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nited States epartment f Agriculture

Economic Research Service

Agriculture Information Bulletin No. 649

May 1992

Effects of a Free Trade Agreement on U.S. and Mexican Sanitary and Phytosanitary Regulations



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Sanitary and phytosanitary (S&P) regulations that protect both U.S. and Mexican agriculture and consumers from exotic pests and diseases and other foodborne contamination (such as pesticide residues) will continue to be effective under the North American Free Trade Agreement (NAFTA). The presence of pests and diseases limits the movement of food and agricultural products between the United States and Mexico. Even with S&P measures in place, the risk of cross-border contamination continues because pests and diseases do not recognize national borders. The previous cooperative efforts between the United States and Mexico to prevent and control infestation and infection will likely continue regardless of the reduction or removal of trade-restricting measures. Both countries, however, desire to prevent the simultaneous proliferation of new S&P measures that might substitute for tariffs or quotas.

Sanitary and phytosanitary (S&P) regulations help ensure that animal and plant products do not endanger the health or safety of consumers, livestock, or crops (see box). Discussions under a proposed NAFTA have highlighted some of the S&P regulations that limit agricultural trade

between the United States and Mexico. Adjusting these regulations to allow for freer trade is difficult for two fundamental reasons.

First, each nation has the right to use S&P regulations to protect the health and safety of its citizens and the security of its food supply. Protecting these rights frequently conflicts with the desire of other nations to expand agricultural trade and open new foreign markets. To expand trade substantially, nations must resolve disparities in product safety certification, inspection systems, control methods, and production practices that affect the end product.

Second, S&P regulations are highly technical and cover a broad range of scientific disciplines (animal science, agronomy, chemistry, biology, etc.). This makes them more complicated than trade measures such as fariffs and quotas. It also increases the likelihood of disputes over whether they are intended to protect public, animal, or plant health or to act as a substitute for more overt means of trade protection.

S&P Regulations and Trade

- Sanitary and phytosanitary regulations are any regulations that protect human, animal, and plant life and health from risks arising from additives, contaminants, toxins, diseases, and pests in or on agricultural products, beverages, or feedstuffs. The term phytosanitary refers to plant health.
- Unlike quotas or tariffs, the purpose of which is to restrict the quantity or alter the price/cost relationship of traded goods, S&P regulations are nontariff measures, the traderestrictive characteristics of which are an inadvertent side effect.
- Not all S&P regulations restrict trade and some may actually enhance it. Many involve routine inspections or certifications that protect against health and safety risks.

GATT Negotiations Seek To Resolve S&P Trade Issues

Commitments to the GATT and other international trade agreements will influence how the United States and Mexico handle sanitary and phytosanitary measures.

Over the past 45 years, many countries have negotiated reductions in import tariffs and other trade barriers under the General Agreement on Tariffs and Trade (GATT). At the same time, however, S&P regulations have proliferated in agricultural and food trade. Thus, some countries may perceive that other countries introduce S&P regulations to act as nontariff trade barriers, replacing the protection from foreign competition once afforded by tariffs. The highly technical and relatively nontransparent nature of S&P regulations makes them particularly controversial. Transparency refers to the clarification and distribution of information regarding trade regulations between importers and exporters.

Most countries design their national food safety and quality inspection systems to meet domestic needs rather than the import requirements of other countries. Legitimate reasons exist for having different S&P regulations. In the ongoing Uruguay Round of the GATT negotiations, countries seek to establish guidelines, disciplines, and dispute settlement procedures that will help resolve rivalrous trade issues that arise from inconsistent S&P regulations. Thus, some of the major features of a proposed GATT agreement on S&P measures should have a direct bearing on S&P issues in the U.S.-Mexican agreement.

The proposed S&P agreement requires GATT signatories to recognize the concept of pest- and disease-free zones. Countries establish such zones based on factors such as geography, ecosystems, epidemiological surveillance, and the effectiveness of S&P control measures. Also, under the proposed agreement, GATT signatories would be required to accept imports from other signatories with different S&P measures if the exporting country can show that its measures provide a level of protection to the importer equivalent to that provided by the importer's own S&P measures (Castaneda and others). The United States uses a similar strategy within its borders for interstate commerce.

