The Market Potential for SUPERCONCENTRATED APPLE JUICE

Marketing Research Report No. 582

UNITED STATES DEPARTMENT OF AGRICULTURE
Economic Research Service and
Statistical Reporting Service

PREFACE

This study is designed to provide producers, processors, distributors, and other interested persons with facts concerning the market potential for a new, superconcentrated frozen apple juice. The study is part of a broad program of continuing research aimed at expanding markets for farm products. Determination of the acceptability of products in various forms and of ways to reduce marketing costs can provide a guide to industry in the development of new markets or the expansion of present ones.

The Economic Research Service and Statistical Reporting Service assumed major responsibility for the conduct of the research, with cooperation and advice from the Michigan State Apple Commission, Michigan State Department of Agriculture, and the Michigan Agricultural Experiment Station (Michigan State University), and with the assistance of the A. F. Murch Company, Paw Paw, Mich., processors of the product.

Personnel of the Eastern Utilization Research and Development Division, Agricultural Research Service, Wyndmoor, Pa., where the superconcentrated apple juice was originally developed, helped in planning and executing the market test.

The project was under the general supervision of Philip B. Dwoskin of the Market Potentials Branch, Economic Research Service, and Trienah Meyers of the Special Surveys Branch, Statistical Reporting Service.

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HIGHLIGHTS

The sales record of a new product--superconcentrated apple juice--compared with 80 other juice products audited in this study indicates that the test product stands a reasonable chance of attaining commercial success.

The market potential of this high-density (6 to 1) apple juice was studied in Fort Wayne, Ind., from May 9 through July 18, 1960, in a sample of 23 supermarkets. Sales of the apple juice and the 80 other products were audited weekly in 15 of the stores; the remaining 8 stores reported only their total sales of the apple juice at the end of the test period.

The Michigan State Apple Commission conducted an intensive, all-media promotion campaign during the first 4 weeks of the 10-week market test. In some of the stores during the first 3 weeks, demonstrators mixed the juice and distributed samples in paper cups to customers.

A total of 771 cases of the test product was sold in the 23 sample stores during the market test, averaging 3.35 cases per week per store. The weekly sales rate for each audited store was 9 cases for the promotion period, and 2 cases during the 6-week period following promotion. This is a good sales performance compared with that of the related products audited in a pretest week and the 10-week test period.

When compared to frozen concentrates, the superconcentrate ranked 4th in sales of 24 items during the promotional period. During the 6 weeks when no promotion took place, the product's sales position moved from 4th to 7th among the 24 frozen concentrated items.

When compared to single-strength canned juices, the superconcentrate ranked 2nd among 29 items during the 4-week promotion period. In the period of no promotion, the test product ranked 6th out of 29 single-strength juice items.

In the 10th week of the test period, 6 weeks after the special promotion had ceased in the market, the test product outsold by almost 2 to 1 the combined total of all canned and bottled apple juice products in the audited food supermarkets in Fort Wayne. In addition, sales of canned and bottled apple juice remained almost unchanged during the entire market test, indicating that the superconcentrate represents a plus market for apples.

About 6 weeks after completion of the various promotional activities for superconcentrated apple juice, interviewing was begun among a sample of Fort Wayne homemakers. Of the homemakers interviewed, 16 percent had bought canned or bottled apple juice other than the test product during the preceding year. In the period that the superconcentrated apple juice had been on the market, 11 percent had purchased it, and a sizable majority of these purchasers were new users--that is, they had not bought any other apple juice in the preceding year.

About 4 Fort Wayne homemakers in 10 were aware, at the time they were interviewed, that the test product was available. About one-fourth of those who knew about the superconcentrated apple juice had purchased it.

When those who were aware of the new product but had not purchased it were asked why they had not, the predominant explanations were taste preferences such as

"We don't like any apple juice," or "It just doesn't appeal to me." However, some of the nonusers indicated they probably would buy superconcentrated apple juice in the next few months.

Among homemakers who had purchased the new product, only two reasons for doing so were cited frequently: Either it was something new which they wanted to try, or they liked the flavor of the sample they had tasted in the store. The importance of the demonstrations in this market test is further indicated by the finding that two-thirds of the homemakers who bought the new juice reported that they had made their first purchase from a demonstrator.

Most of the respondents served the new product between meals, and reported they were using it in place of other fruit juices, soft drinks, or ades; in most homes it was not being substituted for other apple juices.

Homemakers' reactions to the new product after using it in their homes were favorable. About half of the users had already bought this apple juice more than once at the time they were interviewed, and 1 in 5 had bought it 4 or more times.

When asked to tell in their own words what they thought of the new juice, about 4 users out of 5 praised the taste, and 2 out of 5 commented favorably on the ease of storage or preparation of the product. And, in response to a direct question, they were unanimous in saying that they did not find it inconvenient in any way to reconstitute this 6-to-1 apple juice concentrate.

Even though specifically asked if there was anything they disliked about the new juice, 4 purchasers out of 5 made no unfavorable comments. The few who had criticisms spoke mainly of some objection to the taste.

When asked to rate the new apple juice, almost two-thirds of the users said it was very good, 30 percent said it was good, and only 7 percent said that it was fair or poor. About three-fourths of the users predicted they would buy superconcentrated apple juice again, while another 16 percent said they might. Only 1 in 10 definitely did not expect to make further purchases.

THE MARKET POTENTIAL FOR SUPERCONCENTRATED APPLE JUICE

By Edward J. McGrath, agricultural economist, Economic Research Service
and Margaret Weidenhamer, social science analyst, Statistical Reporting Service 1/

INTRODUCTION

Objective

The objective of this study was to determine the market potential for superconcentrated fruit juices by (1) investigating the feasibility of commercial introduction of a full-flavor, superconcentrated apple juice, from the point of view of the producer, processor, distributor, and retailer, and (2) measuring consumer acceptance of the new form of apple juice concentrate.

Background

Several trends of importance to fruit producers stand out when fruit production, utilization, and consumption statistics are examined. First, the introduction of frozen concentrated orange juice caused a major shift in consumption from fresh to processed oranges. Fresh oranges were 98 percent of all oranges consumed in 1938-39 but only 36 percent in 1958-59. Consumption of oranges per person rose from 42 to 56 pounds between the same periods, although consumption of other fruits declined. The development of new processed citrus products has played an important role in leveling off the decline of total fruit consumption per person.

The proportion of noncitrus fruit used for processing has not been increasing like that of citrus fruit. It seems reasonable that, in order to expand overall markets for fruit, greater emphasis will have to be placed on the development of new noncitrus fruit products.

Per person consumption of fresh and processed apples (fresh equivalent basis) declined from 35 pounds in 1935 to 26 pounds in 1957. In recent years the decline has halted, with consumption leveling off and increasing to about 28 pounds in 1960. Consumption of other noncitrus fruit showed a similar trend.

The per person decline in the past 25 years might have been greater except for the increased consumption of processed apple and other deciduous fruit products. In this period, for example, the per person consumption of fresh apples has been trending downward while that of processed apples has almost tripled. Yet only 35 percent of the apple crop is processed, whereas almost two-thirds of the total orange crop goes into processing.

