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Industry Attitudes Toward a Computerized Marketing System for Fresh Fruits and Vegetables in Alabama

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Industry Attitudes Toward a Computerized Marketing System for Fresh Fruits and Vegetables in Alabama¹

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INTRODUCTION

ALABAMA'S FRUIT AND VEGETABLE industry has traditionally been restrained by lack of effective markets. Within the last 30 years, and especially recently, attention has been given to development of markets for Alabama farmers. Direct marketing alternatives, such as farmers markets, roadside stands, pick-your-own operations, and sales through various institutional and other outlets, have been promoted. These methods have shortened the market channel between producers and consumers and have generally benefited both groups. Use of direct outlets shifts responsibility for marketing functions away from middlemen and thus allows producers to potentially increase their share of the consumer's dollar and consumers to potentially purchase higher quality produce at more favorable prices.

Farmers, especially small, limited resource, or part-time operators, have benefited from these changes through improved market access and thus greater opportunity to sell their produce and enhance their income. These outlets, however, are generally not suitable for larger, more commercially oriented producers.

Alabama has traditionally been outside regional and national market channels. However, certain areas of the State have made inroads into these channels for certain commodities,

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such as tomatoes, watermelons, sweet corn, potatoes, and sweet potatoes, and for relatively short periods. Potential for expanded activity for the fruit and vegetable industry in the State seems favorable. With greater access to markets, this potential could be realized in the years ahead.

Currently, there is a new and different alternative in commodity marketing that is receiving much attention (5). Electronic marketing is being used to create a centralized trading system that can involve large numbers of market participants in the trading process. It is accomplished through use of telecommunications and data processing equipment to facilitate marketing activities (4). Products are described on the basis of grades or standardized terminology accepted in the industry, which results in the grouping of alternative homogeneous product forms. Physical proximity of buyer, seller, or product is not required to consummate the sale; therefore, transportation and handling problems are reduced. The system can be designed to accommodate many commodities with diverse characteristics over a wide geographic area.

An electronic marketing system offers many benefits, including improved market information, increased pricing accuracy, increased competition, improved market access, and potentially higher prices to producers and lower costs to consumers (1,3,6,7). These benefits translate into greater efficiency in the food marketing system, benefiting both the producer and consumer. The producer may receive a higher price for the commodity, and the buyer has lower costs through increased operational efficiency. Also, pricing efficiency is increased through better price negotiations among a broader spectrum of buyers and sellers. Transmission of market signals may also be enhanced.

The success of computerized systems is not guaranteed. Systems have been implemented for cattle, sheep, eggs, cotton, hogs, wholesale meats, and other commodities (5). Some have been successful, notably lambs (LAMBS) and cotton (TELCOT), while others, such as cattle and hogs, have achieved less success, for various reasons. Primarily, success depends on acceptance and use of the system by the market's participants and whether a sufficient volume of trading takes place.

Within the State of Alabama, there are several producers who have identified the lack of market outlets as the major problem confronting the fruit and vegetable industry. With

a computerized marketing system, the location of buyers and sellers becomes largely irrelevant in the sales negotiation process. Thus, states like Alabama, which are outside traditional production areas, can more easily gain access to major regional and national markets when a computerized marketing system is functional.

OBJECTIVES, DATA, AND PROCEDURES

Objective of this study was to evaluate the feasibility of an electronic marketing system for fresh fruits and vegetables. In any study of market feasibility, the initial step of analysis should involve a survey of market participants. Therefore, this study was implemented to evaluate the growing interest in computerized marketing of fruits and vegetables, and to learn about the participants' initial attitudes and ideas regarding a computerized marketing system. With their help, need and feasibility can be established for further study into the implementation and control of a new and possibly more efficient marketing system.

