Exporting Texas' Grapefruit To Southeast Asia

Donald C. Van De Werken
Donald M. Nixon
Department of Agronomy and Resource Sciences
Donald R. Gibson
Department of Management and Marketing, Texas A&M University-Kingsville

ABSTRACT

With the various demands in grapefruit preference, market growth is very dependent on stable production of quality fruit. Most variation in quantity and quality can be attributed to freezes, production methods and variety. To be successful in exporting, keep the marketing plan simple, use an experienced importer/exporter, supply quality fresh fruits, have quality protection for grapefruit being shipped overseas, make overseas trips to monitor the market as well as meet with importers, and create an in-store promotion plan for each individual country.

The GE Matrix reveals that Hong Kong is the best market to enter because of higher Gross Domestic Product and Per Capita Income, better exchange rate and relaxed trade regulations. Both Singapore and Taiwan market positions are about equal in attractiveness and strength characteristics even though Hong Kong had a higher rating. Singapore and Taiwan should not be overlooked as potential markets. All of these countries were in the area of intermediate overall attractiveness and should be considered for selective enhancement and earning potential. All three of these Asian countries are densely populated while having limited domestic production. The primary objective was to develop a feasibility study for grapefruit exporters who desire to do business with this Asian market.

KEYWORDS: grapefruit, market growth, market plan, GE Matrix, Gross Domestic Product, Per Capita Income

The U.S. and Brazil are by far the largest grapefruit producing countries with each supplying over 160 million cartons. U.S. citrus production (1987) represented 68 percent of the world's commercial grapefruit. Florida, the dominant U.S. citrus supply state, accounted for an average of 65 percent, Texas, 20.8 percent while California and Arizona accounted for 14.2 percent of the U.S. grapefruit supply in 1937-87 (Connolly et al., 1989). Texas has a comparative advantage for grapefruit quality due to warmer temperatures which enhance sugar formation. Texas has also been a forerunner in developing new grapefruit varieties: "Ruby" in 1934, "Star Ruby", 1970, and "Rio Red", 1984, hailed as the "state of-the-art" grapefruit, being deeper red in color, full of juice and naturally sweet.

In 1988 the net acres of all Texas grapefruit totaled 20,400. Ruby Red accounted for 65% of the hectares, Star Ruby 7%, Henderson/Ray 6%, Rio Red 19%, and other varieties accounted for 3% (Texas Department of Agriculture, 1989). Several factors make exporting difficult for U.S. firms. First, the strength of the dollar depresses the market for U.S. goods abroad. Second, U.S. exports face increasingly difficult competition. Finally, most American firms focus on our large domestic market and not on generally smaller markets overseas. Overseas marketing often requires a longer term commitment than domestic

marketing. International business often takes longer, costs more, and is harder to execute.

Citrus production has varied over time mainly due to damage by freezes that occur in Texas and Florida. The 1983 and 1987 freezes were very hard on the citrus industry particularly in Texas. After the 1987 freeze, incentives for Texas citrus brokers to join in the export market are: the stability in the U.S. dollar overseas, an increase in the U.S. target export assistance program, ample supplies of citrus, fewer trade restrictions, lower tariffs, and improved technology in overseas shipping.

Stable production of high quality fruit is important domestically and for exporting. In Japan, West Germany, France and Great Britain, Texas grapefruit is promoted as a "high-value fruit" that would be marketed in specialty shops and gift shops. (Anonymous, 1989). These high-value citrus sales will establish a foothold in these competitive overseas retail citrus markets. Japan is the largest importer of fresh citrus, but other European countries also desire to import more fruit. Taiwan, Singapore, and Hong Kong were among the worlds fastest growing economies during the 1980's and U.S. high value exports there have grown 117% since 1982 (MacDonald, 1989; Kitagawa et al., 1980). Since producers have recovered from the hard freezes in the 1980's, many are looking for new markets for their grapefruit. The objective of this study is to explore the feasibility for fresh citrus shippers who desire to export grapefruit to Southeastern Asia. Sales channels, tariff barriers, and the best market to enter are explored.

