

softening, seed sprouting and section drying) as well as high decay. Careful harvesting in April to early May followed by proper handling and storage resulted in grapefruit that had excellent quality for marketing later than mid-July. According to Kitagawa and Kawada (6), only a small amount of grapefruit is presently being marketed after early July in Japan. Thus, there is an opportunity to expand the Japanese market with shipments for sale in July or August, but only with appropriate treatments as discussed above.

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RETAIL TRADE IN FLORIDA GRAPEFRUIT IN JAPAN¹

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Abstract. A survey was sent to 1,526 large scale retailers handling grapefruit in Japan. A total of 637 companies answered and these between them owned 3,134 retail outlets which handled about 20% of the total Japanese grapefruit imports from Florida in 1979-80. From these answers, data are presented on the effects on sales of Florida grapefruit of such factors as: price, external and internal quality, decay and injury, competition, promotion, and type of retailer. Total quality improvement and its control appeared to be the most important factor for the retail trade in Florida grapefruit in Japan.

Imports of Florida grapefruit into Japan increased rapidly after the trade liberalization in July 1971, exceeding 6 million cartons in 1973-74 after only 3 seasons. Imports, however, have not increased much thereafter, the record being 6.9 million cartons in 1978-79. Only about 5.9 million cartons were imported last season, 1979-80 (Table 1). We described the marketing system for grapefruit in Japan and discussed competition and problems, as well as ways to increase Florida grapefruit exports to Japan in our previous report to this Society (3). In this report, we discuss the results of a survey conducted with 1,526 retailers in Japan-

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Table 1. Japanese imports of fresh grapefruit from various countries in the last 2 seasons.

Country	Season (Oct.-Sept.)		'79-80 '78-79 (%)
	1978-791,000 cartons.....	1979-80	
U.S.A.	9,619* (92)	7,654 (93)	80
Florida	6,875 (66)	5,907 (72)	86
California	2,285 (22)	1,296 (16)	57
Arizona	341 (3)	421 (5)	123
Texas	118 (1)	29 (—)	25
Africa	356 (3)	231 (3)	65
Israel	323 (3)	221 (3)	68
Mexico	103 (1)	47 (—)	49
Cuba	3 (—)	66 (1)	2368
New Zealand	3 (—)	4 (—)	168
Total	10,407 (100)	8,223 (100)	79

*Source: Japan Fresh Fruit and Vegetables Imports Managerial Association, Tokyo, Japan.

ese principal cities. Data and opinions from the questionnaire include the present situation, problems, and future of retail trade in Florida grapefruit in Japan.

Methods

A 10-page questionnaire consisting of 4 chapters, 25 sections and 40 questions was prepared for this study. The 4 chapters were: 1) general background and handling experiences of the retailer; 2) purchase and sales practices for Florida grapefruit; 3) advertising and promotion; and 4) miscellaneous e.g. consumers' resistance to use of fungicides, future trade in Florida oranges. Due to space limitation, only part of the results are presented herein.

There are 3 types of retail fruit outlets in Japan: 1) specialty fruit shops (about 24,000 companies including about 6,000 "quality fruit stores"); 2) "greengroceries" (about 45,000 companies excluding small "mama and papa" stores); 3) supermarkets, other types of chain store and department store (about 1,200 companies). Often, however, fruit counters in department stores are leased to fruit shops

or greengrocers. Thus, fruit shop, greengrocers and supermarket are the actual fruit retailers in Japan. The questionnaire was sent to 1,539 active fruit shops and supermarkets in August 1980, just after the 1979-80 season, but 13 were returned without delivery. Therefore the actual numbers of retailers contacted were 818 fruit shops and 708 supermarkets.

The response rate was 51.8% for fruit shops, 30.1% for supermarkets (Table 2). Because 34 out of the 424 fruit shops which responded appeared to be actually greengrocers judging from their answers, results were analyzed for fruit shops and greengrocers separately. The 213 responding supermarket companies owned 2,589 stores, the 390 fruit shop companies owned 507, and the 34 greengrocer companies owned 38, there were 3,134 stores in total. The cooperation and endorsement from the 2 organizations, the Nippon Fruiterers' Cooperative Union and the Japan Selfservice Association, can be presumed to have helped in increasing the response rate and the accuracy of the survey data. Data were analyzed by a FACOM 230-45S computer system. Statistical information on marketing of grapefruit was obtained from the Japan Fruits and Vegetables Imports Managerial Association.

