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FALL 1989  
FALL 1990

## PROBLEMS ENCOUNTERED BY AGRICULTURAL MARKETING FIRMS IN FOOD AND AGRICULTURAL PRODUCT EXPORTING: ANALYSIS OF SURVEY RESULTS

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### Abstract

Agricultural marketing firms encounter many problems in their exporting efforts. Unfortunately, many of these problems deter value-added firms in particular from exporting, and their potential contribution to reducing the United States' trade deficit could be substantial. This paper evaluates potential problems common to agricultural exporting firms to determine major deficiencies in trade support services. A three-page survey was mailed to 219 Texas agricultural firms, 55 of whom responded. Survey responses were elicited from three problem areas (Knowledge Gaps, Marketing and Market Access, and Export Finance) along three time frames (Start-up, Ongoing, and Expansion). An analysis of the means of the survey items showed start-up and financial problems to be the areas of greatest concern to agricultural exporters. Furthermore, export finance problems were found to be especially troubling for smaller firms and firms with fewer years of export experience. A revised, comprehensive export policy with an emphasis on financial assistance targeted to smaller firms or designed to encourage new exporters could serve to increase total United States' agricultural exports while helping those who are not able to compete effectively in existing world market structures.

### INTRODUCTION AND PROBLEM STATEMENT

One of the major problems facing the United States economy is its massive trade deficit. The positive overall trade surpluses of the 1950's and 1960's ended in the 1970's, primarily due to the OPEC oil embargo. The trade deficit increased from \$52 billion in 1981 to \$150 billion in 1989, with little evidence of a significant reversal in the future. The trade balance consists of a non-agricultural trade deficit, which has increased throughout the 1980's, and an agricultural trade surplus, which has declined in the past eight years from \$26 billion in 1981 to \$15 billion in 1989 (USED, ERS). Thus, the ability of the agricultural trade surplus to counteract the non-agricultural deficit has been diminished.

Further investigation of agricultural exports reveals the contribution which has been made by the value-add sector. Approximately 50 percent of the United States' agricultural export revenue in 1987 was generated by processed foods (Ruppel). In the future, the demand for value-added exports is likely to grow more rapidly than the demand for bulk commodities as countries become more developed, their incomes rise, and value-add foods become a more affordable option. The importance and success of these value-added agricultural firms depends on their ability to penetrate foreign markets. The collective contribution of an increase in the number of agricultural exporting firms could have a substantial effect on the mounting United States' trade deficit.

In addition to the contributions that agricultural exports make to the trade balance, there are many other benefits. For every \$1 billion of United States exports, there are 25,000 jobs created (University of Houston

Small Business Development Center). Since the world population is increasing at a faster rate than that of the United States, export markets represent a vast potential growth market (de Silva). There are also direct benefits to the exporting firm. The additional sales volume translates into lower unit costs through economies of scale, and thus greater profits. A stabilization of total sales patterns often results from exporting, as overseas sales tend to moderate seasonal or cyclical conditions in the domestic market.

Various federal, state, and local programs have been enacted with the specific goal of enhancing United States agricultural exports. The Agricultural Trade Development and Assistance Act of 1954 (PL-480) was one of the first. This Act created the Foreign Agricultural Service's Cooperator Program and Export Enhancement Program, which together with PL-480's concessional programs was designed to rid the government of its massive accumulation of CCC stocks. There was very little export legislation in the 60' or 70's. recently, however, the Targeted Export assistance program was created in the Food Security Act of 1985, and the Agricultural Trades and Competitiveness Act of 1988 called for the development of International Agricultural Trade Development Centers to assist in the export of agricultural commodities and products.

At the state level, the Texas World Trade Development Act in May of 1985 established the Texas World Trade Council and the Texas World Trade Development Authority to facilitate the activity of Texas businesses involved in international commerce. Other major exporting states have similar programs. Statewide services targeted towards agriculture include the *Texport Food and Fiber Directory*, published by the

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The author would like to express appreciation to Dr. Fred J. Ruppel for advice and assistance in survey design and analysis; Mr Paul Lewis, Director of International Marketing for the Texas Department of Agriculture; Dr. H. L. Goodwin; Dr. John nichols; Dr. Wes Peterson and Dr. Gary Williams. In addition, the assistance of Ms. Suzie Rand and Mr. Stan Bevers for assistance in compilation and analysis of data is appreciated.

