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NAFTA AND ITS IMPACT ON NORTHERN PLAINS AGRICULTURE

by
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The North American Free Trade Agreement (NAFTA) is an agreement between Canada, Mexico, and the United States to reduce barriers (tariffs, quotas, and other nontariff impediments) to free trade among the three nations. NAFTA follows the US-Canadian Free Trade Agreement signed in 1988 which eliminates trade restrictions between the two neighbors over a ten year period.

NAFTA is largely a creation of Mexican President Carlos Salinas, who sees liberalized trade as the vehicle to transport Mexico from Third World to developed status in the shortest period of time. Besides lowering protectionist trade barriers, Salinas has moved to restructure Mexico from a statist, planned economy to a free market economy. By doing so, Mexico has become a model for other Latin American nations to emulate.

Formal acceptance of NAFTA by the US Congress (it has already been approved by Canadian and Mexican governments) would make North America a free trade zone; encompassing 360 million people, \$7 trillion of Gross Domestic product, and more than 8 million square miles.

An important element of NAFTA is an accession clause which allows for hemispheric expansion of members to the agreement. The promise of a future "All-American" trading community has encouraged economic reforms in many Latin American nations, including privatization, trade liberalization, and monetary reform. Latin American nations on the whole view the United States as their most important market, and perceive US products as high quality, "status-bestowing" goods. Therefore, it is only natural that US firms are hastening to develop joint production
(Continued on page 2)



TEST WEIGHT DISCOUNTS AND ON-FARM DRYING DECISIONS

by
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One commonly overlooked aspect of on-farm grain drying is its' impact on test weight. Corn test weight increases as moisture content decreases. Price discounts increase as test weight decreases. So, drying low test weight corn can decrease price discounts and make drying feasible. If the test weight adjustments had not been included, drying would appear to be not feasible. Most corn drying analysis formulas do not include test weight adjustments as a bushel of corn is assumed to weigh 54-56 pounds and no price discount is incurred by the producer delivering grain to the elevator. But, in years when test weight is a problem, drying analysis formulas need to be changed.

The impact of test weight on the corn drying decision will be demonstrated by the following example.

Assumptions: Corn harvested at 22% moisture and 48 pounds test weight; moisture discount 5¢ per point above 15%; test weight discount 2¢ per pound from 54 to 50 and 4¢ per pound from 50 to 48; elevator price is \$2.00 per bushel and on farm drying costs 2¢ per point of moisture removed.

1. Deliver to Elevator

$$\text{Net Price} = \text{Elevator Price} - \text{Moisture Discount} - \text{Test weight Discount}$$

$$\$1.49 = 2.00 - .35 - .16$$

2. On Farm Drying

$$\text{Final Test weight} = \text{Original test weight} \times \text{factor from table}$$

$$52.2 = 48 \times 1.088$$

$$\text{Shrink Factor} = \frac{100 - \text{original moisture}\%}{100 - \text{desired moisture}\%} - \frac{1}{2}\% \text{ dry matter loss}$$

$$\text{Net Price} = [\text{Shrink factor} \times (\text{elevator price} - \text{test weight discount})] - \text{drying cost}$$

$$\$1.63 = [.9126 \times (2.00 - .04)] - .16$$

(Continued on page 4)

(NAFTA ... cont'd from p.1)
accords and other trading arrangements
with Latin American partners.

NAFTA's Present Difficulties before the US Congress

Presently, ratification of NAFTA faces a difficult battle in Congress. Some congressmen have expressed strong reservations about NAFTA's effects on US industry, jobs, and the environment. Critics have voiced concerns that Mexico's much lower pay scales (10% - 20% of the US manufacturing wage) will entice US firms to shift operations south of the border. Moving manufacturing operations to Mexico in the expectation of reducing labor costs would have the effect of further eroding the number of manufacturing jobs in the US.

Environmentalists are upset because Mexican environmental standards are lower and enforcement of them is more lax than in the US. They fear a migration of production facilities to Mexico to take advantage of lenient anti-pollution laws and the consequent deterioration of air, water and land resources.

