

Citrus Export Market Development and Maintenance*

by

Gary F. Fairchild
Professor and Extension Economist
Food and Resource Economics Department
University of Florida

Jong-Ying Lee
Research Economist, Florida Department of Citrus
and
Adjunct Professor, Food and Resource Economics Department
University of Florida

Abstract

The marketing of agricultural commodities and food products has assumed an international dimension over the past two decades. Increased funding of export development programs by the federal government and commodity organizations suggests the need for improved understanding of U.S. export development programs and of the issues associated with export market development and maintenance. The lesson to be learned from the citrus industry experience is that unless the commodity or food product being promoted can be differentiated from other competitive products, or unless the product is priced lower than competitive products, the long-run effectiveness of export promotion programs will be limited.

Citrus Export Market Development And Maintenance

The marketing of agricultural commodities and products has assumed an international dimension over the past two decades. Moreover, international markets continue to gain importance for many U.S. agribusiness firms and agricultural industries. The development and maintenance of international markets is of critical interest to U.S. producers, agribusiness firms, industry organizations and government. The ability to compete is critical to success in export market development and maintenance. Competitiveness is defined in this paper as the ability to consistently supply the desired quality of a homogeneous product at a lower price or the ability to supply a differentiated quality at a price premium.

*Comments represent views of the authors and are not intended to represent official Florida Department of Citrus Policy. Florida Agricultural Experiment Station Journal Series No. R-01184.

U.S. agriculture has long been shaped and molded by attempts to enhance profitability through a variety of government programs and policies. In addition, non-agricultural policies based on political, economic and environmental objectives are influencing what commodities and products are produced, the volume of imports and exports, and the ability of U.S. agriculture to compete (Fairchild).

Government-generated artificial barriers to trade tend to be export-enhancing or import-restricting in nature. While import-restricting measures are more widely discussed, export-enhancing activities are also capable of altering international trade patterns. While historically tariffs have been the most popular trade policy instrument, the use of non-tariff barriers has increased rapidly in recent years. Non-tariff barriers include several types of policies and programs that interfere with or distort trade: (1) measures that restrict imports; (2) measures that provide assistance to domestic production in order to substitute for imports or promote exports; (3) measures that provide direct assistance to exporters (Hillman).

Objectives

With increased funding of export development programs by the federal government and commodity organizations, the need has arisen to evaluate the export potential for agricultural commodities and products with respect to market development and maintenance. Furthermore, there exists a need to assess what can be done to become more competitive in international markets. The objective of this paper is to provide an improved understanding of U.S. export development programs and the relationships between such programs and of the issues associated with export market development and maintenance. The Florida citrus industry, which has a long history of export market development programs, serves to illustrate the problems associated with foreign market development and maintenance efforts.

U.S. Export Promotion Programs

Export promotion or foreign market development programs represent one form of

export subsidy. With about one of every three acres of U.S. farmland utilized for export sales, international markets are extremely important to agriculture and agribusiness. Due to relatively low rates of population growth and relatively high income levels, domestic market growth for most agricultural products is limited compared to the growth potential of export markets. Policies and programs which ignore the export market may have negative impacts on the entire agribusiness sector (Svec).

Federally-supported market development programs are designed to develop new markets or expand existing markets. Such programs attempt to increase both consumer and commercial utilization of U.S. agricultural commodities and products by overcoming constraints to exports. Generally, these programs are intended to fund three types of activities: (1) technical assistance, including problems in selling, transporting, processing, marketing and utilizing U.S. agricultural products; (2) technical servicing, including assistance to foreign government officials with importing, distributing and marketing agricultural commodities and products; and (3) consumer promotion, designed to inform and positively alter consumer perceptions, thus expanding demand for U.S. agricultural products (U.S. Government Accounting Office).

U.S. government-sponsored export market development efforts for agricultural commodities and products consist of the Cooperator program, the Export Incentive Program (EIP) and the Targeted Export Assistance (TEA) program. FAS-USDA has had the lead governmental role in developing markets overseas for United States farm products.