Table 2. Scale of the survey and response rate.

Type of store	No. of surveys	Response	
		No.	Rate (%)
Fruit shop	818	424	51.8
Supermarket	708	213	30.1
Total	1,526	637	41.7

Results and Discussion

General Marketing Situation in 1978-80.

Monthly grapefruit imports from Florida and elsewhere are shown in Fig. 1. Florida grapefruit was imported for a long period from October to June, with a peak from March to May when 68% of the total amount was imported. Thereafter, grapefruit were imported from other areas, mainly California, with a peak in July. As already mentioned, the total Florida grapefruit imported in 1979-80 was only 5.9 million cartons about 1 million cartons fewer, or 20% less, than the previous season (Table 1). Grapefruit imports from California also decreased to 1.3 million cartons, a decrease of 43%. In total, Japanese grapefruit imports in 1979-80 were only 8.2 million cartons, 79% of those in 1978-79.

The major reason for this decrease was the heavy red-ink importation of California grapefruit in 1979 summer. The Japanese yen was strongest against the U. S. dollar in November 1978, \$1 = 184.4 yen, thereafter it has been getting cheaper (Fig. 2). Such a change in the exchange rate, together with the continuously increasing oil price, drastically pushed up freight rates. Consequently the CIF price increased sharply towards the end of the Florida grapefruit season in 1978-79. The higher FOB price of California grapefruit, due to a short crop, further increased the CIF price and it reached as high as 183 yen per kg (\$16 per Fla. carton) in September 1979, about double that in January 1979 (Fig. 2). The Japanese *ad valorem* import duty on fresh grapefruit was 40% in December to May and 20% in June through November (18% in June through November in 1980 as a result of the Tokyo Round (3)). Monthly wholesale and retail prices in the Tokyo market, the price maker in Japan, and the CIF-plus-duty

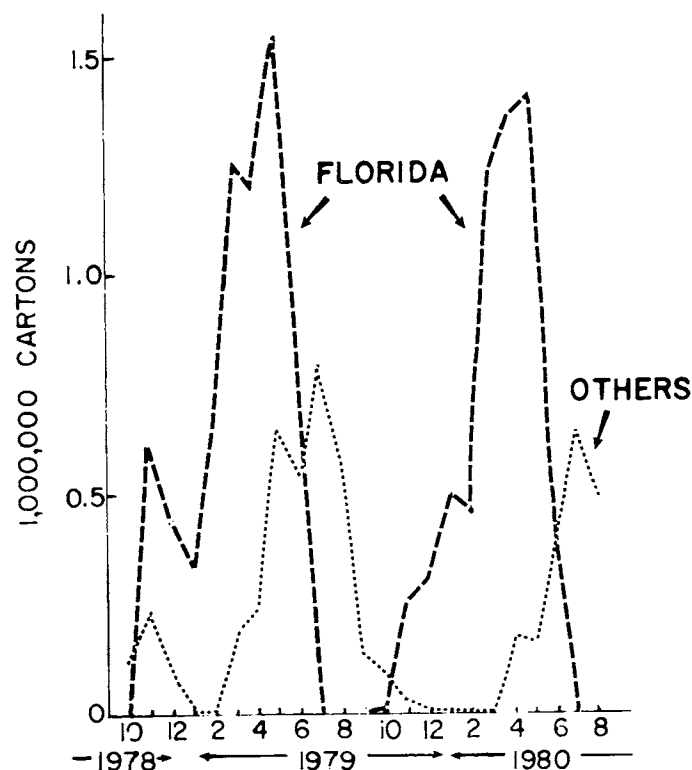


Fig. 1. Monthly import notification of fresh grapefruit arrived in Japan from Florida and other area, 1978-1980.

(CIF + D) are shown in Fig. 3. The CIF + D increased from 110 yen per kg in January 1979 to 220 yen per kg (\$19 per carton) in September 1979. On the other hand, the wholesale price did not increase after it reached 182 yen per kg (\$16 per carton) in May 1979, and thereafter it was even less than the CIF + D. Furthermore, "overstocking" due to much carry-over led to the wholesale price crash, 79 yen per kg (\$7 per carton) less than the CIF + D, in September. Thus, importers lost much money by trading in California grapefruit in 1979.