Texas Department of Agriculture, and designed to match Texas agricultural suppliers with buyers abroad. The University of Houston Small Business Development Center provides educational services, counseling, business development services, and network activities. Texas is ranked fourth in the nation among states that benefit from federally-supported trade and foreign economic assistance disbursements (Spanhel).

Although these federal and state policies are well-intended, they do not address problems unique to small and mid-sized agricultural firms, as many of these policies are targeted towards non-agricultural firms or to large agricultural firms dealing in bulk commodities. They also reflect a very uncoordinated approach to export expansion, as evidenced by the scattered nature of the programs. Finally, current policies do not adequately address start-up or financial problems, areas that are in particular need of attention.

Problems facing agricultural exporters can be categorized into three areas: knowledge gaps, marketing and market access, and export financing. Knowledge gaps include inadequate price, economic, and social information needed by an exporting firm. Examples of knowledge gap problems include inadequate country-specific information, lack of information sources for assistance with export questions, a lack of coordinated trade services, and ignorance concerning import restrictions. The marketing and market access problem area is associated with problems in the flow of goods from the production point to the final consumer. Examples of problems in this area include poor knowledge of emerging markets, foreign market entry problems, product adaptation and promotion, and international transportation logistics. Financial problems are those encountered in the financing of export activities domestically and internationally, such as credit availability for export expansion, banking assistance, exchange rate and interest rate variability, and export tax treatment. Collectively these problems may cause a "fear" of exporting, especially among agricultural firms with little or no experience in international trade. Thus too few firms enter what could be potentially lucrative markets.

## OBJECTIVES

The objective of this paper is to assess the problems confronting Texas agricultural exporters. This objective will be accomplished through the analysis of a survey of 219 Texas agricultural exporting firms in April, 1989. This assessment will proceed along two fronts, the first concerning the three problem areas mentioned above (knowledge gaps, marketing aspects, and export financing), and the other related to the time

dimension of these problems. The time dimensions are categorized into start-up, ongoing, and expansion phases, where start-up problems are those associated with the initial export experience, ongoing problems are reflected in day-to-day operations, and expansion problems are those associated with a firm's movement into additional product lines or new countries. An implicit null hypothesis throughout this study is that all export problems are equal. In other words, firms on average would view knowledge, marketing, and financial barriers to be of equal difficulty, as would be problems associated with the start-up, ongoing, and expansion phases of exporting. The results and conclusions from this analysis will be relevant to state and federal agencies in identifying the areas of trade support services in greatest need of improvement.

## METHODS

A survey entitled "Problems Encountered in Food and Agricultural Product Marketing" was mailed to 219 agricultural exporting firms listed in the Texas Department of Agriculture's 1989-1990 *Texport Food and Fiber Directory*. The three-page survey covered three major topical areas: Knowledge Gaps and General Issues, Marketing Agricultural Products Internationally, and Financial Aspects of Exporting. Each area had 12 or 13 items to which the appropriate firm decision-maker was asked to respond. These items are listed in Table 1. Also, as mentioned above, there were three time frames for each item: Start-up, Ongoing, and Expansion. The respondents were asked to indicate their degree of concern on a scale of 1 to 7, depending on the nature of the problem. A severe problem was indicated by a 7, while a minor problem was indicated by a 1. Additionally, "no problem" elicited a zero response.

Results of the survey were analyzed by comparing the means of the item responses. Two types of analysis were utilized. The first compared the means of different variables over the same population. In this analysis the means of the responses were compared within problem area and time frame, resulting in 9 sets of (66 or 78) pairwise comparisons. That is, pairwise comparisons were generated for the means of each of the variables within each problem area and time frame. The second type of analysis was a comparison of means of different classes of respondents with respect to the same variable. For example, the means between firms with many years of exporting experience and firms having only a few years of exporting experience were compared for significant differences. The null hypothesis in both cases stated there was no significant difference between each pair of means.

Table 1. Problems Encountered in Food and Agricultural Product Exporting

Knowledge Gaps and General Issues

1. Language barriers and/or inadequate overseas telecommunications facilities
2. Lack of knowledge of cultural heritage in importing countries
3. Poor guidance concerning assistance with export questions.
4. Need to hire international personnel
5. Inadequate public marketing strategy for Texas export products
6. Small number of private trading companies and export marketing firms serving agribusiness
7. Absence of a coordinated firm-oriented trade services network
8. Poor access to foreign markets due to import restrictions
9. Firm awareness and firm-specific implications of foreign safety and health regulations
10. Knowledge of trade legislation and/or political considerations
11. Export competition from foreign and domestic suppliers
12. Negotiating with foreign buyers.