The development of new processed fruit products could reduce dependence on one predominant outlet and help to stabilize prices. It could promote more orderly marketing, and perhaps put the producer in a better bargaining position.

1/ Mr. McGrath was responsible for the market test, Miss Weidenhamer for the household consumer survey.

For the past several years, considerable research effort has been expended by the Eastern Utilization Research and Development Division, Agricultural Research Service, in developing a method of recovering concentrated fruit juice aromas. This research has produced a flavorful superconcentrated apple juice by a unique method. 2/ Concentrates have been prepared commercially for years, but volatile aromas were lost in the cooking process by the methods then used. The key to the new method is recovery, early in the process, of aromas that would otherwise be lost during subsequent vacuum concentration of the juice. Flavors are rapidly separated from the juice of freshly pressed apples and are concentrated to 150 times their original strength. One gallon of these flavors, called "essence," is equivalent to the aroma from 150 gallons of fresh apple juice. After the essence is recovered the remainder of the juice is clarified and then concentrated at low temperature to avoid cooked flavors. A later combination of the two products, essence and juice concentrate, yields a flavorful superconcentrated apple juice.

The superconcentrate represents one-seventh of the original juice volume. Restoration to beverage strength is achieved by adding 6 volumes of water to 1 volume of concentrate; for the test product which was packed in a 4.6-ounce can, enough water is added to make 1 quart of apple juice. In contrast, the familiar frozen orange juice concentrate is reconstituted with only 3 volumes of water.

Because of the higher concentration of the test product, it does not freeze even at zero degrees F. or below. It can be mixed with water immediately upon removal from the freezer unit without the usual delay encountered in thawing lower concentrated frozen juice products. The smaller bulk of the superconcentrate compared to single-strength apple juice represents reduced packaging and shipping costs. It can also be available throughout the year without need of added preservative or heat treatment.

Generally, one variety of apple does not make the best apple juice by itself. Juice from several varieties is frequently blended to make a more flavorful product. The test product was a blend of 2 parts of Northern Spy, 1 part Jonathan, 1 part McIntosh, and 1 part Delicious. These varieties are the principal ones grown in Michigan. Other varieties and different proportions can be substituted for those used in the test product. Thus, almost any apple producing area has the proper ingredients for the successful manufacture of superconcentrated apple juice.

Test City and Methodology

The market test was conducted in Fort Wayne, Ind., a city often used as a test market. Fort Wayne is close to the processor of the test product and is about the right size for testing as well as being geographically distant from other large metropolitan areas. 3/ These factors facilitate market saturation with the product and provide the opportunity of good control and effective use of promotional materials with limited funds.

Previous experience in market testing indicated that it was advantageous to confine activities for the most part to the large supermarkets. At the time of the

2/ Eskew, R. K., Redfield, C. S., and Phillips, G. W. M. High-Density, Full-Flavor Apple Juice Concentrate. U. S. Dept. Agr., Agr. Res. Serv., AIC-315. August 1951, rerun September 1956.

3/ U. S. Bureau of the Census. Preliminary Population Report, August 1960. The population of Fort Wayne is given as 161,144.

study, Fort Wayne had 23 such supermarkets--affiliates of national, regional, and local chains. All 23 of these stores were stocked with the test product under the trade name of "Johnny Apple Squeeze." 4/

Fifteen of the sample stores were audited each week, during the period May 9-July 18, 1960, for sales of the superconcentrate, and 10 of these 15 were audited for sales of closely related products as well. Related products were the many forms of fruit drinks--juices, blends, and punches. These products consisted of 29 different juices or drinks in several container sizes offered by 26 established national brands. Combinations of these factors afforded consumers a choice of 80 audited purchase units of fruit juice or drink in addition to Johnny Apple Squeeze (tables 1 and 2). 5/ To provide benchmark information as to the sales rate of these related products, an audit was taken 1 week before the stores were stocked with the test product. Similar products sold under local or private labels were not included in the audit.

Audits were made on Monday or Tuesday. Each audit store was visited by an enumerator on the same day and at approximately the same time for 10 weeks following the pretest audit. Sales for each week were obtained by adding deliveries to the beginning inventory and then subtracting from this total the ending inventory. Adjustments were made for transfers in and out of the stores.

For each of the other 8 stores in the sample, only the total sales of the superconcentrate during the 10-week period were recorded.

The retail price of the test product was 20 cents for a 4.6-ounce can (1 quart fresh juice equivalent) or 39 cents for 2 cans throughout the test period. The cost per case to the retailer was $3.40, affording him a markup of 27.3 percent on retail or 37.6 percent on cost, with less freezer space needed compared to other frozen concentrates available. The price of the product was set to include commercial-scale production costs, distributor margins, and reasonable advertising and profit allowances and still be competitive with other fruit drink products. However, during the market test, the prices of some competing products, notably lemonade, were reduced considerably.

Promotion Program

To bring the test product to the attention of as many households as possible in a short time, an all-media advertising program was carried out during the first 4 weeks of the market test. This advertising was primarily the responsibility of the Michigan State Apple Commission through its advertising agency.

The promotional campaign included the following: (1) Four black-and-white advertisements, 5 columns by 14 inches, in the morning and evening editions of the Fort Wayne newspapers; (2) 65 spots per week, May 11 through June 4, 1960, on two major radio stations; (3) one class AA 20-second chain break and 4 minutes class A per week, May 11 through June 4, 1960, on one local television station, and (4) instore display kits, including full-page 4-color posters (fig. 1), "shelftalkers," and other smaller materials which were distributed to all 23 sample stores. The newspaper advertisements resembled the 4-color poster placed in the stores.

4/ Copyright of the product name "Johnny Apple Squeeze" is held by the Michigan State Apple Commission.

5/ Tables 1 to 48 are in the appendix.


wowie zowie
if you please!
TRY A CAN OF
Johnny
APPLESQUEEZE
SUPER CONCENTRATED APPLE JUICE
1 CAN
MAKES
1 QUART
MIXES INSTANTLY WITH WATER TO MAKE
1 QUART OF DELICIOUS NATURAL APPLE JUICE

Figure 1

In addition, several retail outlets engaged in their own tie-in advertising during the 4-week promotional period. This consisted primarily of inserts in their regular newspaper advertising. After the promotional period, no special effort was made to emphasize the superconcentrate.

THE MARKET TEST

Total Sales of Superconcentrated Apple Juice

A total of 771 cases of the test product was sold in the 23 sample stores during the 10-week market test; an average of 3.35 cases per week per store. Each case contained 24 4.6-ounce cans. The 771 cases represent 18,507 quarts of apple juice and a retail value of $3,610 (table 3).

For the promotion period, the weekly sales rate for each of the 15 audited stores was 9 cases. These stores sold an average of 2 cases per week per store during the 6-week period following the promotion.

Even when the 47 cases sold in the 8 nonaudit stores were apportioned over the 10-week period and sales divided by all 23 stores in the sample, the results were favorable. Here, the weekly sales rate per store was 6.1 cases during promotion and 1.5 cases after promotion. After the initial decline from the promotion period, sales of the test product seemed to have leveled off in the last 3 or 4 weeks to this 1.5 cases, even ending the test period on an upturn.