Regardless of the outcome in Congress, the wheels of freer trade have been set in motion and it is expected that the volume of trade among North American nations and among all nations in the Western Hemisphere will continue to expand.

Although NAFTA will likely benefit Mexico more than the US or Canada, all three nations are likely to experience higher economic growth rates as a result of its passage. Opening the vast US market to Mexican exports will have a greater beneficial effect to Mexico than will opening the much smaller (Mexico's GDP is about 1/20 that of the US) Mexican market to US exports. However, if the realization of NAFTA increases GDP in the US by a quarter of one percent, this would translate to a \$15 billion increase in output and a significant increase in US employment.

Estimates of the employment effects of NAFTA vary considerably. The Institute of International Economics sees increased Mexican exports to the US displacing 112,000 American workers over the next 10 years. However, this job loss will be more than offset by the creation of 242,000 new jobs in the US due to increased exports to Mexico.

The Importance of Trade: United States, Mexico, and Canada

Geographic proximity and comparative advantage in production make for an interdependence among NAFTA nations. The US economy dwarfs its neighbors and is much less reliant on their markets than Canada and Mexico are on the US market. And, exports constitute a smaller percentage of GDP for the US than for Canada or Mexico.

Nonetheless, the volume of trade between the US and its northern and southern neighbors continues to grow. In fact, the volume of trade between Canada and the US exceeds \$200 billion; the largest bilateral trade flow in the world. The level of US - Mexican trade now exceeds \$50 billion, making Mexico America's fourth largest trading partner. As a percentage of GDP, exports constitute 25% for Canada, 12% for Mexico, and 7% for the US. The US is, by far, the largest customer for both Canadian and Mexican exports, accounting for 75% of Canada's foreign sales and 87% of Mexico's.

The NAFTA accord will be far-reaching; affecting not only trade and technology flows but also wages, interest rates, productivity, foreign exchange rates and rates of economic growth among trading partners.

The Farm Sector in Mexico: Poverty and Comparative Disadvantage

The farm sector in Mexico can be divided into a relatively efficient segment, competitive on world markets and producing to comparative advantage, and an inefficient segment. The more efficient segment lies in the north and south of Mexico; producing vegetables and fruits primarily for the American market in the north and coffee in the south. The large sector of Mexican agriculture, which is uncompetitive but employs most farm workers, is located in the central states of the nation. Here, rainfall is unpredictable and irrigation, where accessible, is expensive. Corn (maize) and beans are the main crops, grown primarily for subsistence and local markets.

The weakness of the subsistence sector can be traced, in part, to Mexico's unique system of land tenure, *ejidos*. Prior to the Mexican Revolution (1910-1917), 260 families held 80% of the land. Following the civil war, land was parcelled out to

landless peasants over an extended period. To prevent the reoccurrence of "big" agriculture. Mexican law forbid the ejidatarios from taking title to, or selling the land, or using the land as collateral for farm loans. Although recent Salinas reforms have liberalized the land tenure system, the ejido system has, historically, restricted farm consolidation, efficiencies of scale, and investment in farm infrastructure. Most (70%) of ejido holdings classify as subsistence (i.e., earnings are insufficient to support a family).

Therefore, while opening Mexican markets to cheaper corn (which would help non-rural consumers) NAFTA trade liberalization would jeopardize the precarious incomes of ejidatarios. It is unlikely that small ejidos would be competitive with land and technology intense foreign producers; resulting in greater unemployment and poverty.

NAFTA's Impact on Northern Plains Agriculture

Trade liberalization is presently benefiting the Northern Plains. For example, under NAFTA's predecessor, the Canadian Free Trade Agreement (CFTA), the volume of farm exports from South Dakota to Canada has more than doubled since the pact's inception. Other High Plains states have benefited also. The volume of bilateral agricultural trade between Canada and the US under CFTA has increased by nearly 10% annually.

