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# **The Impact of U.S. Government Policies on the Import, Export and Distribution of Citrus**

by

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## **Introduction**

Agriculture in the United States has long been shaped and molded by federal government attempts to enhance profitability through a variety of government programs and policies. Depending on the commodity category selected, one can easily trace the role of government in agriculture through regulation, protection and price support programs. Government intervention in agriculture not only affects what commodities and products are produced, but also the volume of imports, exports and ultimately the distribution of many commodities within the United States.

Within U.S. agriculture, there has traditionally been a dichotomy between the major sectors of agriculture represented primarily by food and feed grains and livestock, and the so-called minor crops such as fruits and vegetables. For example, many food and feed grains, as well as cotton, sugar and tobacco, have been subject to a variety of price support and income enhancement programs, while livestock and livestock products have experienced a wide range of government regulations. Conversely, although most fruits and vegetables have not experienced the same degree of government regulations, many have benefited from the existence of federal market orders.

In the past, many commodity producers have taken pride in the fact that their commodities were not supported and regulated by government programs. However, today, even commodities with relatively little direct government program activity are subject to government policies which affect competition and economic viability.

The influence of government policies takes many forms. In addition to the traditional agricultural policies and programs noted above, non-agricultural policies based on political, economic and environmental objectives are exerting influence at the international, national, state and local levels.

## **Objectives**

The purpose of this paper is to provide an overview of the increasing impact of non-agricultural policies and programs developed by various levels of government on the import, export and distribution of citrus. The United States is the world's largest importer and the second largest producer and exporter of citrus, which is susceptible to a wide variety of pests and diseases. As such, the availability of citrus in the U.S. food distribution system and the competitiveness of U.S. citrus in domestic and international markets is influenced by a wide variety of government policies and actions. Citrus is intended to serve as an

example of how non-agricultural policies can affect the food distribution system.

## Federal Government Policies

### *Chemical Regulations*

U.S. government policies affect the economic well-being and competitiveness of citrus directly through the regulation of chemicals. The growing conditions necessary to produce citrus generally serve as an excellent environment for a wide variety of plant pests and diseases. Adequate and economic control of citrus pests and diseases is accomplished through integrated pest management programs and the use of a variety of chemicals.

Cancellation of chemical usage not only can affect production costs, output, and fruit quality, but also the competitiveness of all or a part of the U.S. citrus industry. Controlling pests and diseases can increase productivity, thus potentially lowering unit production costs. Reducing pest and disease damage through chemical applications can improve fruit quality and thus fruit marketability in fresh form. Post-harvest fumigation or other quarantine chemical treatments are often required to ship fresh citrus fruit between citrus-producing areas in an attempt to prevent the introduction of certain pests and diseases. Chemical applications during the production season can also serve to regulate the growth and maturation of citrus and therefore the length of the marketing season. The impact of government chemical regulation policies on the U.S. citrus industry is illustrated through two examples: lead arsenate and ethylene dibromide.

Lead Arsenate. The Florida citrus industry uses lead arsenate to reduce the acidity level in early season grapefruit. This allows the maturity standards to be met earlier and thus lengthens the marketing season. With the use of lead arsenate, the Florida fresh grapefruit marketing season begins in September under present maturity standards. Without lead arsenate, the marketing season for Florida fresh grapefruit would begin in mid-November.

The Environmental Protection Agency (EPA) is considering the cancellation of lead

arsenate as an acidity-reducing growth regulator on Florida grapefruit. EPA concern over the use of lead arsenate as a growth regulator relates primarily to applicator exposure. Applicator exposure consists mainly of spills during the mixing/sprayer-loading process. Currently, there are no alternative chemicals registered for use as acidity-reducing growth regulators on Florida grapefruit.

Florida grapefruit has represented 74 percent of total U.S. grapefruit production during the past five seasons. Over the same time period, Florida has accounted for 83 percent of early winter U.S. fresh grapefruit sales prior to mid-November. The cancellation of lead arsenate use in the Florida grapefruit industry would be expected to have a significant impact on the U.S. fresh grapefruit market. Projected grapefruit production increases in Florida and Texas combined with sluggish domestic demand for both fresh and processed grapefruit place increased importance on lengthening the fresh grapefruit marketing season. Loss of lead arsenate would serve to depress further this market and limit the availability of fresh grapefruit in the late fall-early winter market.