METHODS AND PROCEDURES

All the information for this study has been obtained by literature review and personal interviews, i.e., written correspondence. The primary objective is to develop a feasibility study for citrus exporters who are interested in developing markets in Southeast Asia.

Only three countries are discussed in this study. However, some or all of the material reviewed may be applied to other countries in the region. Taiwan, Singapore, and Hong Kong were selected because of the differences each has in business organization, customs, trade laws and other demographic identities. Hong Kong was studied because it is considered a stepping stone for market expansion into the People's Republic of China.

To indicate the historical time series of the price and quantity of U.S. and Texas grapefruit trade, a technique of computing index numbers is used (see Table 1). Index numbers technique is a descriptive analyses and uses both graphical and numerical methods to provide a basis for the relative change (over time) in the price or quantity of a single commodity (McClave and Benson, 1985).

The multi-factor portfolio matrix by General Electric (GE) is the computer model developed to examine market shares. Using lotus 1-2-3 software and programming designed by Gary L. Lilien, the GE matrix model will help evaluate a portfolio of five Southeast Asian countries. Countries are displayed against two composite dimensions: export attractiveness and the country's importing strengths. These dimensions, in turn, are composed of a series of weighted factors that make up the composite dimension. Each country is given a weight along with its factor. These ratings are then multiplied by weight and summed to arrive at a position in the strength/attractiveness matrix. The matrix is divided into three zones (Low, Medium, High). The three cells in the upper right are those in which the country has an attractiveness present and potential future positions should be considered for investment and growth. The three cells along the diagonal are of intermediate overall attractiveness and the country should be considered for selective enhancement and earning generation. The cells in the lower right corner are low in overall strength

Table 1: Index Numbers for Total U.S. Grapefruit Exporters 1972-87

Year	Quantity metric tons	Value $1000	Price per ton metric	Index Number Simple
1972	241,840	14,828	16.30	100
1973	423,705	33,715	12.56	77
1974	546,602	48,273	11.32	69
1975	570,329	54,366	10.49	64
1976	665,018	61,258	10.85	67
1977	580,898	57,463	10.10	62
1978	n/a *			
1979	n/a *			
1980	272,625	90,943	2.99	20
1981	297,753	111,164	2.67	16
1982	260,886	98,420	2.65	16
1983	301,835	114,501	2.63	16
1984	256,949	95,896	2.67	16
1985	198,624	86,670	2.29	14
1986	269,225	124,446	2.16	13
1987	350,205	162,495	2.15	13

* No Data Available

and should be considered for harvesting and divestment. Nine exporting items and twelve importing items were used to determine each country's market position. The model is designed to change the rating for each item, view the results and see a portfolio matrix. Exporting attractiveness items are based on information gathered about the country's economic climate. Such information was gathered from "Indicators of Market Size for 109 Countries" Business International (Czinkota and Ronkamen, 1988). Japan and South Korea were included to show the trade relations and differences between the countries.

Population and market size were rated on the growth of population of each country as compared to others in Asia. Gross Domestic Product rating was based on growth rates of the total value of all goods and services by the residences of that country at current mar-

ket prices. Per Capita Income rating was based on the income levels as compared to the total average income from the rest of Asia.

The Importing Strength Items are based on information published about each country, distribution network, transportation and advertising. Each has been rated according to its strengths with five being the high and one being the low. These strength items, such as a country's transportation abilities, distribution network and advertising, were rated by examining the literature and comparing each country's constraints and abilities.

RESULTS AND DISCUSSION

Taiwan has a strict trade and distribution system. Its tariff rates vary from free to 50% *ad valorem* with higher duties on luxury and consumer items or other items which compete directly with Taiwan manufacturers. It has a 50% tariff on grapefruit from March to September. This is to protect its limited domestic fruits which are poor in quality in contrast to U.S. citrus. Taiwan consumers' preferences are for smaller size grapefruit.