A survey was administered through personal interviews of market participants in Alabama, with names being acquired through employees of the Alabama Agricultural Experiment Station and county extension agents; the *Blue Book*, *RedBook*, and *Packer* magazine used by the industry; and other individuals in the private sector. Counties with major fruit and vegetable production were selected and an attempt was made to identify and contact all producers who were large enough to market produce through "commercial" channels. Also, middlemen in major population centers of the State were identified and surveyed.

The survey was prepared using the mirror-image approach, so as to isolate and analyze consistencies and differences of opinion held by market participants. These individuals were divided into two groups: buyers (agents) and producers (growers). The buyers were categorized as buyers for retail, buyers for wholesale, and buying brokers. Producers were growers only. Twenty-seven agents and 71 growers were contacted.

This study contributed to a national study of the feasibility of electronic marketing of fresh fruits and vegetables. The Agricultural Marketing Service (AMS) of the USDA sponsored the overall study, with the research effort being coordinated by the Food and Resource Economics Department of the

University of Florida and the Florida Department of Agriculture.

ANALYSIS

This section presents many tables containing information about market participants, attitudes toward the present status of markets, and perceptions of the industry's future growth. Also included are tables reflecting attitudes of industry participants toward computers and their use in the fruit and vegetable industry, especially in the marketing area. These attitudes should provide some insight into potential acceptance and use of a computerized marketing system for fresh fruits and vegetables.

Characteristics of Growers

Most of Alabama's produce growers were included in the lowest value of sales classification used in the overall survey, table 1. Eighty percent sold less than \$250,000 of fresh produce in 1982 and, likely, the distribution of growers in this classification is skewed to the lower end of the grouping. Nineteen percent of the growers sold between \$250,000 and \$500,000.

The majority (62 percent) of the growers were between 35 and 50 years of age. Almost a third were over 50 and 9 percent were under 35 years of age. Paralleling this relationship was the fact that about three-fourths of the growers had been farming 21 to 40 years. Only five respondents had less than 10 years of experience.

About an equal percentage (42 and 38 percent) of the respondents reported owning between 100 and 299 acres or 300 or more acres, respectively, table 1. Twenty percent reported having less than 100 acres. Thirty-four of the respondents reported renting land. Of these, 13 rented less than 100 acres, 13 between 100 and 299 acres, and 8 rented more than 300 acres. Plans to expand the farm enterprise were reported by only 9 percent of the respondents. Total cropland averaged 205 acres per farm for the surveyed growers, table 2. Thirteen growers reported having irrigated cropland, with the average amount being 121 acres.

The most commonly grown item was tomatoes, with half the respondents noting production. In order of importance, the next most frequently produced commodities were potatoes (31 percent), sweet potatoes (24 percent), and watermelons

TABLE 1. SELECTED CHARACTERISTICS OF FRUIT AND VEGETABLE OPERATIONS AND PRODUCERS, ALABAMA, 1983

Item	Growers (n=71)	
	Number	Percent ¹
Age of interviewee:		
Less than 35 years	6	9
35 to 50 years	43	62
50 or more years	20	29
No response	2	—
TOTAL	71	100
Number of years in farming:		
Less than 10 years	5	7
10 to 20 years	25	36
21 to 30 years	26	37
31 to 40 years	9	13
41 or more years	5	7
No response	1	—
TOTAL	71	100
Fresh fruit and vegetable dollar volume in 1982:		
Less than \$250,000	54	80
\$250,000 to \$500,000	13	19
\$500,000 to \$1,000,000	1	1
\$1,000,000 or more	—	—
No response	3	—
TOTAL	71	100
Acreage of farmland in 1982:		
Owned:		
Less than 100	14	20
100 to 299	29	42
300 or more	26	38
No response	2	—
TOTAL	71	100
Rented:		
Less than 100	13	38
100 to 299	13	38
300 or more	8	24
No response	37	—
TOTAL	71	100
Plan to expand farm enterprise:		
Yes	3	9
No	29	91
No response	39	—
TOTAL	71	100

¹ Percentages based on number of respondents to a particular question.