Cancelling lead arsenate without alternative chemical treatments would affect the weekly prices and shipment volumes of fresh Florida grapefruit. Inasmuch as changes in FOB prices and revenues are generally reflected directly in changes in grower-level prices and revenues, it is appropriate to assume that changes in FOB revenue resulting from a lead arsenate cancellation would be passed back to the Florida grapefruit growers.

The average projected loss in annual revenue to growers of fresh Florida white and pink seedless grapefruit would be approximately \$1.1 million and \$3.4 million for export and domestic shipments, respectively. Perhaps equally important would be the severely depressed volume of fresh grapefruit available for distribution during the late autumn to early winter period.

EDB. The use of Ethylene Dibromide (EDB) as a post-harvest fruit fumigant is being phased out by the EPA. EDB has been used

as a quarantine post-harvest fumigant on Florida fresh citrus shipments to Japan as well as to California, Arizona and Texas. The purpose of such fumigation is to protect non-infested citrus growing areas against the possible introduction of various fruit flies, e.g., Caribbean, Mediterranean and Mexican.

Following the EPA cancellation of EDB as a fumigant for use on citrus sold in the U.S. domestic market, Florida fresh citrus was banned from entering the states of California, Arizona and Texas. Although EDB is still permitted for limited off-shore export shipments, the scheduled phase-out of EDB will be completed by the 1989-90 season. If an acceptable alternative is not both approved by the Japanese government and accepted by Japanese fruit importers, then the Japanese fresh citrus market will not be open to the Florida citrus industry.

Currently, the Japanese market accounts for nearly 9 million cartons of grapefruit annually, which represents about 22 percent of total Florida fresh grapefruit shipments and 60 percent of export shipments. The FOB value of these export shipments totals approximately \$50 million annually. The value of lost sales of Florida fresh citrus to California, Arizona and Texas represents an additional \$4.5 million annually.

Alternatives to EDB fumigation currently being explored include gamma radiation, cold treatment, fruit-fly-free zones, and methods to suppress fruit fly populations such as parasites and predators. None of these alternatives has proven to be completely adequate and acceptable, although a combination of fly-free zones and cold treatment may be effective during part of the shipping season. If alternative methods are not both perfected and found acceptable to the Japanese government, the Japanese market will be lost. The situation with respect to distribution of Florida fresh citrus in Texas, California and Arizona has been complicated by a strain of citrus canker in Florida citrus nurseries.

If the fresh grapefruit volume which was sold in markets requiring EDB is reallocated to the domestic fresh and processed markets,

the estimated FOB revenue losses would range from \$4 million with a 100 percent reallocation to the fresh market to \$45 million with a 100 percent reallocation to the processed market.

### *Trade Policies*

With the new Uruguay round of multilateral trade negotiations now underway among the nations of the General Agreement on Tariffs and Trade (GATT), it becomes extremely important for those interested in the production, marketing and distribution of food to monitor international trade issues. Current and emerging trade issues are destined to have a profound effect on both U.S. producers and consumers of food and fiber. As a part of the multilateral trade negotiations, President Reagan has placed all U.S. import tariffs, including agricultural tariffs, on the negotiating table. The mutual lowering and/or elimination of tariffs through negotiations is a lengthy process. There are many practical political and economic reasons for tracing out a scenario in which many tariffs will remain in place following the current round of negotiations. However, the fact remains that all U.S. agricultural tariffs are now subject to elimination. The potential implications for both U.S. agriculture and the food industry are substantial.

In discussing trade policies and their impact on the food production and distribution system, it is important to realize that U.S. political and economic objectives generally far outweigh consideration of potential impacts on agriculture and food production. This is particularly true for "off-season" or so-called minor crops which include the fruit and vegetable industry. It is unrealistic to expect negative international trade impacts on one or more commodities in the produce sector to take precedence over positive benefits realized by non-agricultural sectors of the economy. In fact, international trade policies which favor the larger, broader-based sectors of agriculture such as food and feed grains, livestock, and selected commodities subject to government support programs can be expected to receive federal government endorsement at the expense of the fruit and vegetable industry. Furthermore, any trade policy per-

ceived to enhance or benefit political or national security objectives can be expected to prevail over consideration of negative impacts on agriculture.