Three international scientific organizations are recognized within the proposed GATT agreement to help resolve disputes over disparate S&P regulations (see box). These are the Codex Alimentarius Commission, the International Office of Epizootics, and the International Plant Protection Convention. Though they have no formal role in dispute resolution, these organizations will provide the technical expertise in developing international

rules, recommendations, guidelines, and standards regarding S&P issues. By developing standards and guidelines, these three organizations attempt to increase the transparency of S&P regulations and to decrease their distorting effects on trade.

Difficulties in harmonizing S&P measures in the U.S.-Canada Free Trade Agreement provide an indication of the problems that may be encountered in the U.S.-Mexican portion of the NAFTA. Harmonization of S&P measures between the United States and Mexico presents a different set of issues than between the United States and Canada because Mexico is a developing country and is geographically closer to other Latin American countries where various agricultural pests and diseases are present. If freer agricultural trade is to be allowed from Mexico to the United States, efforts must continue to prevent entry of these pests and diseases into Mexico. Also, there is the need for foreign investment to help strengthen the Mexican economy. Without such investment, it may be difficult to harmonize S&P measures between the two countries because of disparities in food processing technology and inspection facilities. How these issues are handled will set some precedent as to how S&P measures will be handled in negotiations with the developing countries of Central and South America.

Already, allowances have been designed within the proposed GATT agreement to aid developing countries. The GATT proposal allows countries to use S&P measures to protect human, animal, and plant life and health provided that measures are not used beyond that purpose as determined by scientific evidence, if available. If countries base their S&P measures on international standards, guidelines, or recommendations, this will help ensure that only minimal conflicts arise between trading partners.

Developing countries, such as those in Latin America, may receive special and deferential treatment under the GATT proposal in terms of longer time frames for compliance with new S&P measures on certain products to maintain their opportunities for export. Also, they may receive time-limited exemptions to certain S&P obligations for financial, trade, or development needs provided their exports don't result in higher risk to the importing country.

International Scientific Organizations Recognized by the GATT

Three international scientific organizations are designated under the proposed GATT agreement to help provide technical expertise in S&P disputes (Castaneda and others; Kelch and Raney):

- The Codex Alimentarius Commission is responsible for issues such as food additives, pesticide residues, contaminants, animal drugs, packaging, and food standards. Representatives of government regulatory agencies, the international scientific community, and industry from 138 countries serve on the Commission. The Commission was formed in 1963 as a subsidiary of the Food and Agriculture Organization of the United Nations and the World Health Organization.
- The International Office of Epizootics is responsible for animal health issues. This international veterinary organization, formed in 1924, has members from about 130 countries and maintains a global animal disease reporting network.
- The International Plant Protection Convention is responsible for issues involving plant pests and plant health. The Convention, formed in the 1950's, has members from about 90 countries and, like Codex, is a subsidiary of the Food and Agriculture Organization of the United Nations.

Pesticide Tolerances Vary Between Countries

The United States and Mexico have different criteria for registering pesticides and setting tolerance levels due to varying climate, crops, and national diet.

Consumers depend on governments to regulate pesticide residue levels in food, whether domestic or imported. But standards and regulations vary from government to government, based on domestic needs and issues. For example, differences in climate and national dietary patterns result in different levels of local pest problems and exposure to foodborne hazards.

Mexico, like many other developing countries, primarily uses the international maximum residue limits, or tolerance levels, developed by Codex. A tolerance level is the maximum amount of pesticide residue allowed by a country on a commodity. U.S. tolerance levels, established by the Environmental Protection Agency (EPA), differ from Codex tolerance levels for a variety of technical reasons. Codex focuses on international standards and must account for wide variations in agricultural practices (over 3,000 pesticide/product combinations), consumption patterns, and data collection of its broad membership (138 nations). The EPA, because it focuses on the United States and has different resources, uses different data bases, lab procedures, and even definitions, such as what constitutes "good agricultural practices," than Codex.

