

# **The Potential for Exporting Vegetables From the Perspective of U.S. Exporters\***

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The expansion of U.S. agricultural exports over the past two decades has increased the importance of agricultural exports in the U.S. economy, world trade, and U.S. farm income (Mackie). Thus, the substantial decline in agricultural exports from the United States in recent years has resulted in a depressed domestic farm economy. Ames et al. report that expanded agricultural exports can bolster a sagging farm economy since the producers of export commodities are a primary beneficiary of international trade in the form of higher farm income from increased foreign market shares.

In light of the current U.S. farm economy, the focus of this analysis is to investigate the potential for exporting U.S. vegetables. This paper, however, represents only a summary of the analysis as international marketing of multiple commodities is quite

complex. There exists a multitude of barriers for commodities in the world market which are not prominent in the domestic market. For instance, increased transportation difficulties, lack of current and/or accurate information, language and labeling differences, varying governmental policies and restrictions, and cultural acceptance are but a few of the increased barriers complicating export markets. Although most companies do not expect extremely high returns per dollar invested in foreign market development, very little information is available on the effectiveness of these expenditures (Jones).

This study entails a firm level analysis of the previously mentioned factors in order to determine their relative contributions and significance upon the international trade of vegetables, thus providing information for producers, processors, and marketers to facil-

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itate the evaluation of future marketing alternatives. Specifically this is accomplished through an analysis of data obtained from a survey of U.S. exporters of vegetables and vegetable products. The data are divided into two groups consisting of (1) those firms forecasting increases in current export levels (INCEX) and (2) those firms forecasting constant export levels (CONEX) in an attempt to distinguish those factors differentiating the two groups. None of the firms forecast decreases in export levels. Conclusions, implications, and recommendations follow from the analysis.

#### **Data Base**

The data used in this analysis were collected through a mail survey of U.S. vegetable exporters, conducted in the fall of 1985. The survey was mailed to vegetable exporters in all Gulf and Atlantic coastal states from Texas to Maine. Return postage costs were prepaid and a reminder letter was mailed three weeks after the initial survey was mailed. The names and addresses of these firms were obtained from export directories supplied by the departments of agriculture in each state (where available), domestic supplier lists furnished by the U.S. Department of Agriculture (USDA), Foreign Agriculture Service (FAS), and the Packer Red Book. Of 323 mailed surveys, 51 responses were received of which 24 surveys were incomplete. Therefore, 27 responses were available for this analysis. Responses were received from exporters in the following states: Florida 5; Georgia 3; Louisiana 1; Maryland 2; Massachusetts 2; New Jersey 1; New York 8; South Carolina 1; and Texas 4.

#### **Survey Results**

Questions on the survey were organized into three categories: company background and organization, supplier information, and export marketing information. Univariate statistics are presented by group (CONEX and INCEX) in order to capture attributes essential for increasing foreign market shares. Additionally, a linear discriminant analysis was performed on the survey data in an attempt to define major differences between the two groups (Klecka). Although statistical problems

may exist with the discriminant analysis, namely from a small sample size and categorical variable measurement, results are highlighted intermittently with the univariate statistics.

Approximately three-fourths of the firms in both groups noted a corporate organizational structure. The remaining firms in each group were equally divided between individual ownerships and cooperatives. The only exception was one INCEX firm which reportedly was a partnership. In addition, about one-fourth of the INCEX firms had an exporting department, as compared to only about 10 percent of the CONEX firms. To contrast, CONEX firms most frequently (37.5%) noted that exporting was considered a shared responsibility among company personnel, while only 5.3 percent of the INCEX group selected this response. Discriminant analysis confirmed this as an important factor differentiating the two groups.

Approximately 90 percent of the firms in both groups directly exported vegetables to overseas clients. That is, they did not use "international middlemen" such as export trading companies and the like. A distinction between CONEX and INCEX firms was observed for the percentage of total vegetable sales exported. Some 46.25 and 34.44 percent of the total sales volume was exported by CONEX and INCEX exporters, respectively. Discriminant analysis confirmed this as an important group difference.

Of the exported commodities, most were common to both CONEX and INCEX firms. These included green beans, dry beans, celery, corn, cucumbers, lettuce, onions, peas, potatoes, and tomatoes. However, the quality requirements varied notably between the groups. All INCEX firms required U.S. #1 quality vegetables for foreign markets, while CONEX companies were diversified in their quality requirements. Additionally, less than half of the CONEX firms required U.S. #1 quality vegetables for international markets. The quality factor was revealed as the most important variable differentiating CONEX and INCEX firms by the discriminant analysis. Despite the variation in quality requirements

between the groups, both groups considered the ability to provide consistent quality the most important factor influencing the firm's decision to purchase a product from a new supplier.