An important part of the FAS export expansion effort is the Cooperator program through which export promotion activities are conducted jointly with market development cooperators from private industry. There are more than fifty of these groups working with the FAS on a continuing basis (Lee). The role of cooperator was created by the Agricultural Trade Development and Assistance Act of July 1954 (P. L. 480). The market development aspect of this program is oriented to commercial sales of agricultural com-

modities and products in cooperation with non-profit, broadly-based agricultural trade associations representing U.S. farmers if possible. Financing of cooperator-generated market development projects is shared by the FAS, the agricultural cooperator, and, depending on the type of activities, by the foreign organizations involved in the import and use of the particular commodity. The major share of this funding comes from the private sector.

The Export Incentive Program (EIP) is a companion of the Cooperator program under P.L. 480. The EIP provides direct promotion expenses to private U.S. firms or agricultural cooperatives selling products under a registered trademark in situations where a Cooperator program is infeasible or branded promotion would be more effective. The EIP reimburses participants up to 50 percent of approved promotion expenses in export markets (Kinnucan and Williams).

The Targeted Export Assistance (TEA) program was authorized by Section 1124 of the Food Security Act of 1985. The Act states that a specific amount of funds for commodities owned by the Commodity Credit Corporation (CCC) shall be used by the Secretary of Agriculture to counter or offset the adverse effect of subsidies, import quotas, or other unfair trade practices of a foreign country on the export of a U.S. agricultural commodity or products. Priority is given to U.S. agricultural commodities or products that have received a favorable decision under section 301 of the Trade Act of 1974, or have been adversely affected by retaliatory actions related to a favorable decision under Section 301 of the Trade Act of 1974. For fiscal years 1986 through 1988, the amount of funds or value of commodities used through 117 agreements was \$110 million each year (Federal Register). For fiscal years 1989 and 1990 the funding level remained at \$110 million each year. The majority of the TEA projects have taken place in Asia, followed by Western Europe and other parts of the world.

Export Programs for Florida Citrus

The Florida citrus industry has been involved in export promotion programs for nearly a quarter-century. During the 1960s and 1970s,

interest in citrus commodity advertising was stimulated as the result of a large expected surplus of citrus products. It was generally assumed that, with a given supply, advertising could shift the demand curve of a given product to the right, thus increasing the quantity of product sold and the total revenue received. The Florida Department of Citrus (FDOC) has utilized many export promotional programs for Florida citrus products including the FAS-USDA Cooperator program in Europe; promotional programs for fresh grapefruit, grapefruit juice and orange juice in Japan; and commodity advertising programs for all types of citrus products in Canada.

Following a test program in 1966, the FDOC cooperator program in Europe was initiated on a full scale in 1967. This market development program directly supports the brand promotion activities of distributors in the European market. The cost of this program is financed by the FDOC, FAS-USDA and European distributors. European distributors have provided the largest share of market development funds since 1971.

Citrus has been identified by FAS-USDA as a commodity to receive priority assistance from the TEA program because of unfair trade practices of foreign countries with regard to U.S. citrus products. The FDOC received \$4.6 million and \$7.0 million of the \$110 million TEA allocation during the 1986 and 1987 fiscal years, respectively. The authorized funding for the 1988 and 1989 fiscal years was \$7.0 million and \$10.5 million, respectively. The TEA dollars have been used to promote Florida grapefruit through television, printed media, public relations, in-store demonstrations and displays, and food service activities in Western Europe, the Pacific Rim, and Canada. In addition to the TEA programs, the FDOC has grower-financed commodity promotional programs in Canada and Japan. FDOC export promotion expenditures for the past fourteen seasons in Canada, Europe and the Pacific Rim are detailed in Table 1. Expenditures include a three-party program for orange juice in Europe, a two-party program for orange juice in Canada, an FDOC promotion program for fresh grapefruit in Japan, and TEA programs for fresh grapefruit and grapefruit juice in Europe and Japan. Export