(13 percent). In terms of acreage, the same commodities were dominant, except potatoes were most important with 3,868 acres or a 176-acre average per farm.

All but one grower used on-the-farm grading and packing for commodities produced, table 3. Ninety-three percent of the growers indicated they did not plan to expand packing facilities. Thirty-three percent said they palletized produce for shipment.

Few of the growers had postharvest cooling facilities. The

TABLE 2. TOTAL AND IRRIGATED CROPLAND AND COMMODITIES PRODUCED IN 1982 WITH ACREAGES PLANTED AND NUMBER OF GROWERS, ALABAMA, 1983

Commodity	Growers (n=71)		Planted acreage	
			Total	Average
	Number	Percent ¹	Acres	Acres
Cucumbers	2	3	30	15
Eggplant	1	1	2	2
Peppers, green	2	3	17	9
Potatoes	22	31	3,868	176
Sweet potatoes	17	24	1,132	67
Tomatoes	37	52	2,375	64
Watermelons	9	13	305	34
Total cropland	68	96	13,945	205
Irrigated cropland	13	18	1,577	121

¹ Represents the percentage of growers responding affirmatively to the respective item.

seven growers (10 percent) responding affirmatively noted the availability of refrigeration. However, none indicated the availability of vacuum or hydro-cooling equipment. Only five producers, 7 percent of those responding, reported plans to expand cooling facilities.

TABLE 3. POSTHARVEST HANDLING PRACTICES OF FRUIT AND VEGETABLE GROWERS, ALABAMA, 1983

Item	Growers (n=71)	
	Number	Percent ¹
Grading and packing:		
Custom packing house	1	1
On-the-farm packing shed	70	99
No response	—	—
TOTAL	71	100
Plan to expand packing facilities:		
Yes	4	6
No	66	93
No response	1	1
TOTAL	71	100
Type of cooling facility used:		
Refrigeration	7	10
Hydro-cool	0	0
Vacuum cool	0	0
None	64	90
No response	—	—
TOTAL	71	100
Plan to expand cooling facilities:		
Yes	5	7
No	64	90
No response	2	3
TOTAL	71	100
Palletized for shipment:		
Yes	23	33
No	48	67
No response	0	—
TOTAL	71	100

¹ Percentages based on number of respondents to a particular question.

Characteristics of Buyers

Most of the buyers (82 percent) purchased fresh fruits and vegetables for a wholesaling firm. Another 11 and 7 percent, respectively, were buying brokers or buyers for retail, table 4. Almost half of the buyers (48 percent) were over 50 years of age. A third of the firms had been in business for less than 20 years. Another 44 percent had been in business 20 to 39 years. Slightly more than half (54 percent) of the firms had sales of less than \$1 million and 35 percent noted sales of between \$1 and \$5 million.

The need to sell fresh produce without direct visual inspection is a critical aspect influencing the potential success of an electronic marketing system. Buyers were questioned about their preferences for consummating transactions with

TABLE 4. SELECTED CHARACTERISTICS OF SURVEYED FRUIT AND VEGETABLE BUYERS, ALABAMA, 1983

Item	Buyers (n=71)	
	Number	Percent ¹
Type of buyer:		
Buyer for wholesale	22	82
Buyer for retail	2	7
Buyer-broker	3	11
TOTAL	27	100
Age of buyer:		
Less than 35 years	6	22
35-49 years	8	30
50 or more years	13	48
TOTAL	27	100
Age of business firm:		
Less than 10 years	3	11
10-19 years	6	22
20-39 years	12	44
40-59 years	5	19
60 or more years	1	4
TOTAL	27	100
Fresh fruit and vegetable dollar volume in 1982:		
Less than \$1 million	14	54
\$1 to \$5 million	9	35
\$5 to \$10 million	2	8
\$10 to \$50 million	1	3
No response	1	—
TOTAL	27	100
Purchase unseen knowing only variety, size, color, origin, and USDA grade:		
Yes	23	89
No	3	11
No response	1	—
TOTAL	27	100

¹ Percentages based on number of respondents to a particular question.

alternative levels of information about the product. Eighty-nine percent of the buyers indicated they would purchase produce unseen knowing only variety, size, color, origin, and USDA grade.