Import-sensitive commodities such as most fruits and vegetables have much both to gain and lose as the result of changing international trade policies and events. As such, it is imperative that producers and marketers stay well informed on trade issues and attempt to influence and adjust to programs and policies which affect supply and demand conditions.

The U.S. citrus industry has a long history of involvement in international trade issues. Efforts have focused on maintaining the integrity of the U.S. tariff structure, developing export markets for fresh and processed citrus, and reducing unjustified barriers to trade.

The United States both imports and exports citrus. Although the United States is the largest producer of grapefruit and second largest producer of oranges in the world, citrus imports into the United States have been substantial. In 1986, the value of all citrus imports totalled \$544 million while U.S. citrus exports totalled \$572 million. The United States is a major exporter of fresh citrus and a major importer of orange juice as the result of freeze-reduced production primarily in Florida.

In recent years, the U.S. citrus industry has been almost continuously involved in defending the U.S. citrus tariff structure from attack and circumvention. Analyses of the impact of the citrus tariff on imports indicate that the present tariff structure, at least for processed oranges, has permitted imports in short crop seasons and helped to moderate imports in seasons when additional supplies were not needed. Thus, the tariff has provided some protection for domestic producers when needed, but has allowed imports to enter when supplies were low, resulting in flat real prices.

Unilateral Agreements. The Caribbean Basin Economic Recovery Act of 1983 serves

as an example of a policy designed to meet political objectives, that has the potential of encouraging duty-free imports which would compete with the U.S. citrus industry, as well as with other U.S.-produced commodities. The United States unilaterally enacted the law that created the Caribbean Basin Initiative (CBI) with the intent to foster economic growth in 27 small neighboring Caribbean Basin countries through trade, economic assistance and tax measures. It was assumed that such growth would protect the national security, as well as the economic and political interests of the United States by creating more political stability in the region and reducing the chances of unfriendly governments coming into power.

The principal component of the CBI is the provision of duty-free access to U.S. markets for a twelve-year period. Moreover, Congress is currently considering proposals to extend the duty-free period to the year 2007. Nearly all agricultural products from CBI countries are eligible for duty-free status except textiles and apparel, canned tuna, footwear and certain leather products; there are some restrictions on sugar and rum. Other features include rule-of-origin requirements, restrictions on non-CBI-produced components and simple product transformations, and provisions for reinstatement of duties if CBI imports cause or threaten to cause serious damage to agriculture. Moreover, perishable commodities, including fresh and concentrated citrus, are provided with a fast-track procedure through which duties can be reinstated within 21 days.

Citrus industry concerns about the CBI have centered on the potential for transshipment of Brazilian FCOJ through CBI countries to avoid the tariff, potential competition from CBI citrus production, and introduction of plant pests and diseases from Caribbean countries. Orange and grapefruit production in the Caribbean has been increasing over time. While U.S. imports of citrus products have increased dramatically in percentage terms since the CBI became effective, the absolute volume increases have been extremely small.

Several factors may serve to limit investment in Caribbean Basin citrus and thus

the potential for significant competition. The length of time and capital investment required to establish commercial producing groves and cost-effective processing plants relative to the twelve-year limit on duty-free access to the U.S. market may limit the competitive threat in the next decade. However, the twelve-year limit may be extended. Political and/or economic instability of many Caribbean countries may serve to limit foreign investment even though economic and political factors are considered favorable to both domestic and foreign investment in some countries.

The ability of Caribbean citrus operations to be cost-competitive in all stages from production, harvesting and transportation to packing and processing operations may be limited by an inadequate infrastructure of transportation and other facilitating functions. There appears to be a limited amount of land in CBI countries with the correct combination of soil and climate to produce citrus with the quality characteristics needed to compete in U.S. fresh and processed citrus markets. Cultural practices in many CBI countries are still in experimental stages and may serve to limit production potential in the short run.

The CBI may result in increased investment in citrus, with resulting increases in production and exports. However, the amount of such increases is uncertain at this time due to a number of factors which will affect investment, plantings, productivity, costs and quality. While the Caribbean Basin Initiative may not result in significant competition to the U.S. citrus industry, it does serve as an excellent example of how non-agricultural policies can potentially affect the competitive position of U.S. agriculture.