Singapore has very few trade barriers, high disposable income, and is willing to try new foods. It basically functions as a free port. In Singapore an average consumer pays $1.75 for three pieces of fruit, making fruit a luxury item. Consumers desire the larger fruit size. This is why a 0.15 weight factor was given to Labeling, Marketing and Packaging Items in the GE Matrix.

Hong Kong has no general tariff, thus, is a free port, but a small declaration charge is collected on all imports and exports except transshipment cargo. Hong Kong and Singapore distribution systems are heavily dependent on the "wet shops" (Mom and Pop fresh market stands) though large retail shopping centers are growing in size and importance. Citrus importers are still the main wholesalers of fresh citrus, but Texas citrus exporters could market their fruit directly to the shopping centers. This is an excellent method of developing a distribution network with a large food retailer. Most Asian consumers are willing to pay the price for fresh fruit, however, packaging and labeling have become very important as marketing tools in Southeast Asia.

Additional care in handling and packaging should be taken when shipping to Asia. Expensive gift packages commonly used in the grapefruit trade should be shipped by container shipments only. Container shipping is more expensive, but it helps prevent spoilage and/or damaged fruit. Break-bulk shipments are less expensive, but large volumes of fruit are needed to fill the shipment. An over supply of fruit in the overseas market usually occurs with break-bulk shipments.

All of preceding information on the countries was utilized in determining the weights given to the attractiveness items. Table 2 is an example of the Factors Underlying Exporting Attractiveness worksheet in the GE Multifactor Portfolio Model.

Table 2: Exporting Attractiveness Items and Rating Worksheet

Exporting Attractiveness Items	Weight x	Rating =	Value
Population/ Market Size	.20	5.00	1.00
Gross Domestic Product	.20	2.00	.40
Per Capita Income	.15	1.00	.15
Private Consumption	.15	5.00	.75
Market Growth Rate	.15	4.00	.60
Total Imports from U.S.	.05	4.00	.20
Total Citrus Imports U.S.	.05	2.00	.10
Exchange Rate	.05	1.00	.05
Social/Political/ Legal	Must Be Acceptable		

Exporting Attractiveness Score = 3.25

Table 3 illustrates the complete tabulation of both the export attractiveness items and the rating (1-5) for each country as determined by the GE Matrix program. A rating of five is high and one is low. In this model Hong Kong was given the highest rating and Japan was given the lowest rating.

Table 3: Export Attractiveness Items and Rating

Items	Taiwan	Singapore	H.K.	Japan	S. Korea
Population/ Mkt size	3	1	2	4	5
Gross Domestic Prod.	3	4	5	1	2
Per Capita Income	2	3	4	5	1
Private Consumption	2	3	1	4	5
Market Growth Rate	3	1	2	5	4
Total Import U.S.	3	2	1	5	4
Citrus Imports U.S.	4	1	3	5	2
Exchange Rate	3	5	4	2	1
Social/Political/ Legal	All are equal				

Table 4 is an example of the Importing Strength worksheet. The ratings and the weights were based on each country's marketing information presented previously. Citrus industry exporters, Freight Forwarder, Trade association members and other citrus industry leaders were then asked to give their opinions on what they thought about each country's importing abilities. Each was asked about the problem and/or successful areas of exporting Texas citrus products.

Table 4: Importing Strength Items and Rating Worksheet

Importing Strength Item	Weight	x	Rating	=	Value
Market Share	.10		2.00		.20
Share Growth	.15		3.00		.45
Product Quality	.10		5.00		.50
Distribution/Sales	.10		3.00		.30
Transportation	.05		3.00		.15
Advertising	.05		4.00		.20
Trade Regulations	.05		2.00		.10
Shipping Documents	.05		3.00		.15
Marking, Labeling, Packing	.15		3.00		.45
Language Problems	.05		3.00		.15
Exchange Rates	.10		3.00		.30
Importing/Exporting Personnel	.05		3.00		.15

Importing Strength Score = 3.1

Table 5: Shows Each Country's Final Tabulated Importing Strengths, 5 being the high and 1 being the low, along with it's assigned rating.