Perceptions of Growers and Buyers

Industry Growth

Opinions of growers and buyers were strikingly different regarding future direction of the fruit and vegetable industry, table 5. Buyers were more optimistic than growers. Sixty percent of the buyers but only 19 percent of the growers perceived an increase in the fresh fruit and vegetable industry.

TABLE 5. PERCEPTIONS REGARDING INDUSTRY GROWTH AND SATISFACTION WITH PRESENT MARKETING SYSTEM, GROWERS AND BUYERS OF FRUITS AND VEGETABLES, ALABAMA 1983

Item	Buyers (n=27)		Growers (n=71)	
	Number	Percent	Number	Percent
Perception of future growth in fresh fruit and vegetable industry:				
Decrease	4	16 ¹	24	35 ¹
Remain the same	6	24	32	46
Increase	14	56	13	19
Increase rapidly	1	4	0	0
No response	2	—	2	—
TOTAL	27	100	71	100
Satisfied with present marketing arrangements:				
Yes	24	96	46	67
No	1	4	23	33
No response	2	—	2	—
TOTAL	27	100	71	100
Perceptions of weakness in current marketing system:				
Supply/demand imbalances, low prices	3	16 ²	23	41 ²
Problems with marketing channels—lack of or weakness of markets, problems with market participants, pay system, lack of information	9	47	23	41
Regulation, inspection rules	2	11	20	36
Lack of cooperation and communication among growers ...	—	—	9	16
Satisfied with prices received:				
Yes	26	96	39	57
No	1	4	29	43
No response	—	—	3	—
TOTAL	27	100	71	100

¹ Percentages based on number of respondents to a particular question.

² Percentages based on total number of responses given.

Sixteen percent of the buyers and 35 percent of the growers perceived a decrease in the industry. Corresponding with perceptions toward industry growth are attitudes toward satisfaction with the present marketing system. Two-thirds of the growers reported satisfaction with the marketing system, whereas 96 percent of the buyers responded affirmatively.

Notable among the areas perceived as weaknesses in the marketing system were: supply-demand imbalances, problems with marketing channels, regulation and inspection rules, and lack of cooperation and communication among growers. Almost half (47 percent) of the buyers indicated weaknesses in the area classified as "problems with marketing channels." Dominant among weaknesses identified by growers were supply-demand imbalances (low prices and problems related to supply and demand conditions), problems with marketing channels (weak or lack of markets, problems with market participants, payment system), and regulation and inspection rules.

Transportation Arrangements

Perceived responsibility for transportation arrangements was ascertained by asking buyers and growers to identify who made transportation decisions. Only 11 percent of the surveyed buyers reported that growers had the responsibility for arranging transportation, table 6. Most buyers believed their firm performed this task. Slightly more than a fifth (22 percent) of the buyers reported their firm as being responsible for transportation arrangements all the time. Another 45 percent said their firm was responsible for transportation between 1 and 99 percent of the time.

Fifty-six percent of the responding growers indicated that all of the transportation arrangements were made by them. Only 6 percent said buyers had total responsibility for transportation arrangements. The seemingly conflicting perceptions of buyers and growers regarding transportation responsibility are not justified because most of these growers were not selling produce directly to these buyers. Use of a truck broker was more important to buyers than to growers. Over half of the growers reported no shipments via truck brokers, while a fourth of the buyers offered this response.