Bilateral Agreements. In addition to the unilateral trade policy adopted by the U.S. government in the Caribbean Basin Initiative, the United States has been and is involved in bilateral free-trade agreements with other countries which result in lower-priced citrus imports. The first example is the Israeli-U.S. Free Trade Agreement developed in 1984 which phases out the U.S. tariff requirements for Israel beginning in 1990. Israel is the world's second largest producer of grapefruit, and

ranks seventh in orange production and tenth in tangerine production. Israel imports orange juice, primarily from Brazil, and regularly exports more orange juice than it produces.

The Canada-U.S. Free Trade Agreement currently being finalized serves as the second example of a bilateral trade action of concern to the U.S. citrus industry. While traditionally Canada has not been known as a major citrus producer, it still looms as a competitive threat to the U.S. citrus industry, particularly the processed orange sector. This concern is based on two factors. First, Canada does not have an import tariff on orange juice, which could enable third-party countries such as Brazil to import orange juice into Canada and ship it into U.S. markets duty-free in the absence of manufacture and transit restrictions. The fact that this is physically possible is supported by average annual U.S. imports of three million SSE gallons of orange juice from Canada. Second, the import-duty-drawback provisions of the U.S. citrus tariff structure will not be applicable to U.S. exports to Canada without a specific addendum to the Canada-U.S. Free Trade Agreement. This feature may further limit the U.S. citrus industry's ability to compete in foreign markets.

Trade Barriers. In addition to competitive pressures in the processed orange market from Brazil and other citrus producers/exporters, the U.S. citrus industry faces numerous barriers to trade in foreign markets. While trade policies protect viable industries in some cases, in many cases protectionist trade policies serve no such purpose. Barriers to citrus trade, particularly in the European Economic Community (EEC) and Japan, have been a continuing concern to the U.S. citrus industry.

In spite of the low level of citrus production in the EEC relative to population, the EEC imposes preferential duty treatment on imports of citrus and citrus products which hampers the competitive position of the United States in the world citrus market. For example, preferential duty treatment reduces EEC tariffs on citrus juices imported from Israel by 70 percent. This preferential duty situation is one of the key factors in the

"Citrus-Pasta War" which has developed between the United States and the EEC.

Under a proposed settlement agreement, the EEC will improve access to EEC markets for U.S. citrus products in return for trade concessions. However, quantity restrictions were included to complement lower tariff rates offered by EEC. Lower tariff rates were applied to the restrictive quantity, and the old tariff rates were applied to quantities imported above the established quantity restriction. In effect, the quantity restrictions limited severely the impact of the lower tariffs. The agreement also limits the United States from claiming future damage arising from the EEC-Mediterranean Basin preferential treatment. Given the limited relief provided to the U.S. citrus industry under the agreement, it is obvious that the United States may have lost the Citrus-Pasta War.

In addition to tariffs and preferential trade agreements, the United States faces quantitative restrictions in some potentially large markets. For example, Japan currently has an orange juice quota which is equivalent to a 7.5-ounce serving of orange juice on an annual per capita basis. The Japanese have imposed a blending requirement that imported juice be blended with juice produced in Japan. Prior to 1971, Japan had also limited imports of fresh grapefruit, even though Japan did not produce this citrus product. Since the quota has been lifted, exports of fresh grapefruit to Japan have grown significantly, and the United States has been a major benefactor.

There are many other examples of trade restrictions that limit the competitive position of the U.S. citrus industry in world markets. The question is whether U.S. government trade policies and negotiations place enough emphasis on citrus and other fruits and vegetables to provide adequate opportunities to compete in international markets.

#### *General Economic Policies*

That U.S. agriculture is influenced by the world economy is well documented. International agricultural markets, world-wide economic conditions, and the programs and

policies of foreign governments all serve to define the competitive environment for U.S. agriculture. The U.S. food industry must recognize that not only do U.S. economic policies affect food production and consumption directly through impacts on costs, employment, income and inflation, but also through links to the world economy and international markets. U.S. fiscal and monetary policies affect the value of the dollar and exchange rates, which, in turn, affect the import-export balances in goods and services as well as financial markets.

The interconnection of world markets and the effect of U.S. economic policies play a leading role in production and marketing of citrus. For example, even though the United States exports a relatively small quantity of orange juice to Europe, the currency exchange rates between the U.S. dollar and European currencies affect the level of Brazilian orange juice imports into the United States. This is because Brazil prices orange juice in U.S. dollars. The strong rise in the value of the dollar between 1983 and 1986 in conjunction with a rise in Brazilian orange juice prices combined to nearly quadruple the price of Brazilian orange juice to European consumers. The ensuing decline in quantity demanded resulted in increased Brazilian imports into the United States, thus depressing prices to U.S. producers.