Sales During Instore Demonstrations

Instore demonstrations were held on weekends during the first 3 weeks of the market test. Food processors with new products usually regard instore demonstrations as a desirable method of introducing a new product. The demonstrations seemed particularly effective for superconcentrated apple juice. Demonstration sales during the first 3 weeks of the promotional campaign accounted for 58.4 percent of the total sales of the test product in the 15 audit stores for the entire 10-week period of the market test (table 4). The cost of the demonstrations is compared to the processor's return from sales of the product in table 5.

Previous market tests have indicated the importance of demonstrations to achieve high initial sales and to enhance the possibility of repeat sales in a relatively short market test. In the market test of potato flakes, which was unexpectedly short because supplies were exhausted, a 5-to-1 sales ratio favoring demonstration stores was found during the promotion period. 6/

For the superconcentrated apple juice test, 6 demonstration stores outsold 9 nondemonstration stores at a sales ratio of 9.4 to 1 during the first demonstration week and 8.5 to 1 during the second week, and 4 demonstration stores outsold 11 nondemonstration stores by a ratio of 3.4 to 1 during the final week of demonstrations. For the entire 3-week period, 16 demonstration stores outsold 29 nondemonstration stores by an overall ratio of 6.3 to 1.

6/ Dwoskin, P. B., and Jacobs, Milton. Potato Flakes--A New Form of Dehydrated Mashed Potatoes: Market Position and Consumer Acceptance in Binghamton, Endicott, and Johnson City, New York. U. S. Dept. Agr., Mktg. Res. Rpt. 186. July 1957.

Each of the 16 demonstration stores sold an average of 26.5 cases of superconcentrated apple juice during the 3-week demonstration period, while the 29 nondemonstration stores each sold 2.3 cases per week in this period. To check this figure in an attempt to nullify the carryover effect in stores that had a demonstration one week and not the next, all stores for the 7-week period after demonstrations were averaged and it was found that sales in 105 nondemonstration stores for this period averaged 2.2 cases per week, or a difference of less than 3 cans.

Sales With Effect of Instore Demonstrations Removed

Demonstration effects were removed by substituting the average weekly sales for audited stores during the 4-week promotion period, exclusive of the stores in which demonstrations were held. It was assumed, then, that the average of all weekly nondemonstration sales would be equivalent to the average weekly sales in demonstration stores if there had been no such demonstrations during those weeks. An alternative method was calculated which attempted to remove the carryover effect in stores where demonstrations were held during the first week of recorded sales. However, the results of this method were less than 3 percent different from the method used.

By removing the effects of instore demonstrations, the 544 cases sold during the first 4 weeks were reduced to 166. But the adjusted average weekly sales rose steadily from 33 cases in the first week to 54 cases in the 4th week, an indication of the effects of promotion other than instore demonstrations.

The weekly sales rate of 9 cases for the 15 audited stores during the period of promotion was reduced to 2.8, and the weekly rate of sale for these stores during the 6-week period following promotion, of course, remained the same--2 cases (fig. 2 and table 3).

This is a good sales record, particularly when compared to the results of the Dillon Study, a research report on 52 supermarkets, released by the Progressive Grocer Magazine. That study indicated that 9 out of 10 canned items, including frozen juices, averaged sales of less than 1 case per week in supermarkets. 7/

The Superconcentrate and Competing Products

A major factor in the appraisal of the market potential of a new product is its relationship to established competitive products. Therefore, of greater significance than total sales or case rates is the relative position of the superconcentrate compared to the 80 other separate juice items, frozen and canned single-strength, which were audited for an 11-week period. The new product did remarkably well compared to a number of established brands.

When compared with frozen concentrates, the test product during the promotion period ranked 4th in 24 items. It was outsold only by 2 brands of orange juice and one brand of lemonade. The new product actually outsold, during the promotion period, the combined total of 17 of the 24 products audited in the freezer cabinets (fig. 3).

7/ The Dillon Study. By the editors of Progressive Grocer. New Measurements of Turnover and Return on Investment Point Way to Increased Sales and Profits, pp. D65-D80, Sept. 1960.