Mexican exporters have strong incentives to ensure that their products meet U.S. import (pesticide) regulations. The Food and Drug Administration (FDA) enforces EPA tolerance levels, and will refuse entrance to food shipments at the U.S. border that do not meet the pesticide residue tolerance levels. Border testing is not entirely random, but rather is targeted to known problem areas. If an exporter's shipment is found to be in violation of EPA regulations, future shipments from that exporter may be earmarked for detention and inspection for the rest of the season.

The Government of Mexico provides information on U.S. pesticide residue tolerance levels to its export growers to assist them in making pesticide decisions for their export crops. But, most violations on imported produce are from pesticides for which the United States

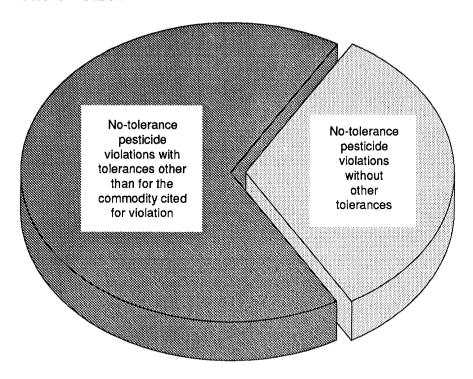
has not established a tolerance level. Reasons for not establishing a tolerance level include that the pesticide is not used in the United States because of different pest problems, crops, or climate or because the EPA has denied the pesticides a U.S. registration.

No-tolerance violations are not limited to EPA-banned pesticides. In 1986, about two-thirds of the no-tolerance violations involved pesticides that did have U.S. tolerances for commodities, including fruits and vegetables, but other than the type cited for violation (fig. 1). A commodity type may meet an established tolerance level and be imported; however, a different commodity type may have the same pesticide residue level and be rejected because the U.S. Government has not established a tolerance level for that specific type. For example, while the EPA has set a tolerance level for permethrin residues on bell peppers, the tolerance does not extend to other specialty peppers. In 1986, over 30 no-tolerance violations were issued to Mexican serrano, poblano, caribe, and other peppers, even though the residue levels were below those established by the EPA for bell peppers.

Mexico does continue to use several EPAcanceled/suspended pesticides. Of the 26 pesticides on EPA's October 25, 1988, Revised List of Canceled and/or Suspended Chemicals, Mexico has 5 registered for use (though one of these previously registered, Heptachlor, was no longer listed as registered by the Mexican Ministry of Agriculture as reported by the U.S. General Accounting Office in 1990). One of these pesticides, dichlorodiphenyltrichloroethane (DDT), is used by the Mexican Health Ministry to control malariacarrying mosquitos. The remainder, Carbophenothion, ethylene dibromide (EDB), and Toxaphene, still have EPA tolerances and/or action levels that may be removed in the future (U.S. Government Accounting Office). This removal would help prevent any products with residues of these pesticides from entering U.S. markets, though Mexican producers may still use them for domestic or for non-U.S.-export production.

Mexican no-tolerance violations of U.S. import regulations, 1986

About two-thirds of Mexican no-tolerance violations of U.S. import regulations involved pesticides that had U.S. tolerances for commodities other than the type cited for violation.



U.S.-Mexican Cooperation Controls Exotic Pests and Diseases on Both Sides of the Border

Joint efforts have eliminated foot-and-mouth disease and the screwworm in both countries; eradication campaigns continue against the Mediterranean and Mexican fruit flies. These efforts protect both the United States and Mexico from agricultural losses.