Trucks were the only mode of transportation used by growers. One-fifth of the buyers used railroads to transport pro-

TABLE 6. DISTRIBUTION OF RESPONSIBILITY FOR TRANSPORTATION ARRANGEMENTS AND SHIPMENTS BY TRUCK AND RAIL, BUYERS AND GROWERS OF FRUITS AND VEGETABLES, ALABAMA, 1983

Item	Buyers (n=27)		Growers (n=71)	
	Number	Percent ¹	Number	Percent ¹
Responsibility for transportation arrangements:				
Grower: none	24	89	11	16
1-99 percent	3	11	20	28
100 percent	0	0	40	56
No response	—	—	—	—
TOTAL	27	100	71	100
Shipper: none	21	78	71	100
1-99 percent	4	15	—	—
100 percent	2	7	—	—
No response	—	—	—	—
TOTAL	27	100	71	100
Purchasing agent: none	13	48	71	100
1-99 percent	11	41	—	—
100 percent	3	11	—	—
No response	—	—	—	—
TOTAL	27	100	71	100
Buyer's firm: none	9	33	61	86
1-99 percent	12	45	6	8
100 percent	6	22	4	6
No response	—	—	—	—
TOTAL	27	100	71	100
Percentage actually handled by a truck broker:				
None	7	26	41	59
1-99 percent	10	37	13	25
100 percent	10	37	11	16
No response	—	—	6	—
TOTAL	27	100	71	100
Mode of transportation:				
Truck: none	2	8	0	0
1-99 percent	7	27	0	0
100 percent	17	65	71	100
No response	1	—	—	—
TOTAL	27	100	71	100
Rail: none	19	79	71	100
1-99 percent	5	21	0	0
100 percent	0	0	0	0
No response	3	—	—	—
TOTAL	27	100	71	100
Prefer delivery of produce on pallets:				
Yes	22	85	—	—
No	4	15	—	—
No response	1	—	—	—
TOTAL	27	100	—	—
Percentage of produce palletized for shipment:				
None	—	—	48	67
1-49 percent	—	—	9	13
50-99 percent	—	—	10	14
100 percent	—	—	4	6
No response	—	—	—	—
TOTAL	—	—	71	100

¹ Percentages based on number of respondents to a particular question.

duce. Eighty-five percent of the buyers preferred delivery of produce on pallets, but only a third of the growers palletized any portion of their produce for shipment. Six percent palletized all of their shipments for transport.

Sales Considerations

Buyers and growers surveyed used United States Department of Agriculture (USDA) grade and standard designations to facilitate purchases and sales. About half of both buyers (52 percent) and growers (48 percent) reported that all of their purchases or sales had been negotiated following the USDA grade format, table 2. The remaining 48 percent of the buyers purchased half or more of their produce using these standards. About a third of the growers reported no sales based on USDA grades.

TABLE 7. SALE AND PURCHASE TRANSACTIONS BASED ON USDA GRADES, INSPECTION CERTIFICATION, AND NEGOTIATIONS BY PURCHASING AGENTS, GROWERS, AND BUYERS, ALABAMA, 1983

Item	Buyers (n=27)		Growers (n=71)	
	Number	Percent ¹	Number	Percent ¹
Percent of purchases (sales) based on USDA grades:				
None	0	0	23	32
1-49 percent	0	0	3	4
50-99 percent	13	48	11	16
100 percent	14	52	34	48
TOTAL	27	100	71	100
Percentage of produce actually certified:				
None	2	7	58	83
1-49 percent	0	0	4	6
50-99 percent	13	49	8	11
100 percent	12	44	1	—
TOTAL	27	100	71	100
Percentage of purchases (sales) negotiated by purchasing agent:				
None	12	46	44	63
1-49 percent	4	15	7	10
50-99 percent	8	31	9	13
100 percent	2	8	10	14
No response	1	—	1	—
TOTAL	27	100	71	100
Percentage of purchases (sales) negotiated by member of your firm:				
None	2	7	7	10
1-49 percent	3	11	7	10
50-99 percent	9	34	10	14
100 percent	13	48	46	66
No response	—	—	1	—
TOTAL	27	100	71	100

¹ Percentages based on number of respondents to a particular question.