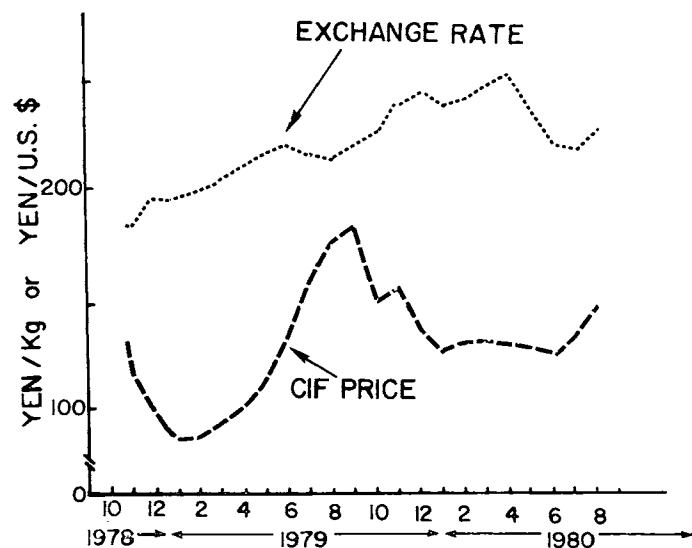


Fig. 2. Monthly exchange rate of yen per U.S. dollar and CIF price of fresh grapefruit in the Tokyo market, 1978-80.

In the 1979-80 Florida grapefruit season, the CIF price remained constant (Fig. 2), but (except in April) the wholesale price was still less than the CIF + D until June when the duty rate decreased from 40% to 18% (Fig. 3). Thus, importers were in red-ink by trading in Florida grapefruit

in this season. Not only grapefruit, but also fruit generally, did not sell well. One reason was the heavy production of Satsuma mandarin, 3.6 million metric tons (84 million Fla. boxes), 0.6 million tons more than the previous season. Unusually high vegetable prices due to severe cold weather and the serious inflation also might have tightened the housewives' purses.

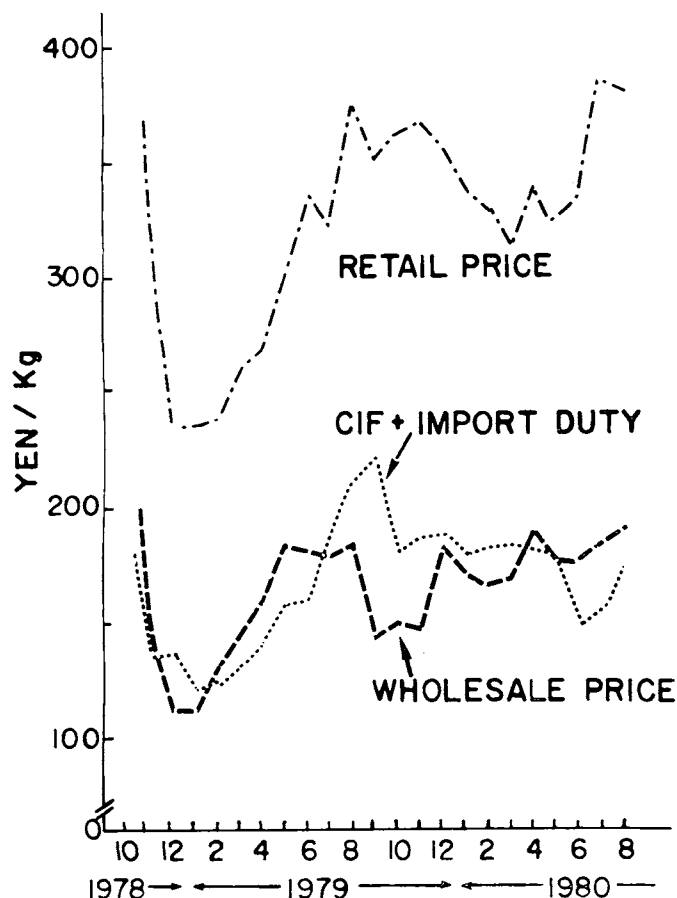


Fig. 3. Monthly CIF plus duty, wholesale and retail prices of fresh grapefruit in the Tokyo market, 1978-80.