Although sanitary and phytosanitary measures are in place to prevent cross-border infection, the risk of contamination from products traded between the United States and Mexico still exists. The two countries are reducing this risk through existing cooperative programs that prevent the introduction of pests and diseases to the United States by eradicating pests and diseases in Mexico. The eradication of foot-and-mouth disease in Mexico in 1954 up through the recent eradication of the screwworm in Mexico in 1991 demonstrates the success of these programs. Such cooperative programs are likely to continue with or without the NAFTA.

Two outbreaks of foot-and-mouth disease in Mexico in 1946 and 1952 spread rapidly and took an 8-year U.S.-Mexican joint effort to eradicate. Following eradication of the disease, the United States and Mexico created a Joint Commission for the Prevention of Foot-and-Mouth Disease. The commission is still maintained. The United States, free of foot-and-mouth disease since 1929, prevents reintroduction of the disease by maintaining stringent controls on imports of fresh, chilled, and frozen meat and live animals.

A 19-year joint effort between the United States and Mexico successfully eradicated the screwworm. The United States has been free of screwworm since 1982. The United States formally recognized that Mexico is free of screwworm infestation on February 25, 1991. U.S. and Mexican officials estimate that the eradication program cost \$750 million but that it annually saves U.S. livestock producers an estimated \$378 million.

U.S.-Mexican efforts to eradicate the Mediterranean fruit fly (Medfly) have been ongoing since the pest was first discovered in Mexico in 1977. This cooperative effort eradicated the Medfly from Mexico and established a Medfly barrier zone at the Mexican-Guatemalan border. The barrier was maintained using sterile Medflies produced at a facility in the State of Chiapas that is

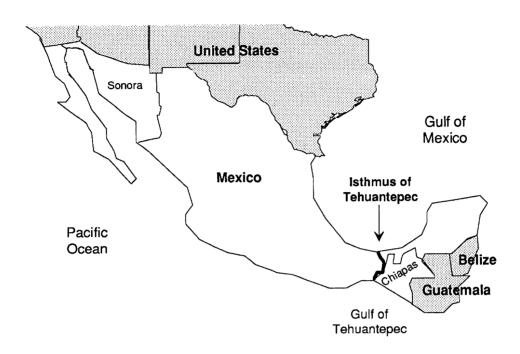
jointly maintained by the United States and Mexico. Surveillance of exotic pests is done partially through interceptions along major points of entry (for example, airports) and through appropriately placed scented traps.

Medfly eradication efforts have been threatened, however, by recent outbreaks of Medflies on the Mexican side of the Mexican/Guatemalan border. One option to control these outbreaks is to move the sterile fly barrier to the Isthmus of Tehuantepec which provides a smaller land area between the Gulf of Mexico and the Gulf of Tehuantepec (fig. 2). New outbreaks in the interior of Mexico could disrupt Mexican exports of fresh winter fruits and vegetables to the United States. Recent Medfly appearances in California could also pose a threat to Mexican horticultural production if the pests were to travel south on U.S. cargo. The number of Medfly captures in southern California almost tripled during 1986-90 despite a \$150 million eradication effort (fig. 3).

The Mexican fruit fly also seriously limits imports of fresh fruits from Mexico. These flies pose risks to citrus producers in Texas, California, Arizona, and Florida. The U.S. Department of Agriculture's Animal and Plant Health Inspection Service is working with the Mexican Secretariat of Agriculture to prevent the fruit flies from entering the United States. These efforts include fly-free zones established in Sonora, Mexico, that depend on continual surveillance for pests, strict quarantine inspection at major points of entry, and a rapid emergency response. The fly-free zone allows untreated fruit that would otherwise be prohibited from the United States because of the fly to be exported to the United States (Martinez). Eight municipalities in Sonora currently have fly-free status, but Mexico hopes to establish additional fly-free zones. A national campaign has been undertaken to eliminate Mexican fruit fly populations, and farmers are using integrated pest management programs to reduce the pests' intensity.