The majority of firms in both groups indicated that vegetables were exported via possession-ownership arrangements. Additionally, most exports were in the form of fresh vegetables for both groups (see Table 1).

Illustrated in Table 2 are the locations of current and potential markets for each group. INCEX firms most frequently export to Europe followed closely by Latin America. Asia and the Middle East are currently relatively small markets for the INCEX group. To contrast, CONEX firms most frequently export to Latin America followed by Europe and the Middle East. None of the CONEX firms currently trade in the Asian region. The "Elsewhere" category in Table 2 is made up primarily of respondents indicating current export to either Canadian or worldwide markets. Canada was not considered separately as an export market since for all practical purposes there is very little difference between Canadian and U.S. vegetable markets. INCEX exporters revealed that Asian markets could hold the greatest promise for future U.S. vegetable exports (see Table 2). Additionally, INCEX firms did note some potential for growth in European and Latin American markets and little growth in Middle Eastern markets. As expected, responses from CONEX firms were insufficient to provide insight into potential export markets.

Rankings by exporting firms of factors influencing decisions to export vegetable commodities are illustrated in Table 3. Contact from a potential buyer was ranked considerably more important than any other factor by both groups; however, CONEX exporters placed more emphasis on this factor than did INCEX exporters. Some importance was placed on exchange rates by both groups although exchange rates were considered much less important than contact from a potential buyer. Response from promotional activity or contact from an intermediate purchaser were considered relatively unimportant by both groups.

Exporters' rankings of factors influencing decisions to export vegetable commodities to a specific region are depicted in Table 4. Contact from a purchaser from the specific region was considered the most important factor by both groups, especially CONEX firms. Restrictions (tariffs, duties, and quotas) were considered more important by INCEX firms than by CONEX firms. Both of the above factors were deemed important by discriminant analysis in defining group differences. To contrast, the political stability of the region was given greater emphasis by CONEX firms as compared to INCEX firms. In addition, some importance was placed on previous transactions in a specific region by both groups.

Several questions on the survey solicited information concerning the use of government export programs and the effectiveness of these programs. In general, the majority of firms in both groups did not find government programs useful in aiding vegetable exportation. However, some exceptions were noted. For example, when asked to rank the effectiveness of selected government informational programs, nearly one-half of the INCEX firms revealed that the Agricultural Informational Marketing Service (AIMS) of the Foreign Agricultural Service (FAS), U.S. Department of Agriculture (USDA) was an effective exporting aid. To contrast, only one-fourth of the CONEX firms noted the AIMS program as effective. Other government export informational programs were considered relatively unimportant by both groups. Similar results were found concerning the effectiveness of U.S. government export promotional programs. Most promotional programs were considered relatively ineffective by both groups; however, agricultural trade offices or attaches (USDA) were considered effective exporting aids by 25 and 32 percent of CONEX and INCEX firms, respectively. Nearly 100 percent of both groups of exporters reported never having used U.S. government sponsored financial or insurance export programs. Conversely, 26 and 14 percent of the INCEX and CONEX firms, respectively, reportedly used individual state sponsored export programs.

Inspection of the univariate responses clearly showed that differences exist between

**Table 1. Vegetable Exports by Value Added Category and Group**

Group	Fresh	Location			Dried
		Frozen	Canned		
----- (percent) -----					
INCEX	70.5	6.0	13.5		10.0
CONEX	57.7	3.8	23.1		15.4

**Table 2. Location of Current and Potential Markets by Group**

Group	Location				
	Europe	Latin America	Asia	Middle East	Elsewhere <sup>a</sup>
----- (percent) -----					
<b>Current Markets</b>					
INCEX	31.5	26.3	5.6	5.6	31.0
CONEX	28.6	42.9	0.0	14.3	14.2
<b>Potential Markets</b>					
INCEX	20.0	20.0	40.0	5.0	15.0
CONEX <sup>b</sup>	NA	NA	NA	NA	NA

<sup>a</sup>This category primarily includes respondents noting either Canadian or worldwide markets.

<sup>b</sup>Responses from CONEX exporters were insufficient to provide meaningful information for this category.