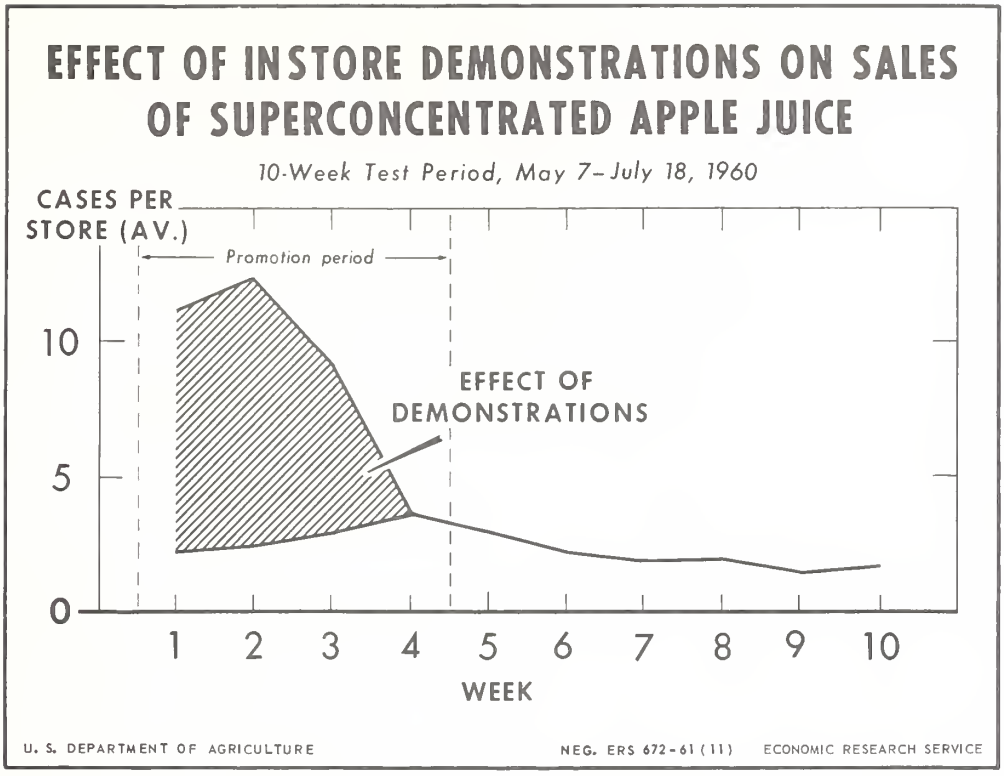

Figure 2

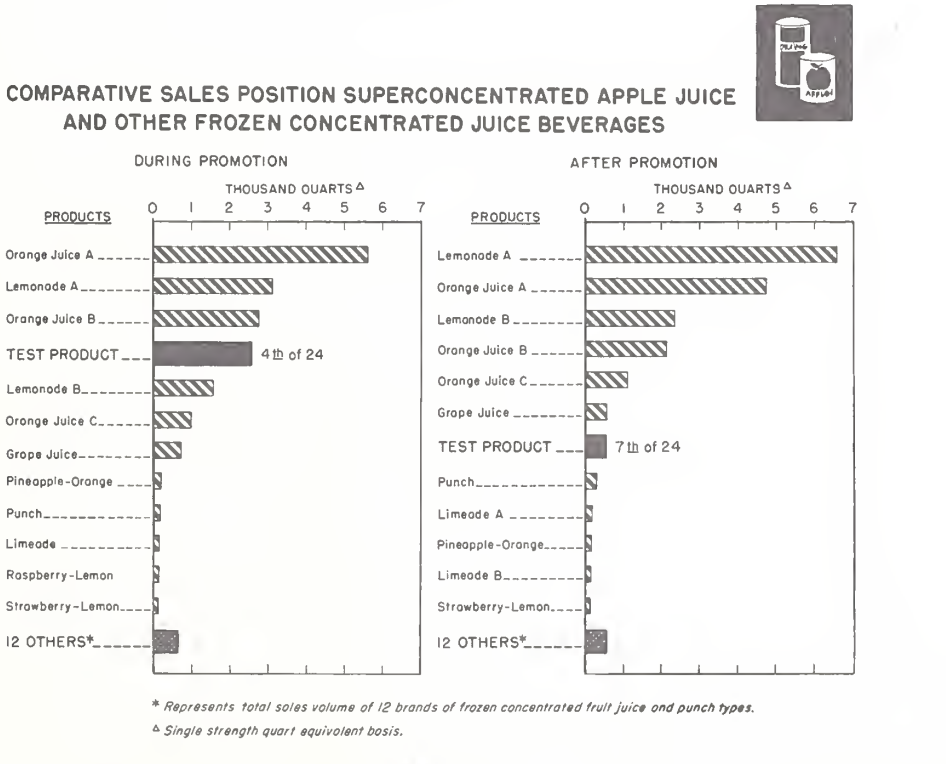

Figure 3

During the 6 weeks when no promotion took place, the product's sales position moved from fourth to seventh. Even without the benefit of promotion the superconcentrated apple juice managed to outsell for that 6-week period the combined total of 11 other established frozen concentrates.

When compared to single-strength canned juices, the superconcentrate compiled an even more impressive sales record. Here, the test product ranked second among 29 items during the 4-week promotional campaign. In reaching this position, superconcentrated apple juice actually outsold the combined total of 21 out of 29 single-strength juice items audited. In the 6-week postpromotion period the test product ranked sixth out of 29 single-strength juice items (fig. 4).

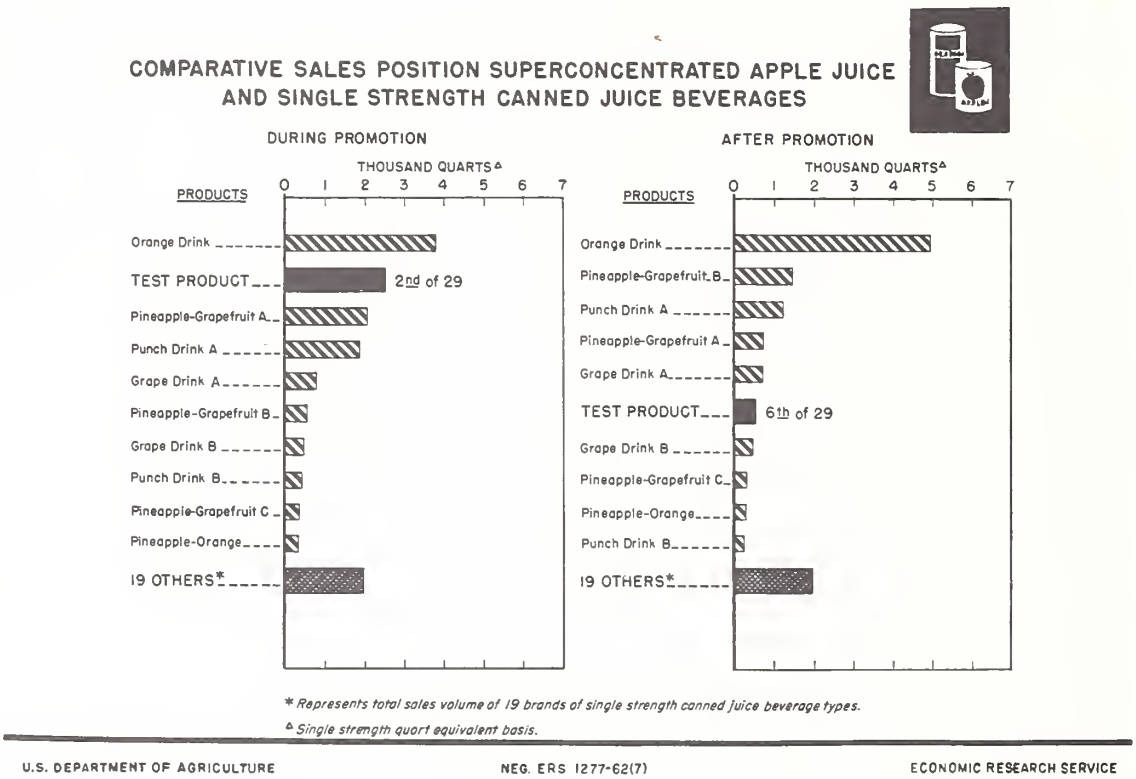

Figure 4

The sales record achieved by the new apple juice compared to the 80 other products audited is a good indication that the test product could be a commercial success. The test product was found to be selling at almost a 1-to-1 ratio with frozen concentrated grape juice and outselling by a minimum of 2 to 1 all of the punch and blended frozen juice items in Fort Wayne supermarket freezer cabinets. Then too, it might be pointed out that orange juice is the leader in sales positions among the frozen concentrates. While orange juice is related in the sense that it, too, is a frozen concentrate, this product does not necessarily compete in the strict sense; it is primarily a breakfast juice, while the superconcentrate is considered by industry spokesmen to be an

afternoon snack beverage. A similar situation prevailed among the canned single-strength juices, where the new product outsold by a considerable margin many of the commercially established brands of canned blends and punch drinks.

The Test Product Compared with Single-Strength Apple Juice

When comparing superconcentrated apple juice with established brands of single-strength apple juice, the data provide important information to the apple industry in that the high-density apple juice concentrate could represent a plus market for apples. Sales of canned and bottled apple juice during the entire 11-week period remained almost level. Even during the peak sales of the test product in the promotion period, sales of canned and bottled apple juice were relatively unaffected. This indicates that regular users of existing apple juice products probably continued to use them, whereas the superconcentrate attracted most of its market from the large number of households who were not then users of apple juice. The household survey data appear to bear out this contention. Even in the 10th week of the test period, 6 weeks after the promotion had ceased in the market, the test product outsold by almost a 2 to 1 margin the combined total of all canned and bottled apple juice products in the audited food supermarkets in Fort Wayne (fig. 5).