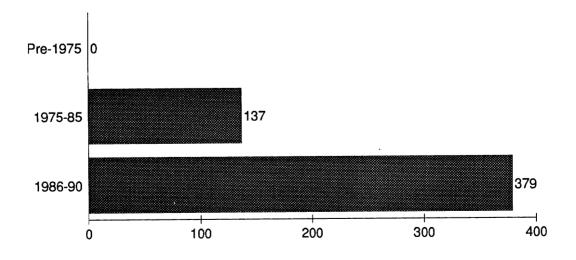
Key locations for pest control in Mexico

The Isthmus of Tehuantepec--the narrow strip of land between the Gulf of Mexico and the Gulf of Tehuantepec--offers a natural location for pest barriers.



Adult Medfly captures in southern California

Detections of Medflies in southern California have been increasing despite a \$150 million eradication effort.



Source: Carey

Disease-free Zones: Can They Increase Animal Products Trade?

A Mexican proposal to declare Sonora free of hog cholera and Newcastle disease would increase Mexican exports of pork and poultry meat to the United States. At issue is Mexico's ability to control the movement of infected animals and wild birds into Sonora.

Disease-free status is usually based on the absence of disease within national borders. Disease-free zones, however, offer an alternative to eradicating a livestock disease throughout an entire country. The zones do not have to be based on national borders and may be established as supranational or subnational zones. A subnational disease-free zone (for example, a state) may be established as an interim step toward nationwide disease eradication because of its smaller scale and lower project costs. The success of trade in many livestock products depends on the importing country's confidence in the exporting country's ability to keep the zone free of disease.

Mexico has suggested the northwestern State of Sonora as a location for a disease-free zone. Sonora has a large common border with the United States, and it is the largest producer of pork and the second largest producer of poultry meat among the Mexican border states (fig. 4). Since Sonora has a common border with the United States, its products would not have to cross any other pork- or poultry-producing regions en route to the U.S.-Mexican border. By contrast, a disease-free zone in the more central and southern regions of Mexico would have to pass its products through disease-infected pork- and poultry-producing areas, possibly contaminating the shipment.

A disease-free zone in Sonora would increase access of Mexican pork and poultry products to the United States. Mexican exports of these products to the United States are currently limited by hog cholera and Newcastle disease. The United States eradicated hog cholera in 1978 and has had only minimal occurrences of Newcastle disease in recent years (Food and Agriculture Organization of the United Nations). The United States prevents reintroduction of these diseases by prohibiting imports of pork and poultry products from Mexico and other infected countries unless they are boned and cooked or dried, canned, or, in the case of live swine, have undergone a 90-day quarantine.

A disease-free zone would increase Mexico's access to U.S. seaports. Increased access to U.S. seaports would help Mexico, which has limited seaport capacity, to transship its meat products to Japan. If Mexico has a comparative advantage in meat processing due to less costly labor, then live animals could be imported from

the United States and processed, and the higher valued meat products could be re-exported.

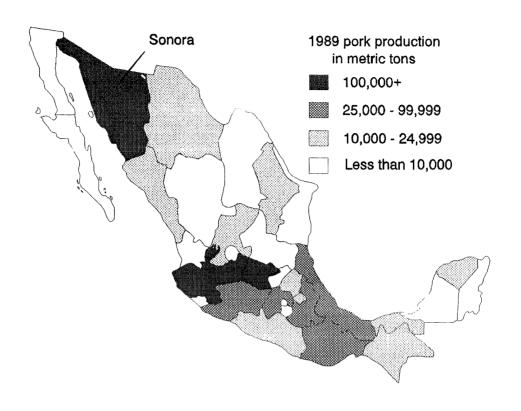
General requirements for establishing a disease-free zone include (1) adequate surveillance in the field and at slaughter, demonstrating no evidence of disease, (2) controls to prevent movement of animals and animal products from infected areas into free areas, (3) prohibition of vaccination in the free areas (vaccination produces antibodies that make it difficult to detect actual viral infection), (4) destruction of infected animals and disposal of carcasses, and (5) disinfection or destruction of materials that come in contact with infected animals.