Results of the Questionnaire

What is the percentage of grapefruit sales in your total fruit sales? As an overall average, 5.8% of total fruit sales were due to grapefruit sales (Table 3). This high value for an imported fruit clearly indicates the importance of the grapefruit trade to the retailers. There was, however, much variation in this answer. A majority (61.9%) of the answers were in the range of less than 6%, but surprisingly enough, 21.5% were in the range of more than 9% (Table 3). Because several retailers indicated that their answers were based on their records in the grapefruit season, actual yearly average might be less than these values.

Have you handled Florida grapefruit this season? Four choices for this question were: 1) Yes; 2) Did before, but not this season; 3) Never; and 4) Not sure if they were from Florida or not. An average of 94.1% of the retailers answered "Yes" (Table 4). The percentage was slightly less for supermarkets than for the other 2 types of retailers. Five retailers specifically indicated the reason for not having handled Florida grapefruit. Three of them did not handle this season because of higher decay with Florida grapefruit in previous seasons. Two of them were supermarkets belonging to livelihood cooperatives which object to the use of fungicides (1). The result indicates that a very high percentage of retailers have handled Florida grapefruit. How-

Table 3. What is the percentage of grapefruit sales in the total fruit sales?

Range (%)	Type of the store			Avg.
	Supermarket	Fruit shop	Greengrocery	
Average	4.8	6.2	7.0	5.8
Distribution				(%)
0.0- 3.0	41.0	33.2	29.4	35.6
3.1- 6.0	23.8	27.5	29.4	35.6
6.1- 9.0	7.6	5.7	5.9	6.3
9.1-12.0	8.6	15.3	17.6	13.2
12.1 +	5.2	9.3	14.7	8.3
No answer	13.8	9.1	2.9	10.3
Total	100.0	100.0	100.0	100.0

Table 4. Have you handled Florida grapefruit this season?

Type of the store	Yes	Yes but not this season	Never	Not sure	No answer
	(%)				
Supermarket	90.0	2.4	3.3	3.8	0.5
Fruit shop	96.4	0.3	0.0	2.8	0.5
Greengrocery	94.1	2.9	0.0	2.9	0.0
Average	94.1	1.1	1.1	3.2	0.5

ever, these values might be higher than the actual average, since some retailers did not respond to this survey simply because they have not handled Florida grapefruit before.

What is the percentage of Florida grapefruit in your total grapefruit sales? Florida grapefruit had an average share of 72% in fruit shops, 65% in supermarkets, 61% in greengroceries, and 69% in average. Data indicate that the share was less in Southern Japan (43%) than in Middle or Northern Japan (average 71%), possibly because the South is the citrus fruit production area in Japan, including late-season citrus such as 'Ama-natsu,' 'Hassaku' and 'Iyo-kan' which compete with Florida grapefruit having the same shipping season (3). Several retailers in this area answered that Florida grapefruit has been hard to sell because of "poor appearance with dirty peel (blemishes)."

What are the monthly percentages of Florida grapefruit purchased in 1979-80? A total of 494 retailers answered this particular question indicating that, between them, they purchased 965,312 cartons this season. As the total grapefruit imports from Florida in 1979-80 were 5,907,085 cartons (Table 1), this survey therefore covered retailers who handled more than 16.3% of the total Florida grapefruit imported into Japan in 1979-80. Average volume purchased per retailer during the season was 5,635 cartons by supermarkets, 378 by fruit shops and 167 by greengrocers. Reflecting the monthly changes in imports, an average of 66.4% was purchased between March and June (Table 5). Supermarkets purchased 67.5% of their Florida grapefruit during this period, but fruit shops purchased only 58.8% in the period. This might be because of the difference in retail styles between these 2 types of retailers. Supermarkets purchase and sell in bulk, but fruit shops handle high-quality fruits in less volume (2, 4). Thus, supermarkets purchased most in May, the peak month for imports, while fruit shops purchased more grapefruit than supermarkets did in July and December, the months of the gift seasons in Japan.

Table 5. What are monthly percentages of Florida grapefruit purchased in 1979-80?

Month	Type of store ^z			Month	Type of store ^z		
	SPM	FS	GG		SPM	FS	GG
 (%) (%)		
Oct.	2.9	4.7	4.9	Mar.	14.6	13.3	11.7
Nov.	3.2	5.6	5.0	Apr.	14.1	15.4	15.5
Dec.	5.4	8.5	6.1	May	21.6	16.4	21.6
Jan.	5.5	6.1	5.4	June	17.2	13.7	15.4
Feb.	8.5	7.3	7.5	July	7.0	9.1	6.7
				Total	100.0	100.0	100.0

^zSPM: supermarket, FS: fruit shop, GG: greengrocery.