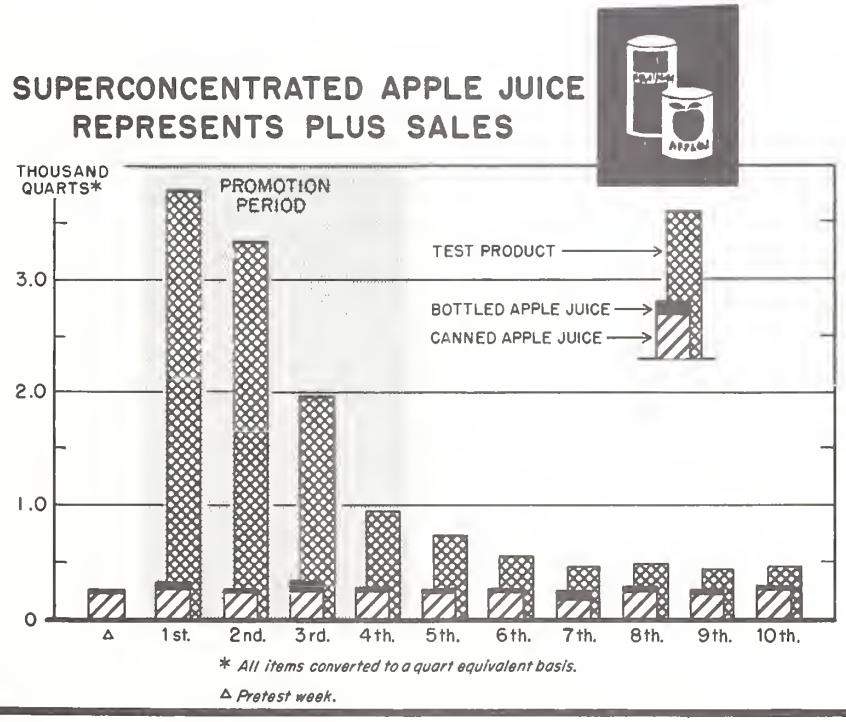

Figure 5

Potential Sales

In 1959, the utilization of apples in the United States was 123 million bushels. Of this total, about 80 million bushels went to the fresh market, while 43 million bushels were processed. 8/ It seems reasonable to look for new processed apple products to expand the market for apples because of the generally declining per person consumption of fresh ones.

Average sales of the superconcentrate during the last week of the market test, 6 weeks after all promotion had terminated, were 2 cases per store. Furthermore, total sales of the product during the entire market test did not detract from sales of other apple juice products available (see fig. 5). If the average of 2 cases per store per week could be extended to supermarkets on a national basis, the resulting increase in apple consumption would be considerable. Currently, there are 26,008 supermarkets in the United States with minimum sales volumes of $500,000 each. 9/ One can of the superconcentrate contains the juice of approximately 7 apples. Assuming 125 tree-run apples to the average bushel, a simple calculation indicates an annual increase of 3.6 million bushels in the consumption of apples. If the average attained were only 1 case per store per week, the same as that found for most canned items in the Dillon Study, the increase would still amount to 1.8 million bushels.

Weather Influence

Consumption of the test product in Fort Wayne during the market test may have been influenced by the weather. The daily maximum temperature during June averaged 76.5 degrees F., about 2 degrees below the normal maximum temperature for that month. The daily maximum temperature during the first 18 days in July averaged 78.8 degrees F., about 3 degrees below the normal maximum temperature for that period. According to the Weather Bureau, the first part of the summer was the coolest in the area for many years. Also, the month of June was wetter than usual; 6 inches of rain fell during June, 2 inches more than average. Because the product is considered to have sales appeal as a warm-weather snack drink, retailers in the area thought that, although sales of the superconcentrate were high, they would have been even higher if the weather had been warmer.

The Superconcentrate Compared with Previous Market Tests

In attempting to assess the market potential of a new test product, information is frequently revealed by observing past market test sales of products in former studies. The relative position of the test product, compared with sales of products tested earlier, helps to indicate its commercial sales potential.

Several other products tested by the Department were (1) canned frozen grapefruit sections tested in Erie, Pa., 1954; (2) dehydrated mashed potato flakes, in Binghamton, N. Y., 1956; (3) canned cooked rice, in Fresno, Calif., 1957; and (4) canned artificially sweetened grapefruit juice, in Fort Wayne, Ind., 1959.

8/ U. S. Dept. Agr. Agricultural Statistics, 1961.

9/ Super Market Merchandising. The True Look of the Super Market Industry, p. 61, April 1962.

Artificially sweetened grapefruit juice is the item most directly comparable with the new product because it may be substituted for apple juice in the diet to some extent; moreover, the market test for this grapefruit juice was conducted in the same city--Fort Wayne.

The weekly sales for the five market tests are shown in figure 6. In order to present each test product on as equal a basis as possible, sales are shown either from nondemonstration stores, or from stores having demonstrations, but with demonstration effects removed.

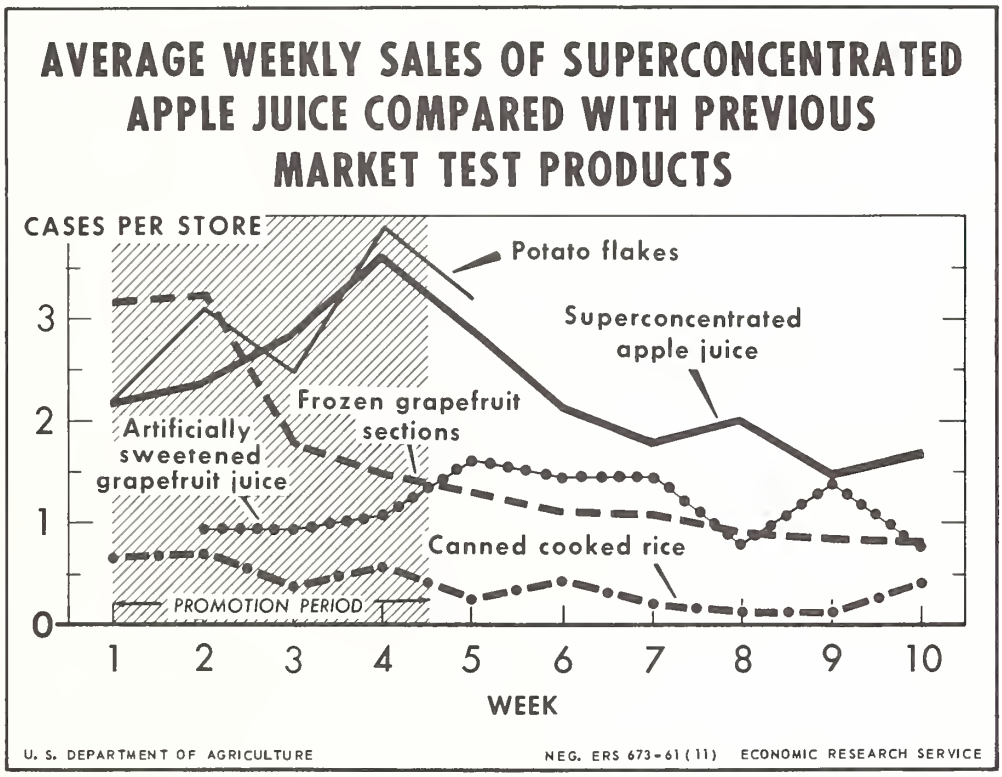

Figure 6

Superconcentrated apple juice compares very favorably in weekly sales with other new food products previously market tested. Only potato flakes, an exceptionally successful test product, surpassed the superconcentrate in weekly sales.