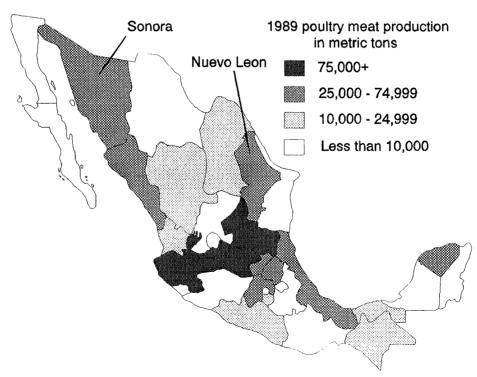
Vaccination for hog cholera has been discontinued in Sonora, but the issues of surveillance and movement control have yet to be resolved. For example, in recent years, Mexico has had outbreaks of hog cholera that may have been a result of their difficulty in controlling the movement of hogs. Some U.S. hogs going to slaughter in Mexico may have been illegally diverted into breeding herds. Originally intended for slaughter, the hogs did not receive hog cholera vaccination normally given to animals intended for breeding stock. The hogs had no natural immunity to the disease because the United States is hog-cholera-free. The U.S. hogs may have contracted hog cholera, thereby helping to perpetuate outbreaks of the disease in Mexico. Mexico requested that the United States vaccinate hogs destined for Mexico, but U.S. policy prohibits vaccination for hog cholera (because the antibodies produced by the vaccine may mask actual viral infection) and the request was withdrawn.

Newcastle disease is more of a problem in wild birds in Mexico than it is in the domestic Mexican poultry industry. However, the potential for infection of Mexican poultry from other bird species still exists. Adequate surveillance and movement control must be in place before the United States can verify that Sonora is free of Newcastle disease. The extreme difficulty of controlling the movement of wild birds and eradicating the disease in wild birds makes verification nearly impossible. There is a greater risk of Newcastle disease crossing from Mexico to the United States from the smuggling of parrots across the border from Mexico for sale to pet stores than there is from the domestic Mexican poultry industry.

Figure 4
Mexican pork and poultry production, by state

A disease-free zone in Sonora, because of its common border with the United States, would increase access of Mexican pork and poultry products to the United States.





Source: Secretaria de Agricultura y Recursos Hidraulicos.

Harmonizing Food Safety Regulations Could Expedite Trade

Point-of-origin inspection systems cost less than border inspections and do not delay shipments, but their use depends on the importing country's confidence in the exporting country's sanitary standards and regulations.

Many countries that are negotiating trade agreements are considering moving away from border inspection systems to reduce the possibility that food safety regulations will be used as trade barriers. The point-of-origin inspection systems cost less than inspections at border stations and do not delay or reject shipments at the border (fig. 5).

For example, shipments that fail inspection at the point of origin (like a processing plant) can be more easily reconditioned, if possible, than at a remote border station. At a border station, the exporter is more likely to destroy or allow the destruction of a rejected shipment than incur the expense of transporting it back for reconditioning and reshipping. Acceptance of point-of-origin systems depends on confidence in the equivalence of the food safety inspections of the importing and exporting countries.

The United States and Canada recently proposed to experiment with point-of-origin inspections. The U.S.-Canada Free Trade Agreement allowed for reinspections (spot checks) at the border to ensure that the exporting country was complying with the importing country's standards for meat and poultry products. Canada has complained that U.S. rejections of Canadian meat exports were questionable and that its inspection charges were high. The U.S. concerns include the possibility that the documentation, or transparency, of the Canadian