Table 1**Florida Department of Citrus Promotional Expenditures in Export Markets**

Season	Canada	Pacific Rim*	Europe	Total
----- \$1,000 -----				
1975-76	715	0	579	1,294
1976-77	817	0	374	1,191
1977-78	980	260	619	1,858
1978-79	1,086	105	562	1,754
1979-80	1,198	259	610	2,066
1980-81	1,410	200	1,580	3,189
1981-82	1,424	210	1,262	2,896
1982-83	1,713	400	1,629	3,742
1983-84	887	461	1,052	2,400
1984-85	1,263	518	870	2,651
1985-86	1,327	784	670	2,781
1986-87	1,343	2,850	3,290	7,483
1987-88	1,250	3,180	4,553	8,984
1988-89	1,175	5,053	5,679	11,907
Season Average	1,185	1,020	1,666	3,871
Total	16,588	14,280	23,329	54,197
Percent of Total	31%	26%	43%	

* Includes Japan, Taiwan, South Korea, Hong Kong and Singapore.

Source: Florida Department of Citrus

promotion expenditures totaled over \$54 million for the fourteen year period. During this time, the European market accounted for 43 percent of export promotion expenditures, followed by the Canadian market with 31 percent and the Pacific Rim market with 26 percent.

Most of the promotional expenditures for Florida citrus products have been for trade promotional activities with minor amounts for consumer advertising prior to the beginning of the TEA program. With the TEA funds received from the FAS, the FDOC expanded both trade promotional activities and consumer advertising with most of the TEA funds used to support the latter.

From the late 1960s to the beginning of 1980s, these promotional programs developed foreign markets for Florida citrus products. The value of U.S. orange juice exports increased from \$17.9 million in 1965 to \$140.6 million in 1981. Fresh grapefruit exports increased from \$11.4 million to \$109.6 million during the same period.

More recently, the value of orange juice exports has decreased to \$86.9 million in 1987 and rebounded to \$121.5 million in 1988. The value of fresh grapefruit exports in the 1980s has been quite volatile ranging from \$91.5 million in 1984 to a record of \$222.2 million in 1988. Price changes, in conjunction with dramatic swings in currency exchange rates in the European and Japanese markets, have influenced both export volumes and revenues (Lee and Fairchild, 1988-b). The combination of export promotion expenditures and favorable exchange rates since 1985 has resulted in record values and volumes of fresh grapefruit exports.

Studies of the effectiveness of Florida citrus export promotion programs consistently have shown positive results. For example, returns associated with orange juice promotional programs in Europe from 1972 to 1982 have been estimated to range from \$4.85 to \$5.50 (in terms of additional sales due to the promotional programs) per dollar invested for all program contributors. In addition, Florida orange juice advertising in Canada from 1972 to 1981 has been shown to have a positive effect on the U.S. market share in Canada (Lee and Tilley). A study of U.S. fresh

grapefruit exports to 15 countries from 1976 to 1987 indicated that U.S. fresh grapefruit exports to EEC and Pacific Rim countries increased by more than three dollars for every dollar that Florida spent on promotion (Lee, Behr, Brown and Fairchild).

Despite the effectiveness of export promotional programs, U.S. orange juice exports have declined in the 1980s due to supply-reducing freezes in Florida and rapid orange-juice-supply expansion in Brazil. Production of oranges for processing was curtailed by freezes in 1977, 1981, 1982, 1983, 1985, and 1989. Increased orange juice supplies in other countries were stimulated by attractive orange juice prices associated with the demand expansion generated by promotion programs in both domestic and foreign markets. In addition, the lower quality standards in Canada and the preferences for diluted juice beverages in Europe and Japan allowed importers of bulk concentrated orange juice in these markets to repack their imports into juice-based products which are different from U.S. pure juice products. These market environments favor low-price producers and hinder product differentiation efforts.