More important than sales during a period of intense promotion is a relatively high rate of sale after the promotion period, indicating acceptance by the housewife of a product tried earlier. A comparison between potato flakes and the new apple juice during the period following promotion is impossible because supplies of flakes were exhausted after 5 weeks of testing. The apple juice outsold by a considerable margin the three other test products.

Procedures Used

Between July 8 and July 30, 1960 (shortly after the various special promotional activities for superconcentrated apple juice had been completed), homemakers in Fort Wayne were interviewed.

Local personnel were hired and trained to talk with a sample of homemakers chosen by probability methods. This sample of Fort Wayne residents was divided into two parts. In the basic sample, all homemakers were to be interviewed, whether they were purchasers of the test product or not. In the supplementary sample, an additional 800 households were contacted, but interviews were completed only with homemakers who indicated they had bought the superconcentrated apple juice. The additional contacts were made to provide a large enough number of purchasers to permit detailed analysis of this group; results of these supplementary interviews were used only for tabulations in which purchasers are shown separately.

Eighty-six percent of the eligible homemakers were interviewed. Of the interviews reported, 461 were nonusers of the test product, 59 were with users from the basic sample, and 58 with users from the supplementary sample.

In interpreting the results of this study, allowance must be made for error that might result from interviewing a sample and not the whole population. Figures based on all the homemakers contacted may be assumed to be within 5 percentage points, plus or minus, of the figures that would have been obtained from a survey of all homemakers in Fort Wayne. For smaller groups, such as users or nonusers, or respondents in various income categories, the sampling error is somewhat higher.

Note: The terms "homemakers," "respondents," "housewives," and "women" have been used interchangeably in this report to describe the person in each household from whom data were obtained. The term "use" also appears interchangeably with "purchase" or "buy" throughout the report.

The Test Product

Awareness of the New Apple Juice

About 4 homemakers in 10 (43 percent) had seen or heard something about the superconcentrated apple juice. Younger, better educated homemakers with family incomes above $5,000 per year, and those with larger families were more likely to be aware of the existence of the test product (table 7). 10/

10/ The crossbreaks computed for this study show each background characteristic separately, rather than in combinations, because of the limitations imposed by the number of households in the survey. Proportions of respondents with specified background characteristics and the relationships between background characteristics are shown in appendix table 6.

Formal media such as television, newspapers, and radio were cited frequently as sources of information about the new product. About 1 homemaker in 5 (18 percent) mentioned having seen a store demonstration, and, although over nine-tenths of the homemakers shopped in food stores which stocked the test product, about the same proportion (19 percent) had noticed it in the regular frozen juice department in the store. Somewhat fewer homemakers reported having tasted a sample of the new juice (13 percent), or being aware of it through conversations with friends or neighbors (6 percent). 11/

Purchases

In the 3 months (approximately) that it had been on the market, the new apple juice had been purchased by 11 percent of the homemakers (or one-fourth of those who had seen or read something about it) (fig. 7). This compares favorably with the total of 16 percent who had purchased any other canned or bottled apple juice during the preceding year. (Use of other apple juice is discussed on page 18.)

11/ About halfway through the sequence of questions on sources of information a control question was included as a check on the possibility that there was bias in the wording of the questionnaire. Homemakers were asked if they had seen any billboards advertising the test product, even though no billboard advertising of superconcentrated apple juice had taken place. Only 1 percent of the homemakers gave affirmative answers to this question, which would seem to indicate that the design of the questionnaire did not influence the answers to any appreciable degree.

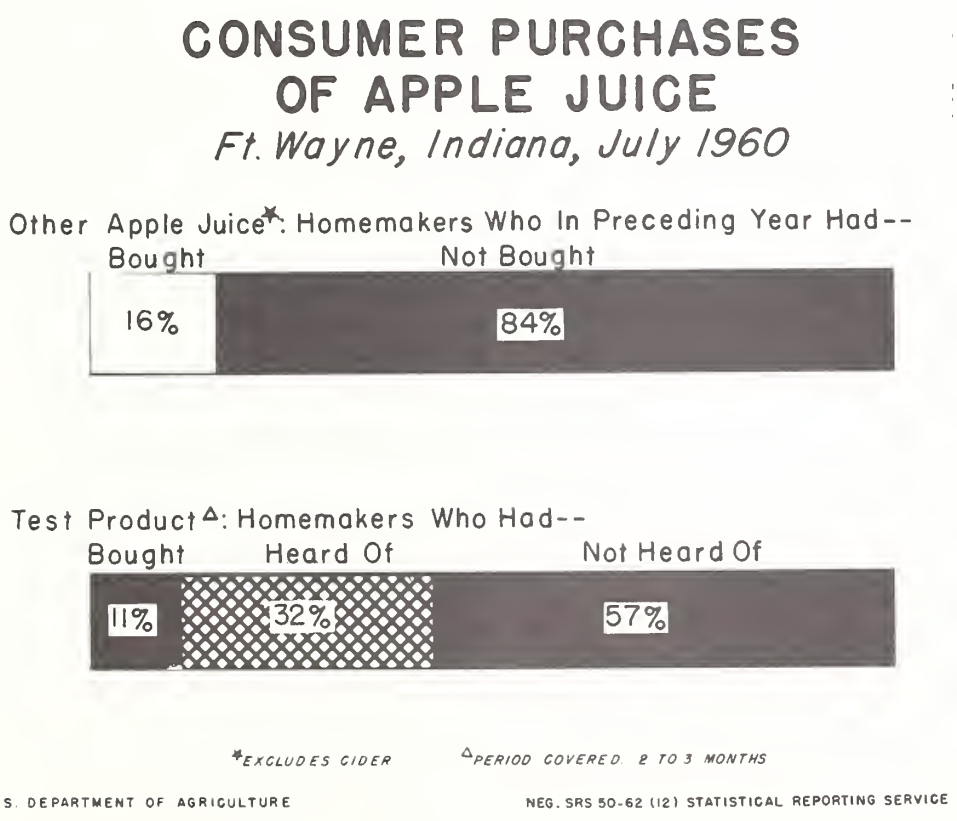

Figure 7

The pattern of incidence of purchase of the test product by background characteristics is similar to, although not identical with, that reported for awareness. Better educated, upper income homemakers, those 36 through 50 years of age, and those with larger families were more likely to have purchased it (table 7).

The demonstrations and provision of samples of the new juice for tasting in the stores appear to have been very effective in inducing homemakers to purchase this product. It would be impossible to assess how much credit these methods should receive, since most of the respondents who were aware of the new juice had been exposed to more than one source of information. However, it is interesting to note that about 5 in 10 of those who had seen demonstrations and 6 in 10 of those who had actually tasted the juice had made a purchase, while only about 1 in 10 of the aware homemakers not exposed to the special promotional activities in stores made purchases.