Marketing Agricultural Products Internationally

1. Assessment of a firm's "readiness" to export agricultural products
2. Willingness to engage in long-term export planning and to make a long-term commitment to exporting
3. Awareness of export profits potential; need for an export-oriented benefit/cost analysis
4. Poor knowledge of emerging markets or of country-specific information on potentially profitable markets
5. Foreign market entry problems, overseas product promotion and/or selling through foreign distributors
6. Product diversification, modification, or adaptation necessary for international markets
7. Lack of a statewide computerized trade lead service
8. Absence of worldwide product-specific information on market conditions
9. Domestic transportation and handling
10. International transport logistics, including freight coordination and insurance availability
11. Package design for international transport or foreign market regulations
12. Licensing regulations and/or labeling requirements
13. Complexity of the export transaction, including documentation of "red tape"

Financial Aspects of Exporting

1. Enormous initial capital investment associated with exporting, including possible facilities expansion
2. Limited access to government-guaranteed export loans
3. Limited availability of commercial funds for export expansion
4. Unwillingness of banks to serve small and medium-sized businesses
5. Inabilities of local banks in international business finance
6. Inventory carrying and lack of working capital financing
7. Lack of familiarity in legal matters and export terms of payment
8. Length of time for payment receipt for export transactions
9. Variation in the exchange value of the dollar
10. Risk of default on payment
11. Availability of risk insurance for international transactions
12. Confusion surrounding domestic and foreign tax treatment and/or investment incentives
13. High and/or unpredictable interest rates.



## RESULTS

Of the 219 firms surveyed, 55 usable responses were received (approximately 25 percent). Means from survey responses were generated for each item in the three problem areas and are presented in Table 2. Three observations are immediately apparent. The first is the noticeable difference between the start-up means and their magnitudes, as compared to the ongoing and expansion phases. A total of 37 out of 38 means were higher in the start-up phase than in either the ongoing or expansion phases. Differences between the ongoing and expansion means are mixed. For some items, the ongoing phase is much more problematic; for others, expansion is more troubling. For still others, there is no discernible difference between the two. Secondly, there is much less variability among the means of the financial items, as compared with the other two areas. The knowledge and marketing means range from 1.41 to 3.84 and 1.82 to 4.50, respectively, whereas the finance means range from only 2.34 to 3.78. Even the means for each time frame within the finance area display relatively little variability.

The third observation concerning Table 2 concerns the problems identified as being of major importance, and the problems seen as being of very little importance. Items K4, K6, and M9 (international personnel, private trading companies, and domestic transportation) have particularly low means in every time frame (compared to the other means). On the other hand, items K8 (import restrictions), K11 (export competition), M4 (country-specific information), M5 (product promotion), and M13 (complexity of the export transaction) are high relative to other means. It is interesting to note that none of the financial means are dramatically different from one another. The large means in this category seem to reflect the overall importance of financial problems.

### *Problem Area and Time Dimension Analysis*

The observations noted above were tested statistically using Analysis of Variance (ANOVA). A comparison of the means of each problem area by each time frame generated Table 3, with the 3 x 3 matrix of part (a) combining all of the knowledge gap start-up means from Table 2 into one cell, the knowledge gap ongoing means into another cell, and so on for each of the three problem areas with respect to each of the three time frames. Row and column means are also provided. A comparison of the means of Table 3(a) by problem area and by time dimension produced two distinct results. The first is that the overall mean of the finance items (2.99) is larger than the means of either the knowledge or marketing items and is significantly different from the overall knowledge mean (2.68). The second result is that the start-up mean (3.15) is both larger than and significantly different from both the ongoing and expansion means. As indicated earlier,

major problems exist for exporting firms in the finance realm and in the export start-up phase.