While sales and purchases may be undertaken with use of USDA grade terminology, most of the produce was not actually graded and certified by a federal-state inspector. Among the buyers surveyed, only two purchased no certified produce. For the remaining buyers, 50 percent or more were certified. Seventeen percent of the growers noted some certified sales, while 83 percent reported no certification.

Eight percent of the buyers used a buying agent exclusively, while 31 percent had 50-99 percent of their purchases negotiated by a purchasing agent, table 7. Slightly more than a third of the growers used selling agents for some percentage of their transactions, with 14 percent using them exclusively. About half of the buyers and almost two-thirds of the growers noted that a member of their firm made all of the purchasing or sales negotiations.

Primary sources of market information were generally identified by growers and agents as being other direct participants in the market channel, table 8. Shipper-transport agents, buyer-brokers, and grower-packers were identified by 89, 72, and 65 percent of the buyers, respectively. Grower-packers and buyer-brokers dominated as information sources for growers, with 80 and 73 percent noting use, respectively. Trade papers and magazines were the only other sources of information noted by a large number of the responding buyers (81 percent) and growers (62 percent).

TABLE 8. SOURCES OF MARKET INFORMATION REPORTED BY GROWERS AND BUYERS OF FRUITS AND VEGETABLES, ALABAMA, 1983

Source	Buyers (n=27)		Growers (n=71)	
	Number	Percent ¹	Number	Percent ¹
TV, radio, newspaper	6	50	16	24
Trade paper or magazine	13	81	41	62
Commodity organization	6	86	11	17
Federal-state market news	5	42	11	17
Grower-packers	13	65	53	80
Buyer-brokers	18	72	49	73
Shipper-transport agent	16	89	4	6

¹ Percentages based on number of respondents to a particular question.

Computer Considerations

Among the buyers and growers responding, 74 percent of the buyers and 98 percent of the growers did not have access to a computer for any phase of their business operation, table 9. Six (22 percent) of the buyers and one grower (1 percent)

TABLE 9. PRESENT ACCESS TO A COMPUTER, LIKELIHOOD OF PURCHASING A COMPUTER DURING THE NEXT YEAR, AND PROBABLE APPLICATION OF A COMPUTER BY GROWERS AND BUYERS OF FRUITS AND VEGETABLES, ALABAMA, 1983

Source	Buyers (n=27)		Growers (n=71)	
	Number	Percent ¹	Number	Percent ¹
Present access to computer:				
No	20	74	69	98
Lease	1	4	1	1
Own	6	22	1	1
TOTAL	27	100	71	100
Ever used a computer:				
Yes	3	14	6	9
No	19	86	64	91
No response	5	—	1	—
TOTAL	27	100	71	100
Probability of obtaining a computer within a year:				
Definitely will not	8	40	31	41
Probably will not	4	20	31	44
Undecided	5	25	4	6
Probably will	1	5	3	5
Definitely will	2	10	1	1
No response	7	—	1	—
TOTAL	27	100	71	100
If you purchase a computer, what task will it assist:				
Record keeping	10	100	14	100
Management decisions	6	86	9	82
Market news	3	43	4	36
Usage of present computer:				
Record keeping	6	100	2	67
Management decisions	3	75	2	67
Market news	1	50	0	0

¹ Percentages based on number of respondents to a particular question.

owned a computer. Eighty-six percent of the buyers and 91 percent of the growers had never used a computer.

When questioned about the possibility of purchasing a computer within the next year, 40 percent of the buyers and 41 percent of the growers said they definitely would not. Two buyers and one grower indicated they would definitely make such a purchase. Respondents generally ranked areas of use of computers, in order of importance, as record keeping, management decisions, and market news.