As a result of price, different preferences and lack of product differentiation opportunities for Florida in foreign markets, Brazil has gained a dominant share of the orange juice/drink market in Canada, Europe and Japan. The U.S. market share of orange juice imported by Canada decreased from 41 percent in 1978 to 33 percent in 1987. During the same period, the U.S. market share of Japanese orange juice imports also decreased from 58 percent to 16 percent. The quantity of U.S. orange juice exports to Europe increased from 17 million single strength equivalent (SSE) gallons in 1978 to 25 million SSE gallons in 1982 and then declined to 19 million SSE gallons in 1987. Brazilian orange juice exports to Europe increased from 136 million SSE gallons to 471 million SSE gallons between 1978 and 1987.

Changes in the competitive structure of the world orange juice market have had significant impacts on the U.S. orange juice industry. Both absolute and relative U.S. frozen concentrated orange juice (FCOJ) exports and imports have

been altered over the past decade. U.S. FCOJ imports totaled 409 million SSE gallons in 1988, or 7.4 times greater than U.S. FCOJ exports. Since the United States has become a net importer of orange juice, it may be appropriate to question the promotion of U.S. orange juice in highly price-competitive export markets. Current FDOC promotion programs tend to feature grapefruit juice and fresh grapefruit.

U.S. orange juice is priced higher than orange juice from other exporting countries. During the period from 1978 through 1987, the average import price in Canada for U.S. orange juice was \$1.95 per SSE gallon as compared to \$1.12 per SSE gallon for the orange juice from other countries. The average orange juice import prices in Japan for the same time period are 302 Yens per liter and 252 Yens per liter (42° Brix), respectively, for U.S. and Brazilian juice.

One of the reasons that U.S. export prices are higher than those for other exporting countries is that most U.S. orange juice exports are in retail-size containers smaller than 32 ounces compared to bulk juice. FOB prices of retail-pack orange juice are higher than bulk-form orange juice prices due to differences in processing, packaging and transportation costs. For example, the average price of U.S. retail-pack and bulk orange juice exported to Canada for the period from 1978 through 1987 are, respectively, \$2.28 and \$1.25 per SSE gallon.

U.S. fresh grapefruit exports account for more than 90 percent of the total grapefruit imports in Japan and Canada. In Europe, the U.S. market share of fresh grapefruit imports increased from 17 percent in 1978 to 22 percent in 1987. In Canada, fresh grapefruit imported from the United States is lower priced than fresh grapefruit imported from other countries. However, import prices of U.S. fresh grapefruit in Japan and Europe are higher than the import prices of the fresh grapefruit from other countries. The average prices in Japan are 132.3 Yens and 118.6 Yens per kilogram, respectively, for fresh grapefruit imports from the United States and other countries from 1978 through 1987. The average prices in EEC countries are 24.8 European Common Currency (EUC) and 19.3

EUC per 100 pounds, respectively, for fresh grapefruit imports from the United States and other countries during the same period. One of the reasons that the United States is able to maintain its fresh grapefruit market shares in Canada, Europe and Japan is because most U.S. grapefruit, especially those from Florida and Texas, are considered to be juicier and sweeter than the desert varieties of grapefruit from other parts of the world.

The foregoing suggests that the United States has been able to maintain a modest presence for its retail-pack orange juice and a strong presence for its fresh grapefruit in the world markets with a price premium. This is because the United States is able to provide differentiated products which other countries currently cannot produce (fresh grapefruit) or are not interested in producing (retail-pack orange juice).

The lesson to be learned from citrus export development and maintenance programs is that unless the the product being promoted can be differentiated from other competitive products or unless the product is priced lower than competitive products, the long-run effectiveness of export promotion programs will be limited.

Discussion

In the complex world of international trade, the ability to compete is central to effective participation in world markets. In the international arena, commodity production cost advantages are often erased by efficient and effective processing and marketing infrastructure. Furthermore, the development and maintenance of export markets for agricultural commodities and food products is influenced by government intervention in production, trade, and macroeconomic issues (Rosson, Vocke and Scarce).