Table 3(b) compares the statistical significance of the means of these nine cells with one another in order to determine which combinations produce significant differences. The probabilities of the t-statistic testing whether the mean of the row item reported in (a) is equal to the mean of the column item are reported in the diagonal matrix. The average knowledge start-up mean (3.10) is significantly larger (at the five percent level) than the average ongoing and expansion means (2.46 and 2.49, respectively). Likewise, the marketing start-up mean (3.23) is significantly larger than the marketing ongoing (2.68) and expansion (2.66) means. Interestingly enough, the average financial start-up mean is significantly different from the average marketing and knowledge expansion and ongoing means, but it is not significantly different from its own ongoing and expansion means, as there is much less variability between the means in the finance area. Finally, for all problem areas, the average ongoing and expansion means are not significantly different from each other.

### *Items Analysis*

Pairwise means comparisons of the variables constituting each cell of Table 3(a) were performed so as to test for significant differences. This analysis (not shown) resulted in 666 pairwise comparisons  $[(66 + 78 + 78) * 3]$ . Of these, 171 were significantly different at the five percent level, all but four of these being within the knowledge and marketing problem areas. Table 4, which summarizes these results, reveals that four of the knowledge gap items, (K4, K6, K8 and K11) and three of the marketing items (M4, M5, and M13) have a large number of significantly different means from other variables within their own problem areas.

The knowledge gap problem area revealed items which were both major problems and minor problems, as shown by their means in Table 2. Item K8, which refers to import restrictions, is a major problem in the expansion time frame, but is less prominent in the start-up and ongoing phases. If a firm is contemplating expansion, import restrictions will pose a problem because expansion with regard to either new product lines or new countries will require additional knowledge and effort. Item K11 (export competition from foreign and domestic suppliers) appears to be an increasing problem over time. In the start-up phase, the new firm is itself a threat to existing firms. However, the longer a firm exports and its market and product shares increases, export competition poses more of a threat. Items K4 and K6 revealed unusually low means, which were significantly different from a majority of the other knowledge gap means (particularly in the start-up phase), implying that the hiring of international personnel and the number of private trading companies

Table 2. Survey Results: Items Means by Problem Area and Time Frame

KNOWLEDGE GAPS				MARKETING ASPECTS				FINANCIAL ASPECTS			
ITEM	TIME	MEAN		ITEM	TIME	MEAN		ITEM	TIME	MEAN	
1	Language Barriers	S O E	3.54 2.30 2.31	1	"Readiness"	S O E	3.02 2.17 2.06	1	Investment Capital	S O E	2.67 2.42 2.73
2	Cultural Heritage	S O E	3.35 2.04 2.08	2	Planning/Commitment	S O E	3.02 2.58 2.44	2	Guaranteed Loans	S O E	3.26 3.06 3.12
3.	Export Assistance	S O E	3.64 2.37 2.48	3.	Benefit/Cost Analysis	S O E	2.59 2.19 2.14	3.	Commercial Funds	S O E	3.20 3.04 3.12
4.	International Personnel	S O E	1.82 1.41 1.55	4.	Emerging Markets	S O E	4.32 3.37 3.49	4.	Banks' Unwillingness	S O E	3.30 3.29 3.31
5.	Public Strategy	S O E	2.67 2.24 2.25	5.	Market Entry	S O E	4.38 3.52 3.50	5.	Banks' Inabilities	S O E	3.58 3.39 3.33
6.	Marketing Firms	S O E	1.73 1.51 1.51	6.	Product Adaptation	S O E	3.04 2.49 2.35	6.	Inventory Capital	S O E	3.28 3.16 3.22
7.	Services Coordination	S O E	2.83 2.53 2.47	7.	Computerized Trade Leads	S O E	2.78 2.35 2.37	7.	Legal Matters	S O E	3.78 2.94 2.85
8.	Import Restrictions	S O E	3.83 3.52 3.81	8.	Market Conditions	S O E	3.56 3.24 3.22	8.	Payment Receipt	S O E	3.16 2.96 3.00

9.	Safety/Health Regulations	S O E	2.63 2.12 2.12	9.	Domestic Logistics	S O E	2.08 1.82 1.84	9.	Exchange Rates	S O E	2.90 2.69 2.71
10.	Trade Legislation	S O E	3.52 2.69 2.71	10.	International Logistics	S O E	3.04 2.60 2.56	10.	Paymentnt Default Risk	S O E	3.26 2.98 2.94
11.	Export Competition	S O E	3.84 3.79 3.71	11.	Package Design	S O E	2.64 2.14 2.18	11.	Insurance Availability	S O E	2.89 2.45 2.43
12.	Foreign Negotiations	S O E	3.74 3.02 2.88	12.	Licensing/ Labelling	S O E	3.02 2.61 2.49	12.	Taxation	S O E	2.60 2.38 2.34
				13.	Complexity/ "Red Tape"	S O E	4.50 3.73 3.90	13.	Interest Rates	S O E	3.06 2.87 2.96