Export markets for U.S. fresh grapefruit also serve as examples of the indirect impacts of U.S. economic policies. Variations in exchange rates have been demonstrated to have varying impacts on the demand structure for U.S. fresh grapefruit among export markets. These examples serve to indicate the extensive nature of the impacts of U.S. economic policies on food distribution.

#### **Implications**

The U.S. citrus industry has served to illustrate some of the many ways in which an agricultural industry is affected by U.S. government policies and regulations. The international flavor associated with many of the examples is indicative of the degree of international involvement which permeates not

only the U.S. citrus industry, but also the agricultural/food sector and U.S. government policies.

Government policies and regulations at the federal level are not the only such concern of the U.S. citrus industry. State and local government regulations ranging from state-legislated chemical tolerances in ground water to water management district use permits and local land-use regulations are having a profound impact on the economic well-being and future of the U.S. citrus industry.

Government policies and associated impacts and implications must be monitored and analyzed, not only by the citrus industry, but by all participants in the U.S. food production/marketing system. It is imperative that government policy formulation be influenced whenever possible, that impacts be anticipated and that adjustments be made as quickly and as inexpensively as possible. Future success in the food production and distribution system will be determined by such actions.

#### References

- Behr, Robert M., et al. "Position Paper on Citrus Trade Issues," Economic and Market Research Department, Florida Department of Citrus, Food and Resource Economics Department, University of Florida, unpublished manuscript, 1987.
- Behr, Robert M. and Mark Brown. "Florida Citrus Outlook Update, 1986-87 Season," Working Paper 87-4, Economic and Market Research Department, Florida Department of Citrus, Food and Resource Economics Department, University of Florida, April, 1987.
- Brown, Carolyn. "Florida Fresh Fruit Shipments 1986-87 Annual Report," Economic and Market Research Department, Florida Department of Citrus, Gainesville, Florida.
- Fairchild, Gary F. "Potential Impact of Citrus Trade Liberalization with Japan," Economic Research Report 85-2, Economic Research Department, Florida Department of Citrus, Food and Resource Economics Department, University of Florida, April 1985.
- \_\_\_\_\_. "The Caribbean Basin Initiative and the Florida Citrus Industry," Working Paper 85-13, Economic Research Department, Florida Department of Citrus, October, 1985.
- Fairchild, Gary F. and Jong-Ying Lee. "The Economic Importance of Ethylene Dibromide to the U.S. Citrus Industry," paper presented to the Atlantic Economic Society, September 4, 1987, New York, NY.
- \_\_\_\_\_. "The Impact of Cancelling Lead Arsenate on the Florida Fresh Grapefruit Industry," paper presented to the Southern Agricultural Economics Association, February 3, 1987, Nashville, TN.
- Florida Agricultural Statistics Service. "Florida Agricultural Statistics: Citrus Summary, 1985-86," January, 1987.
- Gunter, Dan L. "Comments on Imports of Citrus," presented at hearing in connection with ITC investigation under Section 332(g) of the Tariff Act of 1930 concerning probable economic effects of providing duty-free treatment of imports from Israel to the U.S., Washington, DC, April 10, 1987.
- Lee, Jong-Ying and Gary F. Fairchild. "Exchange Rates and Foreign Demand for U.S. Fresh Grapefruit," unpublished manuscript, 1987.
- Lester, Bernie. "Review of GATT Panel Findings Regarding EEC Preferential Tariffs on Citrus and Citrus Products," comments in meeting with Clayton Yeutter, Office of the U.S. Trade Representative, Washington, D.C., August 27, 1985.
- Paggi, Mechel, James L. Seale, Jr., and Gary F. Fairchild. "U.S. Trade Policy and Southern Agriculture," Southern Regional Extension Leaflet, manuscript, 1987.



Seale, James L., Gary F. Fairchild and Mechel Paggi. "Current and Emerging Trade Issues," Southern Regional Extension Leaflet, manuscript, 1987.

U.S. Department of Commerce. Report IM145X, Washington, D.C.