Food production in most high income, developed economies has increased faster than consumer demand. With the exception of demand generated by population growth, increases in consumer expenditures on food tend to be associated with variety, quality, processing, and convenience. Moreover, the adoption of new technology tends to increase agricultural productivity

and thus surpluses. To avoid surplus storage, export subsidies are often initiated by governments when production exceeds domestic consumption (Rosson, Vocke and Scarce). Resulting distortions in trade flows often generate offsetting policies in competing countries. For example, the European Economic Community's export subsidies stimulated a U.S. policy response in the form of the Targeted Export Assistance (TEA) Program designed to make U.S. agriculture more competitive. Export promotion is one type of export subsidy designed to alter existing trade patterns.

For promotion programs to be successful in both developing and maintaining export markets, competitiveness must be considered. As discussed, there are many factors which influence the competitive environment in world markets. Many of these factors are beyond the control or influence of agribusiness, and even government. Although the international competitive environment cannot be influenced to the same degree as the domestic market, maximizing agricultural commodity and product competitiveness in terms of price and quality is necessary although not always sufficient for success. Effective competitiveness in international markets for relatively homogeneous products means having the sustained ability to deliver the desired quality at the lowest price.

Competitiveness may be the most important factor dictating whether the United States will be able to sustain exports or merely develop markets for existing and potential competitors in other countries. Promotional programs can stimulate growth in exports in the near term, however long term market maintenance is less certain. Demand expansion in international markets tends to attract attention. Thus, if U.S. agricultural commodities and food products are not competitive, export activities may diminish under a sustained promotion scenario or may decline or cease soon after promotional programs are terminated. The success of export promotion can be influenced by product differentiation and price considerations.

The U.S. citrus industry provides an example of an agricultural industry's attempts to develop and maintain export markets for raw and processed food products through promotional

programs. Florida was once the world's major producer of orange juice. Faced with the excess supply at going prices, the Florida orange juice industry assumed that promotional activities could shift the demand curve to the right resulting in an increase in demand and revenue. Florida's domestic and international orange juice promotional programs created a favorable environment for foreign competition. The free-rider problem documented in the domestic U.S. orange juice market is equally applicable to the international market (Lee and Fairchild, 1988a).

The freeze-loss of Florida orange trees in the late 1970s and early 1980s further encouraged competitors to expand. However, even before the Florida freezes, Brazilian companies recognized the potential of the orange juice market. Brazil's orange juice production capacity increased from 25.4 million trees in 1965 to 89.5 million trees in 1978 and 160 million trees in 1990. In the international market, and to some extent in the domestic market, orange juice is perceived as a homogeneous product. As a result, price tends to be the key factor in determining competitiveness among orange juice suppliers and explains the general decline in U.S. orange juice exports.

Florida grapefruit promotions have created a large and profitable market for Florida grapefruit. Florida grapefruit juice exports are also expanding. Currently, in terms of supply and quality, Florida has a competitive advantage in international markets. However, Florida grapefruit juice is starting to lose market share in Canada due to competition from Argentina. In addition, production of Florida-quality fresh grapefruit is being explored by other countries in response to the world market developed by Florida.

The citrus example suggests that promotion programs for agricultural commodities and agribusiness products may have positive impacts on demand in export markets. However, promotion programs which successfully expand demand also benefit producers and marketers in other countries and encourage expanded production and competition. The discussion suggests that developing export markets for U.S. products which cannot be differentiated and/or sold at a price premium

means creating markets for competitors unless the United States can be the low-cost supplier.