Items	Taiwan	Singapore	H.K.	Japan	S. Korea
Market Share	4	3	3	5	2
Share Growth	5	4	4	5	3
Product Quality	4	4	4	4	5
Distribution/Sales	4	3	4	5	3
Transportation	4	4	3	5	3
Advertising	4	4	4	5	4
Trade Regulations	1	5	5	3	2
Shipping Documents	3	4	4	4	3
Marking, Labeling	3	5	5	4	3
Language Problems	3	4	4	3	3
Exchange Rates	2	3	4	4	3
Import Personnel	4	4	4	5	3

The weights for both the attractiveness and strength items are percentages of one, with heavier or higher percent given to the areas believed to be of more importance such as market size. The results from the GE matrix reveal that all of the countries have a potential market position. Since Japan and South Korea markets were not part of this study, the next best market is Hong Kong. Table 6 shows the rating for each country according to the model.

Table 6: Exporting Portfolio Matrix Data

Country ID	Attractiveness	Strength
Taiwan	2.75	3.55
Singapore	2.45	3.90
Hong Kong	2.85	4.05
Japan	3.70	4.40
South Korea	3.25	3.10

grapefruit, provide quality protection for grapefruit being shipped overseas, make trips overseas to oversee the market and meet with importers, and create an in-store promotion activity plan for each individual country.

The GE Matrix reveals that Hong Kong is the best market to enter. Hong Kong has the competitive advantage over Singapore and Taiwan in Gross Domestic Product and Per capita Income, a better exchange rate and relaxed trade regulations. Hong Kong had the Exporting Attractiveness and Importing Strengths needed by the Texas citrus exporter. Such attributes should provide producers with an excellent market for fresh Texas Ruby Red grapefruit. Both Singapore and Taiwan market positions are equal in attractiveness and strength characteristics. Although Hong Kong had a higher rating, Singapore and Taiwan should not be overlooked as potential markets. All three of these countries were in an area of intermediate overall attractiveness and should be considered for selective enhancement and earning potential. All three Asian countries are densely populated and have limited agricultural production. The USDA has ranked Hong Kong, Taiwan, and Singapore within the top importing countries for the 1990's. All three countries have made substantial gains in their respective government/economic situations. Because of these transitional political and international situations, new Western life styles are developing in Southeast Asia.

Texas has the capability of providing a naturally sweeter and deeper red color of grapefruit that will sell and be profitable long into the next century. This potential competitive advantage along with detailed marketing strategies should provide increased income for Texas citrus producers and economic prosperity to the Rio Grande Valley.

REFERENCES

Anonymous 1988. Foreign Agriculture. USDA Service.

Anonymous 1989. Proposal TEA Funding. Texas Produce Export Association.

Anonymous 1988-89. Texas Citrus Season. Texas Valley Citrus Committee.

Anonymous 1989. Texas Citrus Tree Inventory Survey. Texas Agriculture Statistics Service.

Connolly, Chan., Fernandez, Daniel, Rouse, Robert, Boyle and Clyde. Texas Citrus Industry Economic Assessment. Texas A&M University Agricultural Research and Extension Center at Weslaco Report number 89-2, June 1989.

Czinkota, Michael R. and Ronkamen, Ildda A. 1988. International Marketing. Dryden Press New York.

Fitzpatrick, Peter B., and Zimmerman, Alans. 1985. Essentials of Export Marketing. American Management Association Briefing, New York, New York.

Kitaqawa, H., Kubo, T.; Kusanagi, T.; Kawada, K. 1980. Retail Trade in Florida Grapefruit in Japan. Florida Horticultural Society.

Kotler, Philip. 1988. Market Management 6th edition. Prentice Hall, Enlewood Cliff, NJ.

Lilian, Gary. 1989. Marketing Management. Scientific Press, Redwood City, CA.

MacDonald, Stephen. 1989. High-Value Products Best Bet for Trade Games. Farm Line, USDA, Economic Research Service Volume X No. 4, April.

Wagner, Alfred B.; Sauls, Julian. 1988. Texas Harvesting and Pre-pack Handling. Texas Citrus Handbook. Texas Agricultural Extension Service, College Station, TX.