	Aware homemakers who--		
	Purchased test product	Did not purchase test product	Respondents
	Percent	Percent	Number
Aware homemakers who:			
Saw a demonstration--------	51	49	92
Did not see a demonstration-	9	91	130
Tasted juice in store -------	62	38	69
Did not taste sample of juice	10	90	153

Opinions of the Name

All respondents were asked their reactions to the name "Apple Squeeze" for an apple juice, whether they had heard of the new product or not. A large majority (85 percent) said that it was a good name, chiefly because they thought it explained what the product was or because it was a good selling name. The reasons given by the few who didn't consider it a good name were just the reverse: Either "Apple Squeeze" didn't sound like an apt description of the product to them, or they didn't consider it an appealing name. There were no significant differences between the reactions of those who had tried the test juice and other homemakers (table 27).

When asked "What do the words 'superconcentrated' make you think of?", a little over 5 respondents in 10 stated they thought a greater amount of water had been removed. About 3 in 10 said the term meant better quality. Those who had used the test product were a little more likely to mention less water content, and were a little less likely to mention quality implications (table 28).

Reactions of Aware Nonusers

Homemakers who knew about the superconcentrate but had not bought any prior to being interviewed were asked, "How come you didn't buy this new juice?" Almost half of these respondents (45 percent) cited preferences such as "Don't like apple juice," "Doesn't sound appealing," or "We prefer other juices." Other objections (mentioned by fewer than 1 in 10) included "Apple juice doesn't agree with me," "Doesn't have the proper nutrients" and "Couldn't afford it." However, some nonusers gave explanations such as "Just haven't thought of it," "Had other juice on hand," or "Didn't see it in the store" which suggested that they did not have strong negative attitudes and might purchase the test product later on (table 8). When asked specifically what they thought the chances were that they would try the new apple

juice in the next few months, about 4 in 10 of those who had heard about it (or 14 percent of all nonusers) indicated that they probably would buy it. This figure is undoubtedly inflated to some extent because of factors such as the tendency for the interviewers' inquiries to increase some homemakers' curiosity about the product, but it does show interest in trying the juice among a sizable proportion of the aware nonusers (table 9).

Aware nonusers were also asked about their impressions of and reactions to the price of the superconcentrated apple juice, to check on the possibility that this would be a deterrent to purchase. Most (72 percent) would not hazard an estimate of the price. Those who did were likely to be in error; only 6 percent stated the cost correctly, while 13 percent overestimated it and 9 percent made an underestimate. Those who did mention a figure (erroneous or not) usually felt that the price was reasonable, considering what fruit juices cost nowadays.

Reactions of the Users

One major factor in inducing those who had used the new product to purchase it was a venturesome spirit or willingness to experiment: About half of these homemakers indicated that they wanted to try the superconcentrated apple juice because it was something new. The only other frequent type of comment gave further evidence of the promotional value of the samples distributed in stores; about two-thirds of the users cited preference reasons, primarily that the sample tasted good, in explaining what had motivated them to make the purchase (table 10).

Apparently the initial favorable impression of the new juice when it was tried in the store was confirmed by consumption of larger quantities at home. All users were asked "In general, how would you rate this new apple juice; would you say it is very good, good, fair, or poor?" The majority stated they considered it very good; fewer than 1 in 10 felt it was only fair or poor (figure 8).

A little over half the users reported they had already bought the test product more than once at the time of the interview (fig. 8). About one-third had purchased it two or three times, and one fifth had bought it four or more times (table 11). Incidentally, although two-thirds of the users indicated they had first bought the juice from a demonstrator, virtually all the repeat purchases were made in the regular frozen food department of the store. The first purchase made was usually of two cans; those who made repeat purchases were even more likely to buy two or more cans at a time.

Respondents' stated intentions concerning future purchases were even more encouraging. When asked "Tell me what you think the chances are that you will buy this new apple juice again in the next few months; would you say that you probably won't buy it; might buy it but are not sure; or probably will buy it?", about three-fourths said they probably would; only 1 in 10 definitely did not intend to purchase it again (fig. 8).

All the homemakers who had used the test product were asked several open-ended questions about their opinion of the new juice to give them ample opportunity to express both their likes and dislikes. Reactions were overwhelmingly favorable: 78 percent said there was nothing they disliked about it while only 6 percent said there was nothing they liked about the product.

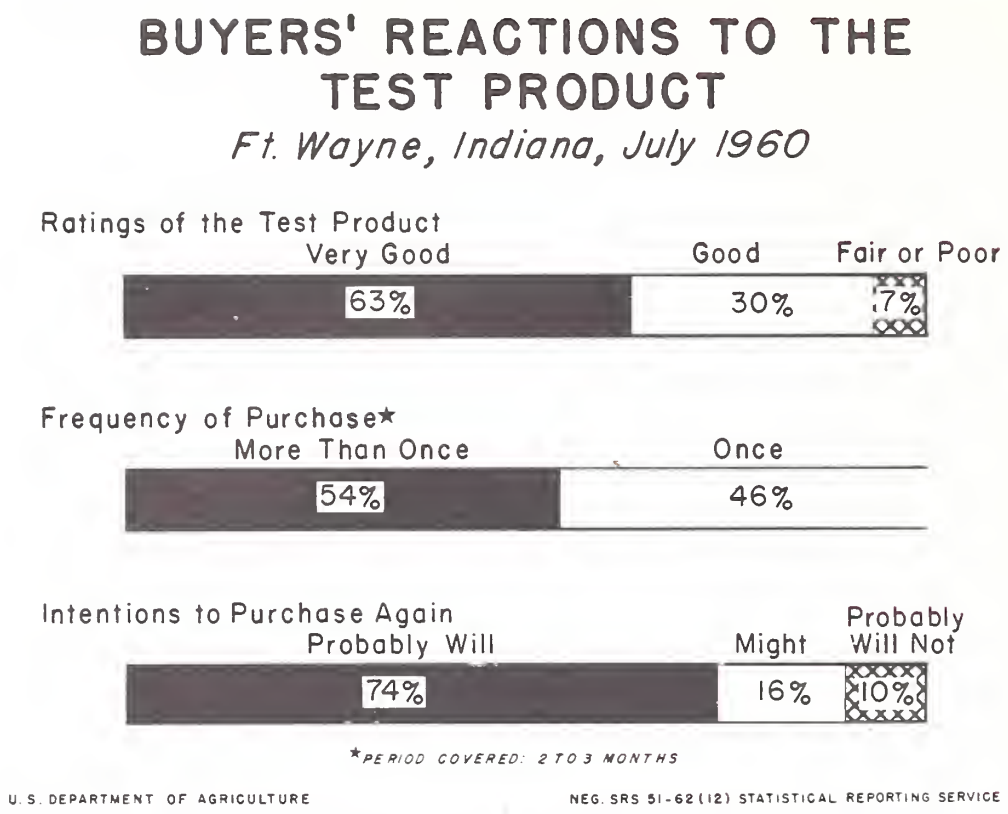

Figure 8

The major favorable comment concerned pleasure with the flavor, mentioned by 4 in 5, with emphasis on what respondents felt was a natural, fresh apple taste. Convenience was also a factor--about one-fifth said the juice was easy to mix and prepare, and almost as many commented that it was easy to store in the freezer compartment (table 12). Further testimony to the handiness of the test product came in response to the question, "Did you find that it was inconvenient in any way to mix apple juice from the concentrate?" Respondents unanimously agreed that they had had no difficulty at all.