**Table 3. Rankings by Exporting Firms of Factors  
Influencing Decisions to Export Vegetable Commodities,  
Frequency and Valid Percentage by Group**

Factor	Rank <sup>a</sup>	Group	
		INCEX	CONEX
Exchange rates	1	4(21.1%)	2(25.0%)
	2	4(21.1%)	2(25.0%)
	3	3(15.8%)	0
	4	3(15.8%)	0
	5	5(26.3%)	4(50.0%)
Contacted by potential buyer	1	11(57.9%)	7(87.5%)
	2	4(21.1%)	0
	3	1(5.3%)	0
	4	0	0
	5	3(15.8%)	1(12.5%)
Response from promotional activity	1	3(15.8%)	0
	2	2(10.5%)	1(12.5%)
	3	5(26.3%)	1(12.5%)
	4	3(15.8%)	0
	5	6(31.6%)	6(75.0%)
Contacted by intermediate purchaser	1	2(10.5%)	1(12.5%)
	2	7(36.8%)	2(25.0%)
	3	6(31.5%)	1(12.5%)
	4	1(5.3%)	0
	5	3(15.8%)	4(50.0%)

Note: Valid percentage is derived from the total number of respondents answering this question from each group.

<sup>a</sup>Ranking scale was 1 = most important to 5 = least important. This scale conforms to the number of ranked items.

**Table 4. Rankings by Exporting Firms of Factors  
Influencing Decisions to Export Vegetable Commodities to a  
Specific Region, Frequency and Valid Percentage by Group**

Factor	Rank <sup>a</sup>	Group	
		INCEX	CONEX
Restrictions (tariffs, duties, and quotas)	1	7(36.8%)	1(12.5%)
	2	2(10.5%)	2(25.0%)
	3	2(10.5%)	2(25.0%)
	4	2(10.5%)	0
	5	6(31.6%)	3(37.5%)
Previous transactions in a specific region	1	6(31.6%)	2(25.0%)
	2	6(31.6%)	3(37.5%)
	3	1(5.3%)	1(12.5%)
	4	2(10.5%)	0
	5	4(21.1%)	2(25.0%)
Contacted by purchaser from specific region	1	9(47.4%)	6(75.0%)
	2	4(21.1%)	0
	3	0	0
	4	2(10.5%)	0
	5	4(21.1%)	2(25.0%)
Political stability of region	1	4(21.1%)	4(50.0%)
	2	3(15.8%)	0
	3	5(26.3%)	0
	4	0	1(12.5%)
	5	7(36.8%)	3(37.5%)

Note: Valid percentage is derived from the total number of respondents answering this question from each group.

<sup>a</sup>Ranking scale was 1 = most important to 5 = least important. This scale conforms to the number of ranked items.

the market infrastructures of the two groups. Some of these differences may suggest shifts in future trends of U.S. exports of vegetables. Recognition and dissemination of information regarding these trends would aid in future U.S. production, processing, and marketing decisions.

### Conclusion

The univariate statistics supported by the discriminant analysis revealed several notable differences between INCEX and CONEX exporters. Firstly, the greatest potential for growth in U.S. vegetable export markets could be in Asia, and the least potential could be in Latin America. This is based on the INCEX group predominantly forecasting growth in Asian markets, and the CONEX group most frequently noting their market of current export as Latin America.

Additionally, the recognition of high quality standards by the INCEX group (and not the CONEX group) illustrates the central importance of quality on vegetable exports. It is evident that the highest quality available is crucial to expansion of current market shares.

Further, INCEX firms tend to use government sponsored programs to a greater degree than do CONEX firms. Thus, direct benefits from such programs may accrue to exporters willing to incorporate these programs into their marketing strategy.

Greatly intensified efforts, both public and private, on behalf of exporters to stimulate international trade are necessary to build and sustain long-term trade relationships. Of central importance is a greater understanding of specific overseas markets and a commitment to establish and maintain long-term relations. Trade delegations, governmental or otherwise could be successful in promoting exports, as well as conducting research and providing insight into the specific needs of overseas markets. However, the conclusions drawn from this analysis cannot be strongly asserted due to the limitations of this analysis. Although the discriminant analysis lends support to the conclusions, the small sample size

and categorical variable measurement negatively affect the degree of the strength of these assertions.

In summary, opportunities exist for the United States to increase its share of the world market for vegetables. Possibilities could be found in all geographic regions; however, the Asian market could hold the greatest promise. This analysis differentiated several factors influencing the international trade of vegetables, although not conclusively. Certainly, continual efforts will be required in order to establish and sustain successful long-term trade relations.

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