Determining which agricultural commodities and products have the potential to be competitive in world markets on a sustained basis is a complex and difficult task. In its review of the TEA program, the U.S. General Accounting Office recommends that FAS/USDA conduct ongoing in-depth marketing analyses for all TEA commodities and the markets in which they are promoted to insure that funds are allocated for those commodities and markets with the greatest potential for successful market development. Criteria exist for allocating public-sector export promotion funds among commodity applicants and evaluating results (U.S. General Accounting Office, Federal Register). However, evaluation of export promotion programs requires analysis of both macro-economic and commodity/product supply and demand variables. Furthermore, data to support such analyses tends to be limited. The importance of comprehensive analyses is suggested by the potential difference between short-run benefit-cost ratios and long-run competitiveness in world markets.

Competitiveness issues surround government subsidies in the form of export market development programs. Attempts to evaluate these programs and their impacts on international trade and competition continue to struggle with confounding variables associated with international markets and data limitations. Public institutions, industry organizations and private firms which comprise U.S. agricultural sector need to continue pursuing the goals of defining and improving competitiveness and achieving both the development and maintenance of export markets for agricultural and food products.

The discussion provided in this paper raises questions concerning the expenditure of public funds for export market development. For example, does the cost of the TEA program and Cooperator program enable barriers to be overcome and market entry achieved and sustained so as to return the government export subsidy above what would have been achieved in the absence of the program expenditures? Is this a more efficient way to increase the income of agricultural producers and agribusiness firms than direct payments?

What are the impacts of export promotion programs on the domestic market in terms of price and quality? How do these programs affect producer and consumer welfare?

References

- Fairchild, G. F., (1988), "The Impact of U.S. Government Policies on the Import, Export and Distribution of Citrus," *Journal of Food Distribution Research*, 19(2), 91-98.
- Federal Register*, Vol. 52, No. 106, June 3, 1987, pp. 20764-20765.
- Hillman, J.S., (1978), "Nontariff Barriers: Major Problem in Agricultural Trade," *American Journal of Agricultural Economics*, 60(3), 491-501.
- Kinnucan, H.W. and G. W. Williams, (1988), *Generic Agricultural Commodity Advertising and Promotion: International Programs*, Fact Sheet No. 5, Northeast Regional committee on Commodity Promotion Programs (NEC-63), W. J. Armbruster and R. L. Wills, Eds., Department of Agricultural Economics, Cornell University, Ithaca, NY.
- Lee, J. -Y., (1985), "Research Directed Toward Foreign Market Development Programs," Proceedings from Research on Effectiveness of Agricultural Commodity Promotion Seminar, W. J. Armbruster and L. H. Myers, Eds., Farm Foundation and USDA, Chicago, IL, 57-68.
- Lee, J.-Y, R. M. Behr, M. G. Brown and G. F. Fairchild, (1990), "Generic Export Promotion Programs for Florida Citrus," paper presented at NEC-63 symposium on Evaluating Economic Effects of Generic Promotion for Agricultural Exports, Washington, D.C.
- Lee, J. -Y. and G. F. Fairchild, (1988-a), "Commodity Advertising Imports and the Free Rider Problem," *Journal of Food Distribution Research*, 19(2), 36-42.

- Lee, J. -Y. and G. F. Fairchild, (1988-b). "Exchange Rates and Foreign Demand for U.S. Fresh Grapefruit," *Agribusiness: An International Journal*, 4(3), 261-270.
- Lee, J. -Y. and D.S. Tilley (1983), "Irreversibility of Import Shares of Frozen Concentrated Orange Juice In Canada," *Southern Journal of Agricultural Economics*, 15(2):99-104.
- Rosson, C. P. III, G. F. Vocke and K. Searce, (1988), "Global Competition and Southern Agriculture," SRDC 106-2, Southern Rural Development Center, Mississippi State, Ms.
- Svec, R. J., (1985), "Foreign Market Development Programs: A Federal Agency Perspective," in Proceedings from Research on Effectiveness of Agricultural Commodity Promotion Seminar, W. J. Armbruster and L. H. Myers, Eds., Farm Foundation and USDA, Chicago, IL, 31-41.
- United States General Accounting Office, *Agricultural Trade: Review of Targeted Export Assistance Program*, GAO/NSIAD-88-183, 1988.