Electronic Marketing Considerations

Use of computers in business and agriculture has increased in recent years, thus introducing a greater degree of efficiency. With the increased interest in computers has come heightened interest in electronic commodity marketing. Use of computers

as a tool to facilitate the transfer of ownership of commodities may be referred to as "electronic or computerized" marketing. A necessary condition for application of such a system would be an organization to provide coordination and identity.

When questioned about ownership and operation of the system, buyers indicated preference for a private firm (42 percent) or buyers and sellers themselves (37 percent) to be dominant, table 10. Growers opting for the sharing of responsibility between buyers and sellers primarily totaled 62 percent. Government (13 percent) and a private firm (12 percent) were next most preferred. With respect to payment for the system, both buyers and growers agreed that users (buyers and sellers) should assume this burden, with 72 and 81 percent, respectively, responding affirmatively.

Only 59 percent of the buyers expressed willingness to use a computerized exchange if available on a less than yearly basis. However, buyers were more reluctant to use a system which included only a selected number of commodities, with only 42 percent responding affirmatively.

Respondents were also asked for their inclination relative to paying more, less, or the same as they now pay for marketing services, table 10. Respondents were provided a list of attributes of electronic marketing, such as increased technical and pricing efficiency and increased information, and they were asked whether they would be inclined to pay more, the same, or less than they now pay for marketing services for an electronic marketing system. Forty-eight percent of the buyers and 37 percent of the growers indicated they would pay more. Another 30 and 27 percent, respectively, indicated they would pay the same. Three buyers and five growers noted that they would not use an electronic marketing system.

After each interview, the interviewer was asked to judge the interviewee's receptiveness toward electronic or computerized marketing. Among the buyers, 48 percent were judged to be receptive. Thirty-seven percent of the growers were viewed as being receptive and the evaluation was unclear for another 42 percent. Thus, the majority of both buyers and growers were judged to be either positive or uncertain in their receptivity to electronic marketing.

TABLE 10. OWNERSHIP AND USAGE OF AN ELECTRONIC, COMPUTERIZED MARKETING EXCHANGE BY GROWERS AND BUYERS OF FRUITS AND VEGETABLES, ALABAMA, 1983

Item	Buyers (n=27)		Growers (n=71)	
	Number	Percent ¹	Number	Percent ¹
Ownership and operation of computerized exchange:				
Buyers	2	11	2	3
Sellers	1	5	3	5
Buyers and sellers	7	37	41	62
Handlers	1	5	3	5
Private firm	8	42	8	12
Government	0	0	9	13
No response	8	—	5	—
TOTAL	27	100	71	100
Payment for services of computerized exchange:				
Buyers	3	12	4	6
Sellers	2	8	3	4
Buyers and sellers	18	72	54	81
Other	2	8	6	9
No response	2	—	4	—
TOTAL	27	100	71	100
Use computerized exchange if available on a less than yearly basis:				
Yes	16	59		
No	10	37		
Maybe	1	4		
No response	—	—		
TOTAL	27	100		
Use computerized exchange if available only for selected commodities:				
Yes	11	42		
No	15	58		
Maybe	—	—		
No response	1	—		
TOTAL	27	100		
Interviewee's response to electronic computer marketing:				
Receptive	13	48	26	37
Not sure	2	7	29	42
Not receptive	12	45	15	21
No response	—	—	1	—
TOTAL	27	100	71	100
Would you use the computerized system if it cost:				
Less	2	9	20	28
Same	7	30	19	27
More	11	48	26	37
Would not use	3	14	5	7
No response	4	—	1	1
TOTAL	27	100	71	100

¹ Percentages based on number of respondents to a particular question.

SUMMARY AND CONCLUSIONS

The purpose of this study was to determine the status of computer use and to gain insight into attitudes of fruit and vegetable market participants toward the concept of electronic marketing. Data were collected from 71 growers and 27 buyers throughout the State. Twenty-two wholesale buyers, 2 retail outlets, and 3 brokers were contacted. Data were collected and analyzed using the "mirror image" approach so as to isolate similarities and differences in the attitudes and actions of growers and buyers in the fresh fruit and vegetable production/marketing system.