Since 1988, South Dakota's exports to Mexico increased by a total of 25%. It follows that Northern Plains states' trading affinity (and cost advantages) will lie with Canada and Pacific Rim countries. But, it is important to note that if Kansas and Texas sell more wheat and cattle from a finite supply to Mexico, the commodity void created by expanded exports to Mexico will be filled by other states' output.

Farm output (including forest and fisheries - both minimal in High Plains states) constitutes a larger percentage of gross state output in the Northern Plains than in any other region of the nation. When one factors in backward and forward linkages of commodity production (backward in terms of input suppliers and forward in terms of food processing and distribution), the food and fiber sector is more important to Northern Plains states' economies than

to any other region of the US.

In terms of market value, the principal agricultural products of the Northern Plains are cattle and calves, hogs, corn, wheat, and soybeans. Other commodities, such as sugar beets, hay, and sheep, also are significant cash commodities. To focus on the effects of liberalized trade with Mexico, the likely market reactions under a new trade regime on the High Plain's most important ag products will be considered.

Cattle and calves: Cattle are the number one commodity in the US in terms of market value produced (over \$35 billion). High Plains states produce approximately 20% of that total. There is substantial North American three-way trade in cattle. Mexico is the leading market for US live cattle, while Canada and Mexico are one and two in value of cattle exported to the US.

Trade liberalization with Mexico should increase the flow of lower priced US beef and products, plus hides to Mexico. Cheaper grain prices in Mexico would encourage domestic beef production and increase competition with US exports. However, a growth in Mexican cattle production would increase demand for US breeding cattle.

Hogs: Mexico imports more US pork than any nation but Japan. Hogs are the US's fifth most important US farm product in terms of value (\$10 billion). Northern Plains states produce about 15%-20% of the US total pork product. NAFTA induced lower feed prices would help Mexican producers, while lower tariffs would make US pork more competitive with Mexican product.

Corn: Corn is the most heavily subsidized product in the Mexican farm economy and will be most affected by trade liberalization. Corn is the third largest US commodity in terms of value (\$17 billion) and Northern Plains states produce 12%-15% of total output. Much Mexican corn is grown for subsistence rather than commercial purposes on relatively small, technology-sparing farms. Imported corn constitutes 25% of Mexican supply and 80% of those corn imports emanate in the US.

Relaxation of trade restrictions would increase the volume of cheaper imports into Mexico and increase their domestic demand for corn for both food and feed purposes. The US can be expected to supply most of



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the additional demand.

Wheat: Wheat is less heavily subsidized than other grain products in Mexico. Thus, trade liberalization will have a smaller effect on trade. In the US, wheat is the number five cash commodity (\$8 billion) and Northern Plains states produce 18%-22% of the US total. Mexican demand for US wheat exports is expected to rise moderately as trade barriers are lowered.

Soybeans and soy products: Mexico imports over 60% of the soybeans and soybean products it uses. US producers satisfy nearly 80% of Mexico's import demand. Soybeans are the US's fourth largest farm product in value (\$11 billion) and Northern Plains states produce less than 10% of the total output. The likely outcome of lower trade barriers is a moderate increase in US soybean exports, particularly if Mexico lowers internal subsidies.

Conclusion:

Mexico's import needs are synchronized with Northern Plains agricultural output. Any lowering of Mexican barriers to trade or internal subsidies will increase demand for commodity imports from the US, Mexico's trading partner of choice. As economic growth fuels Mexican incomes, demand will grow beyond basic commodities to processed food and other value-added agricultural output produced in the US. The Northern Plains states will share the increase in farm product demand both directly and through replacement demand.

(Test Weight ... cont'd from p.1)
 Using this scenario, on farm drying nets an additional 14¢ per bushel for the corn. If a test weight discount were not included, the net price would be virtually the same for both alternatives. Put your actual conditions and discounts in these formulas to calculate net prices for your own situation.

Table 1. Corn Test Weight Factors

<u>Moisture</u>	<u>Factor</u>
16%	1.012
18%	1.037
20%	1.063
22%	1.088
24%	1.118
26%	1.141

 Test weight increase when drying corn to 15% moisture, approximations.

ECONOMICS COMMENTATOR

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