Is the margin for Florida grapefruit higher, the same or less than for other fruits? The majority (63.3%) said "same," but as many (46.9%) greengrocers answered "less" as did "same". When specific reasons for the "less" answer were also asked, supermarkets replied that it was because they use grapefruit as a "leader". On the other hand, many of the fruit shops and greengrocers answered that their margin was less because they had to compete with supermarkets' bargain sales, and because of higher losses due to decay.

Which are the 3 biggest problems in the retail trade in Florida grapefruit? Eight choices were offered: 1) Too high purchase prices; 2) Too much decay and injuries; 3) Bad taste; 4) Poor appearance with much blemishes; 5) Hard competition with other fruits; 6) Consumers' unawareness of good taste of Florida grapefruit; 7) Unusually high vegetable prices; and 8) Others. The big 3 were; too much decay and injuries, too high purchase prices, and poor appearance followed by competition, consumers' unawareness, and bad taste (Table 6). Fewer supermarkets chose "too high purchase prices" than did the other 2 types of stores. More fruit shops chose "too much decay and injuries" than did the other 2 types of store. Possibly because the latter 2 also handle vegetables for which losses are usually higher than for fruits, thus they did not consider decay in grapefruit to be as excessive as did the fruit shops. This might also be a reason why fewer fruit shops chose "unusually high vegetable prices" than did the other 2 types of store.

Which fruits are the 3 strongest competitors of Florida grapefruit? The big 3 were 'Ama-natsu', strawberry and 'Hassaku', followed by California oranges and 'Iyo-kan' (Table 7). 'Ama-natsu' and 'Hassaku' are domestic late-season citrus fruits which resemble grapefruit. Both of them are stored and sold at the same period as for Florida

grapefruit, and the production of these late-season citrus fruits is increasing rapidly (3). The sales season for 'Iyo-kan' is about 2 months earlier than that for Florida grapefruit. The production of 'Iyo-kan' is also increasing rapidly, but still much less than that of 'Ama-natsu' or 'Hassaku'. Thus, 'Iyo-kan' is still a gift fruit sold at fruit shops and not much 'Iyo-kan' is sold through supermarkets yet. California oranges were chosen as a competitor much less than the authors expected, maybe because of the as-yet-limited imports under a quota system. Strawberries will compete with Florida grapefruit more sharply when their season shifts to later than the current December to March due to the increasing price of oil for heating greenhouses.

Table 7. Which fruits are the 3 strongest competitors of Florida grapefruit?

Competitor	Type of store ^z			Avg.
	SPM	FS	GG	
 (%)			
Other grapefruit	5.0	2.8	5.6	3.6
California oranges	11.5	12.7	11.1	12.7
Japanese oranges	2.5	6.2	3.3	4.8
Iyo-kan	7.8	14.5	17.8	12.5
Ama-natsu	24.3	25.0	23.3	24.7
Hassaku	16.1	16.5	15.6	16.4
Strawberries	19.9	17.0	14.4	17.8
Melons	7.4	3.1	5.6	4.7
Misc.	5.5	2.1	3.3	3.2
Total	100.0	100.0	100.0	100.0

^zSPM: supermarket, FS: fruit shop, GG: greengrocery.

Will increasing orange imports compete with Florida grapefruit? The import trade in oranges is not liberalized yet, however, as a result of the Tokyo Round in March 1979, the quota will increase from 45,000 metric tons in 1979 and 68,000 in 1980 to 72,500 in 1981, 77,000 in 1982 and 82,000 (4 million cartons) in 1983. According to the survey result (Table 8), half of the retailers answered "yes" and the other half "no."

Table 8. Will U.S. oranges compete with Florida grapefruit?

Type of store	Yes	No	?
 (%)		
Supermarket	51.3	39.1	9.6
Fruit shop	39.9	48.0	12.1
Greengrocery	45.2	48.4	6.4
Average	43.8	45.2	11.0

Are your customers aware that they are buying Florida grapefruit? The retailers answered that their customers' awareness of FLORIDA grapefruit was quite low (Table 9). The fruit shops' efforts to promote FLORIDA, such as by wrapping individual fruit with a tissue paper printed as FLORIDA might be a reason for higher percentage of fruit shops answered "almost all."