Buyers expressed greater satisfaction with the present marketing system than did growers. Almost all buyers were satisfied, but only about two-thirds of the growers were positive toward the system. A similar relationship existed relative to satisfaction with prices received, except that growers were slightly less satisfied with prices than with the system as a whole. There was a degree of consistency noted in the primary problems of the marketing system identified by growers and buyers. Several of these, such as lack of information, imbalances in power, and lack of market access, could be at least partially offset with a viable electronic marketing system.

Responses relative to satisfaction corresponded to attitudes toward industry growth. Generally, buyers believed the industry will expand, while the consensus of growers was that the industry in Alabama will remain stable or decline in the future. The response of growers was consistent with their plans for expansion in the farm enterprise; 91 percent planned no expansion.

The lack of grower optimism is probably indicative of their market access limitations. Since all but one grower graded and packed produce on the farm site and most had no cooling facilities, the problems of inadequate volume and inconsistent quality are prevalent. To enter commercial markets, growers must aggregate their individual volumes so as to attract and supply commercial outlets. This also emphasizes the need for facilities to improve cooling efforts and postharvest handling procedures.

Buyers' responses (89 percent) that they could purchase unseen produce knowing only variety, size, color, origin, and USDA grade provide impetus for acceptance of a computerized

marketing system. This would seem to alleviate one of the major impediments to adoption of such a system, the lack of an acceptable grading system. Certainly, availability of the system would depend on its viability for major production areas in the Southeast. Once such a system is established in these areas, producers in other areas, such as Alabama, could benefit.

Another key factor for gaining access to commercial markets was revealed in the response of growers and buyers to transactions based on certified USDA grades. Buyers and growers indicated that major shares of their purchases (sales) were based on USDA grades. However, few growers indicated that the grades were actually certified. This is necessary for the "unseen buying" nature of the computerized marketing system. Also, the expense associated with certifying USDA grades necessitates a reasonable volume, reemphasizing the need to aggregate smaller lots to permit more efficient grading, packing, selling, and distribution.

Buyers and growers were viewed, on balance, as being fairly receptive to a computerized marketing system. Almost half the buyers and slightly more than a third of the growers were judged to be receptive. Another 7 percent of the buyers and 42 percent of the growers were not sure about the system, but they were not viewed as being negative. However, when asked about a current commitment to computers, only 26 percent of the buyers and 2 percent of the growers owned or leased a computer. In fact, most producers and growers had never used a computer. However, 15 percent of the buyers and 6 percent of the growers stated they definitely or probably would purchase a computer during the next year.

With growing consumer interest in fresh fruits and vegetables and continuing developments in the computer hardware and software areas, the future for an electronic marketing system for fruits and vegetables appears bright. To be accepted, however, the system must be cost effective and market participants must adjust to and accept it. Cost effectiveness depends largely on sufficient volumes of produce flowing through the system. Simulations of a computerized system for fresh fruits and vegetables have indicated substantial cost savings over the conventional system (1). This economic incentive increases the chances that the technology will eventually be adopted.

Survey results indicate that Alabama fresh fruit and vegetable market participants face potential problems in adopting this innovation. There is a lack of familiarity with and a reluctance to use computers and related components. However, this is a common situation in many business areas today and an educational program plus time for assimilation and acceptance can overcome these initial frustrations.

Alabama's produce industry must undergo other changes to enhance its chances to benefit from this system. As was indicated in the analysis, growers are generally not prepared to produce and handle fresh fruits and vegetables for regional and national distribution. This must change if the State's industry is to prosper. If the computerized system is developed and operationalized, it will probably be based on Florida's output. Nevertheless, Alabama growers and marketers can benefit alongside other growers and marketers. A crucial factor determining success is whether producers and buyers in Alabama can meet the needs of the marketplace.

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