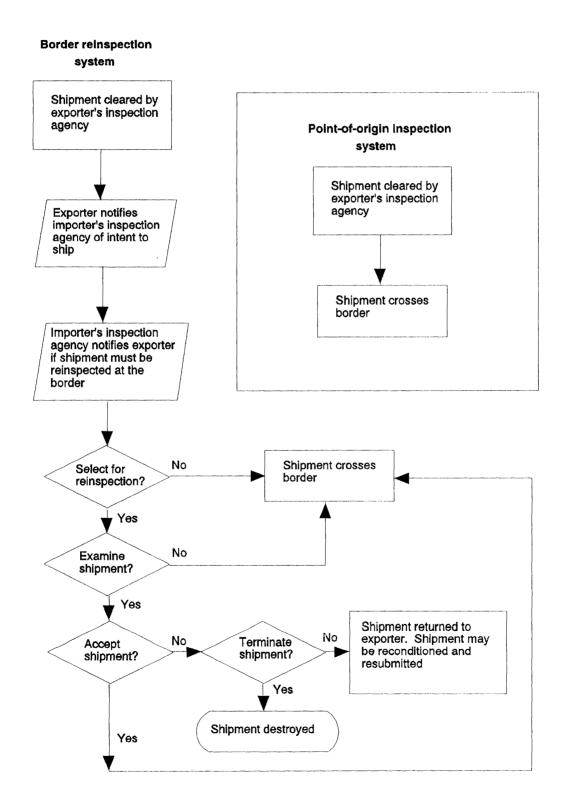
inspection system may be inadequate. The point-oforigin proposal was recently withdrawn under criticism from the U.S. Congress and meat inspectors. The withdrawal of this proposal illustrates the importance of mutual confidence in the inspection system at the point of origin as a prerequisite for eliminating border checks.

The United States is helping to strengthen Mexico's existing food safety regulations and wants to increase their transparency. Under the U.S.-Mexican Standards Agreement of 1987, the Mexican Secretariat of Health (SSA) and the FDA agreed to coordinate food product safety regulations (U.S. International Trade Commission). For example, Mexican food and beverage imports are subjected to physicochemical analysis. For U.S. exports, this analysis is conducted by FDA-authorized labs that the SSA views as independent of the food/beverage producer.

Over the long term, a convergence of food processing technology should increase U.S. confidence in the safety of Mexican imports. Cooperation in the development of food safety regulations and the training of inspection staff could increase U.S. confidence in Mexico's food safety inspection system. This increased confidence, combined with increased transparency of Mexico's food safety regulations, will be necessary before a borderless point-of-origin inspection system would be possible.

Figure 5
Differences between a border reinspection and a point-of-origin inspection system

Point-of-origin inspections would decrease shipping delays and cost less than the present border reinspection system. But, this requires confidence in the exporter's inspection system.



References

Carey, James. "Establishment of the Mediterranean Fruit Fly in California," *Science*. Sept. 20, 1991.

Castaneda, Jaime, Dale Hathaway, Carol Kramer, Ed Rossmiller, Fred Sanderson, and Ann Tutwiler. Should Agriculture Go With the GATT? Briefing book. National Center for Food and Agricultural Policy, Resources for the Future, and International Policy Council on Agriculture and Trade, Apr. 8, 1991.

Food and Agriculture Organization of the United Nations. *Animal Health Yearbook*. FAO Animal Production and Health Series, No. 28, 1988.

Kelch, David and Terri Raney. "Europe 1992, GATT, and Food Safety: How Will U.S. Agriculture Fare?" *Agricultural Outlook*, Dec. 1989.

Martinez, Doug. "U.S., Mexico Seek Economic Boost From Free Trade Pact," Farmline, Feb. 1991.

Secretaria de Agricultura y Recursos Hidraulicos, Subsecretaria de Ganaderia, Mexico, 1989.

U.S. General Accounting Office. Food Safety and Quality: Five Countries' Efforts to Meet U.S. Requirements on Imported Produce. GAO/RCED-90-55, Mar. 1990.

U.S. International Trade Commission. Review of Trade and Investment Liberalization Measures by Mexico and Prospects for Future United States-Mexican Relations. USITC Publication 2275, Apr. 1990.

Acknowledgments

The authors appreciate the assistance of Ann Hillberg Seitzinger and Martin A. Johnson of the U.S. Department of Agriculture's (USDA) Economic Research Service. Janet Stevens, Judy Garza, and Dale Simms provided editorial assistance.

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