Table 3. Survey Results: Aggregate Means by Problem Area and Time Frame

(a)		Start-up		Ongoing		Expansion			Row Means		
	Knowledge	3.10		2.46		2.49			2.68		
	Marketing	3.23		2.68		2.66			2.85		
	Finance	3.15		2.89		2.93			2.99		
	Column Means	3.16		2.68		2.70					
			<u>Knowledge</u>			<u>Marketing</u>			<u>Finance</u>		
(b)		S	O	E	S	O	E	S	O	E	
		(Probability values for H)									
		S	--								
	Knowledge	O	0.01*	--							
		E	0.01*	0.91	--						
		S	0.58	0.00*	0.00*	--					
	Marketing	O	0.08	0.37	0.43	0.02*	--				
		E	0.07	0.41	0.48	0.02*	0.93	--			
		S	0.82	0.00*	0.01	0.73	0.05*	0.04*	--		
	Finance	O	0.40	0.07	0.09	0.16	0.35	0.31	0.28	--	
		E	0.48	0.05	0.07	0.20	0.29	0.25	0.35	0.89	--

\* Probability of 0.05 or less

Table 4. Results of Pairwise Comparisons Within Problem Area and Time Frame.

Item	<u>Knowledge</u>				<u>Marketing</u>				<u>Finance</u>			
	<u>S</u>	<u>O</u>	<u>E</u>	<u>Sum</u>	<u>S</u>	<u>O</u>	<u>E</u>	<u>Sum</u>	<u>S</u>	<u>O</u>	<u>E</u>	<u>Sum</u>
(Number of significant differences between items within problem area and time frame)												
1	2	3	2	7	3	4	4	11	1	0	0	1
2	2	3	2	7	4	2	3	9	0	0	0	0
3	2	3	4	9	4	4	4	12	0	0	0	0
4	10	7	5	22	8	6	9	23	0	0	0	0
5	3	2	2	7	8	9	9	26	0	1	1	2
6	9	5	6	20	3	3	3	9	0	0	0	0
7	3	3	3	9	1	3	3	7	2	0	0	2
8	4	7	10	21	3	4	4	11	0	0	0	0
9	5	3	2	10	7	4	4	15	1	0	0	1
10	2	3	4	9	4	2	3	9	0	0	0	0
11	5	9	9	23	4	4	4	12	0	0	0	0
12	3	4	3	10	4	2	3	9	0	1	1	2
13					9	9	9	27	0	0	0	0
Sum	50	52	52	154	62	56	62	180	4	2	2	8

in Texas are of little overall concern to Texas exporters.

In the area of marketing, items M4, M5, and M13 generated high means over all time dimensions, particularly in the start-up phase (see Table 2). It is not surprising that country-specific information, foreign market entry problems, and the export transaction itself generate higher start-up means. One would expect these problems to lessen as exporting becomes a more integrated part of a business, and as familiarity with foreign markets and export transactions increases over time. These decreasing means are significantly different from other marketing problems, so despite their decreasing magnitudes, the problems remain in every time frame. Item M9 (transportation), with its low mean, is significantly different compared to other means in the start-up phase, implying that domestic transportation problems are unimportant in the early going.

A number of financial items are bimodally distributed. That is, the responding firms were split in their assessment of access to government guaranteed loans and commercial funds, banking assistance, and working capital financing (items F2 through F6) as either major or minor problems. This observation offers an explanation as to why there were markedly few significant differences among the means in the financial area.

A second type of analysis involved a comparison of the means of each of the 38 items over all three time frames to test for significant differences between different classifications of firms. The firms were divided along two categories: dollar value of export sales and years of export experience. Concerning the former, the two sub-categories were firms with under \$1 million and firms with over \$1 million in annual export sales. For the latter, firms were grouped as having ten or more years or under ten years of export experience. The knowledge and marketing problem areas yielded very few significant differences in any of the categories. Hence the analysis was limited to the financial variables. This was fortuitous in that none of the financial problems could be singled out in the earlier analysis.

