy programs
- The loss of the WTO's credibility as a governing body

Abraham concludes that the best scenario for the Doha Round is for the WTO members to extend the negotiations for another two years. Such a scenario, in her view, offers the greatest potential for achieving the goals set forth in the negotiating process as well as

*More emphasis needs to be placed on harmonization of standards and good production practices.*

satisfying the demands of all WTO members.

In the discussion period, Kerr noted that a big difference between the Doha Round and previous negotiating rounds is the potential for failure. Regional trade agreements have global implications and have slowed the progress in the Doha Round. The developing countries need to get down to business and do more negotiating. In particular, the G-20 countries seem uncertain as to their desired objective. Heinen pointed out that the Doha Round is dealing with more complicated issues than previous trade negotiations and involves many more countries. While developing countries generally are buying into the basic concept of freer trade, they have not yet figured out all its effects and ramifications. Mexico, with its large subsistence agricultural sector and continued rural poverty, is a good example of these challenges.

In open discussion, it was concluded that positive leadership is needed from the developing countries. While litigation plays an important role in the multilateral trading system, it is an inefficient and time consuming way to settle disputes. Without a new WTO agricultural agreement, a proliferation of trade disputes along the lines of the U.S. cotton subsidy case is quite possible. A new WTO agreement, however, could include provisions on sensitive products that might negatively affect the exports of Canada, Mexico, and the United States to countries outside NAFTA.

### Wrap Up Panel

Terrorism, bovine spongiform encephalopathy (BSE), and the 2002 U.S. Farm Act materially changed the NAFTA trading environment. NAAMIC should be encouraged to take on a greater role on SPP issues to help guide policy. This includes more emphasis on harmonization of standards and good production practices.

Greater thought needs to be given to the NAFTA region as a single economic unit rather than three separate countries. There is good reason to be skeptical of biofuels policy. Since variable costs have a direct effect on output, it would be useful to separate the variable and fixed cost nature of biofuel subsidies.

There is a need to take advantage of the improved economic situation for farmers by seriously discussing the elimination of ethanol and farm subsidies. A market driven policy would be more practical from an economic and political perspective.

Also, there is the need to look at the agrifood supply chain as a demand chain. The biggest disruptions are at the border, which really need to be addressed on a trilateral basis.

Also there is a need for joint laboratories and more technical training. A priority is to take more steps to make North America more competitive, and greater integration leads to greater competitiveness.

NAAMIC can continue to play a key role in clarifying the facts and is specifying the steps that need to be taken to move in the direction of freer trade and greater competitiveness. In so doing, more stakeholders need to be involved in the discussion of specific steps that should be taken under NAFTA.

*A priority is to take more steps to make North America more competitive, and greater integration leads to greater competitiveness.*

## Commissioned Base Papers:

- Fox, Glenn and Ken Shwedel. *Bioenergy Policies and their NAFTA Policy Implications.*
- Griffin, James. *The Supply and Demand for Energy: A Technical and Futuristic Perspective.*
- Hobbs, Jill. *Developments of NAFTA-wide Supply Chains.*
- McCalla, Alex and Gloria Abraham. *Implications of WTO Developments for Market Integration.*
- Outlaw, Joe L., Heloisa L. Burnquist, and Luis Ribera. *Bioenergy – Agricultural Issues and Outlook.*
- Sparling, David, Linda Calvin, Belem Avendaño Ruiz, and Dalila Cervantes. *Food Retailers as Developers of Supply Chains.*

## Program Participants:

Gloria Abraham – IICA-México
Walt Armbruster – Farm Foundation
Heloisa L. Burnquist – University of Sao Paulo, Brazil
Linda Calvin – USDA Economic Research Service
Dalila Cervantes – OECD
Merritt Chesley – USDA Foreign Agricultural Service
Lloyd Day – USDA Agricultural Marketing Service
Enrique Domínguez – Conferderación de Porcicultores Mexicanos
Glenn Fox – University of Guelph
Terry Francl – AFBF
James Griffin – Texas A&M University
Sue Heinen – FAS/USDA
Jill Hobbs – University of Saskatchewan
Under Secretary Jeffrey Jones – SAGARPA
William Kerr - University of Saskatchewan
Kurt Klein – University of Lethbridge
Ron Knutson – Texas A&M University
Under Secretary Beatriz Leycegui – México, Economia
Alex McCalla – University of California
Mauricio Marroquín – Industrias Mexstarch
Karl Meilke – University of Guelph
Rodrigo Sánchez Mújica – FIRA Bank of Mexico
Rene F. Ochoa – SAGARPA
Joe L. Outlaw – Texas A&M University
J. B. Penn – John Deere
Luis Ribera – Texas A&M University
Martin Rice – Canadian Pork Council
James Rude – University of Manitoba
Belem Avendaño Ruiz – Universidad Autónoma de Baja California
Hosein Shapouri – USDA Office of Energy
Ken Shwedel – Rabobank-Mexico
Cam Short - Agriculture and Agri-Food Canada
David Sparling – University of Guelph
Tulay Yildirim – Agriculture and Agri-Food Canada
Gemma Zecchini – Food and Consumer Products of Canada

Farm Foundation
1301 W. 22nd Street, Suite 615
Oak Brook, IL 60523