Would identification of FLORIDA with stamps or seals help increase sales? In relation to the previous question, many retailers answered that FLORIDA identification would increase sales (Table 10).

Will the demand for Florida grapefruit increase? A majority of the retailers considered that it will increase (Table 11). Nevertheless, growers and shippers in Florida should be well aware that an average of 34% of answers were "not increase," including 5.5% for "decrease."

Table 6. Which are the biggest 3 problems in the retail trade in Florida grapefruit?

Reason	Type of store ^z			Avg.
	SPM	FS	GG	
 (%)			
Price	17.9	21.7	23.6	20.6
Decay & injury	19.9	23.7	19.2	22.2
Taste	7.8	8.6	6.4	8.3
Appearance	19.6	21.0	19.2	20.4
Competition	14.9	10.1	11.5	11.8
Awareness	8.9	7.9	10.3	8.4
High veg. price	9.5	4.8	8.4	6.5
Misc.	1.5	2.1	1.3	1.9
Total	100.0	100.0	100.0	100.0

^zSPM: supermarket, FS: fruit shop, GG: greengrocery.

Table 9. Are your customers aware that they are buying Florida grapefruit?

Type of store	Almost all	About 50%	About 20-30%	Almost nil
Supermarket	9.5	25.7	31.6	33.1
Fruit shop	14.0	28.7	27.7	29.6
Greengrocery	6.3	25.0	37.5	31.2
Average	12.1	27.5	29.5	30.8

Table 10. Would identification of Florida with stamps or seals help increase sales?

Type of store	Yes	No	?
Supermarket	58.9	35.3	5.7
Fruit shop	63.3	30.3	6.4
Greengrocery	65.7	28.1	6.3
Average	62.1	31.8	6.2

Table 11. Will the demand for Florida grapefruit increase?

Type of store	Increase much	Increase	No change	Decrease
Supermarket	17.4	52.3	23.8	6.4
Fruit shop	13.6	50.9	30.3	5.1
Greengrocery	6.5	51.6	38.7	3.2
Average	14.4	51.4	28.7	5.5

What are the 3 most important points needed to increase Florida grapefruit sales? There were 9 choices: 1) Improve taste; 2) Improve appearance; 3) Decrease price; 4) Improve quality control (i.e. decrease variation in quality within a brand); 5) Decrease decay and injuries; 6) Improve grades; 7) Increase promotion/advertising; 8) Identify FLORIDA with stamps or seals; and 9) Others. The big 3 were taste, price and appearance. The second group was quality control and decay control followed by grade-up, promotion and then FLORIDA identification (Table 12). In total, more than half of the answers were quality related choices; taste, appearance, quality control and grade-up.

Table 12. Which are the most important 3 points needed to increase Florida grapefruit sales?

Point to be improved	SPM	Type of store: FC	GG	Avg.
			(%)	
Taste	19.3	21.0	11.5	20.0
Appearance	16.1	15.7	17.2	15.9
Price	18.6	19.6	24.1	19.5
Quality control	13.9	12.1	10.3	12.6
Decay & injury control	10.0	13.1	17.2	12.2
Grade-up	8.1	7.1	8.0	7.5
Promotion	6.7	6.4	4.6	6.4
Fla. identification	7.0	4.8	6.9	5.7
Misc.	0.4	0.3	0.0	0.3
Total	100.0	100.0	100.0	100.0

*SPM: supermarket, FS: fruit shop, GG. greengrocery.

Conclusions

The grapefruit retailing in Japan is getting hard due to increasing freight, international currency fluctuations, and competition from domestic late-season citrus fruits and strawberries. This survey made the difference in retail style between the specialty fruit shops and the supermarkets clear, e.g. the former, which has been the sales-maker for grapefruit in Japan, emphasize high-quality fruit sales in the gift seasons, July and December, and the latter which started retailing grapefruit recently emphasize bulk sales in the peak months of its imports. Florida grapefruit growers and shippers should try to respond to the fruit stores' demand for premium-grade fruit in June and December, as well as to the supermarkets' demand for constant bulk supply. The survey results also indicate that quality improvement, both taste and appearance, and its control, followed by cost decrease, control of decay and injuries, and then advertising are the key points in increasing sales of Florida grapefruit.

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