Five items stood out when the firms were split by value of export sales. Item F3 (commercial funds) yielded significant differences in all time frames. Firms with a high value of export sales ranked this problem lower (1.98) than those firms with a lower value of export sales (4.3). The results for F4 (banks serving small businesses) were much the same, with significant differences (1.8 to 5.2) in all time frames. Three other items, F2 (guaranteed loans), F6 (inventory carryover), and F8 (payment receipt), were significantly different only in the ongoing and expansion phases. Again, the problems were greater for firms with lower annual export sales. The second category, years of export experience, was analyzed in the same manner. Again F3, F4, and F5 (inabilities of banks in international

dealings) yielded significantly different means in all time frames, with F2 significantly different in the ongoing and expansion phases, as it was in the analysis of export sales. Not surprisingly, problems were greater for firms with less experience.

## DISCUSSION AND CONCLUSIONS

The objective of this research was to assess the problems facing Texas agricultural exporting firms. The intent behind the objective was to find ways to enhance agricultural exports and thereby contribute to the reduction of the massive United States trade deficit. From the results, it can be concluded that many firms indicated start-up difficulties in all problem areas. Thus, programs targeted to new or potential exporting firms would be one method of federal, state, or local intervention. This assistance could be offered in a number of ways, such as information availability, marketing expertise, or financial assistance. However, since most of the firms in the survey indicated financial problems in virtually all phases of exporting, a better solution might be to focus on offering more attractive and pertinent financial assistance to all firms in all phases of exporting, rather than just limiting assistance to those in the start-up phase. Expansion capital, inventory financing, high and volatile interest rates, and lack of available government-guaranteed commercial funds for agribusiness firms are all serious problems to the agribusiness industry.

There are several financial programs available across the United States which serve as examples. The California Export Finance Program guarantees credit for exporters in cooperation with commercial banks, while the Minnesota Export Finance Agency has a small reserve fund which can be leveraged four times to guarantee working capital loans to exporters (First Washington Associates). These programs serve useful purposes, but are limited to one state or area, and thus assist only geographically targeted clientele. Policy in the United States should be more coordinated and possibly redirected toward agribusiness firms due to the unique nature of the problems associated with agricultural exporting. Europe's success with its flourishing trade centers is largely a result of the availability of public sector funds and consulting services to small and medium-sized businesses. Domestic policy could provide similar encouragement and incentives for agricultural firms.

The Export-Import Bank (EXIM), the largest source of export financing, does not compare in interest rate levels or in the degree of credit participation to countries like France, Japan, the United Kingdom, and West Germany. EXIM receives no annual appropriations, and there is an annual budget ceiling on export-import bank disbursements. EXIM also offers no insurance against exchange rate fluctuations, and most of their loans are not subsidized. Obviously, these shortcomings place exporters in the United States at a competitive disadvantage with respect to foreign

competitors (Spanhel). Many countries like Algeria, prefer to purchase products from suppliers who offer better prices and credit financing. Because of the USDA's recent introduction of a \$30 million GSM-102 credit guarantee for lumber and wood, sales in those products have increased dramatically (USDA, FAS). Similar credit financing guarantees could be made available so that agricultural firms could benefit from export sales as well.

The survey results also indicate that country-specific market research, including export competition, market entry, and product promotion are major problems. In British Columbia, and "incoming buyers; program reimburses exporters up to \$2,000 for visits to foreign countries when the purpose is to establish international business. They also pay for up to 100 percent of the exhibit space and rental costs involved in foreign trade shows (First Washington Associates). Incentives such as these could be provided to small and medium sized agricultural firms which often do not have the resources necessary to develop overseas markets. A viable solution to this problem might be the creation of statewide cooperative organizations which pool resources of agribusiness firms to fund the cost of showing their products at trade shows abroad.

Federal policy toward agricultural export firms reflects a lack of concern for small and medium-sized firms through its series of short-lived, uncoordinated programs targeted mostly larger or non-agricultural firms. Agricultural businesses should be allowed to benefit from the increased sales, profits, and productivity associated with exporting. A revised, comprehensive export policy with an emphasis on financial assistance targeted to smaller firms or designed to encourage new exporters could serve to increase total United States' agricultural exports while helping those who are not able to compete effectively in existing world market.

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