On the negative side, the major comment concerned objections to the taste (10 percent), although a few thought it was too expensive, said the can was too small, or indicated they just didn't like the juice (table 13).

Two-thirds of the respondents had no suggestions for changes or improvements in the juice; very small numbers mentioned making it less sweet, making the flavor stronger, or lowering the price. The only predominant suggestion, made by almost 1 in 4, was to increase the size of the can (table 14). (The can size sold in Fort Wayne contained 4.6 fluid ounces of concentrate which reconstituted to 1 quart of apple juice.)

Responses to another question asked of all homemakers--both users and nonusers --indicate that marketing only a larger container might cause difficulties in some households. Almost 4 homemakers in 10 (36 percent) estimated that the biggest container they had in which they could mix frozen juice and store it in the refrigerator would hold only 1 quart or less. Another 1 in 10 thought 1-1/2 quarts would be the maximum, and half said they had containers with a capacity of 2 quarts or more (table 33). However, these figures may not be accurate; homemakers' estimates of container capacity were not checked by the interviewers.

Purchasers were asked several questions about mixing and serving the new juice because it was thought that deviations from the directions or excessive storage time after reconstitution might have an adverse effect on flavor and consequently on consumer acceptance. On the whole, the responses were reassuring: About three-fourths stated they had followed directions for reconstitution. The one-fourth who had not were likely to have used less water than was called for (17 percent) although a few (7 percent) had used more water. Most of the homemakers had used the apple juice can for measuring, although a few had used a quart measure instead. In most households, the juice was served almost immediately after reconstitution and was completely consumed in 1 day or less.

Although far too few homemakers were critical of the test product to permit any firm conclusions to be drawn about possible contributing factors, it is interesting to note that half of the 8 homemakers who rated the juice as "fair" or "poor" indicated they used less water than the directions called for, while only a little over 1 in 10 of those who liked the test product had mixed it with less water than was recommended.

It is encouraging to note that the majority of the users of the test product represented additional customers for apple juice. Almost three-fourths had not purchased any other apple juice (excluding cider) during the preceding year.

Almost two-thirds (64 percent) of the users said they had served superconcentrated apple juice instead of other fruit juices, and a little over half (56 percent) indicated it was displacing soft drinks and ades. 12/ No other type of product was mentioned by more than 1 in 10 (table 16). However, even with this reported substitution, test product purchasers were more likely than nonpurchasers to have used other frozen fruit juices, drinks, and ades within the preceding 2 or 3 months (table 32).

Typically the new juice was consumed between meals; over 8 homemakers in 10 had served it this way. Only 3 in 10 had used it with breakfast, and 2 in 10 had served it for lunch or supper (table 15). As will be seen later, users of other apple juice reported much the same pattern.

Users of the test product were also asked several questions relating to the price. About half couldn't recall what they had paid; the majority of those who cited a figure were correct, although 1 in 7 understated the price, and a few overstated it. Almost all of those who mentioned a figure said that the price was reasonable.

12/ Percentages total more than 100 percent because some respondents gave more than one answer.

In response to a hypothetical question on multiple-unit pricing, three-fourths of the users said they would buy 4 cans of the new apple juice at a time if it were a little cheaper that way (table 17).

Other Apple Juice

Sixteen percent of the homemakers said that during the preceding year they had used a canned or bottled apple juice other than the test product. (This does not include purchases of cider available only in the fall.) There were no significant differences in incidence of use by age, family income, or family size. However, homemakers who had completed college were more likely to have used other apple juice than were respondents with less formal education (table 18).

When those who had not purchased other apple juice were queried about why they had not, once again the explanations were related chiefly to preference (51 percent), although a few mentioned such reasons as "Just haven't thought of it," "Not familiar with apples as a juice," or "On a restricted diet" (table 19).

Homemakers who had used neither the test product nor any other apple juice were also asked their impressions of the ways apple juice could be used in the home. Most of them indicated they thought of apple juice as being for both children and adults, rather than just for one or the other. And about two-thirds predicted that if they had some apple juice on hand they would serve it between meals; probable use with breakfast was cited by about half as many; even fewer thought they would serve it for lunch or supper (table 20). This hypothetical use pattern is similar to the pattern reported by users (see page 17).

Among those who did use other apple juice, three main explanations emerged: "We like it" (41 percent), "It's good for you" (40 percent), and "It gives us variety" (35 percent), (table 21).

Almost 4 homemakers in 10 used apple juice less than once a month, 3 in 10 served it several times a month, and about 3 in 10 served it once a week or more. The main reason offered by those who served it less often than once a week was the blunt statement that it wasn't liked that well (table 22).

In three-fourths of the households using other apple juice, all family members drank it; in the remainder, it was most likely to be the "man of the house" who did not (table 23). About half the homemakers said some members of their families liked apple juice especially well. The children and the respondent herself were cited most often as being particularly fond of this product (table 24).

The majority of the women who used other apple juice said it was served most often between meals. About 8 in 10 reported they served it between meals, 5 in 10 used it for breakfast, and 3 in 10 had served it with lunch or supper (table 25).

Even though the predominant use was for between meals, most homemakers did not serve large amounts at one time, if their estimates were correct. They were handed a card with full-scale illustrations of three popular glass sizes and asked to indicate which was closest to the size of the glass in which they usually served apple juice. It was found that:

51 percent usually used a glass which they felt was close to the 4-ounce size,
38 percent thought they usually used an 8-ounce size, and
6 percent chose the 12-ounce size.

After the approximate size of the glass usually used for serving apple juice had been determined, respondents were asked to show (on the scale which had been drawn in) the level to which the glass was usually filled. Most of the women reported the glasses were usually filled at least three-fourths of the way.

Estimates of amounts served based on homemakers' responses to these two questions indicate that:

51 percent usually served 3 or 4 ounces,
24 percent served about 6 ounces, and
18 percent ordinarily served as much as 8 or 10 ounces (table 26).

Most homemakers stated that all family members tended to use the same size glass.

Among all the homemakers interviewed, about three-fourths were of the opinion that the words "apple juice" and "cider" had different meanings. Differences in taste and method of preparation were cited most often. Many believe that cider is fermented or "hard," giving it a tart, sour flavor, but that apple juice is not fermented and therefore has a sweet, mild taste. Actually, because there are no requirements governing what type of product may be called apple juice and what may be called cider, there are no consistent differences between the two.

Responses were split fairly evenly as far as preferences were concerned. Approximately one-third of the women who thought apple juice and cider were different said they had no choice, about the same number liked apple juice better, and a somewhat smaller proportion preferred cider.

The respondents who had said that the two words meant the same thing (23 percent) were asked which name they preferred. The results were quite similar to those cited above. In Fort Wayne, at least, neither term would appear to hold a clear advantage over the other in appealing to consumers (table 29).

Almost all homemakers believed that there are good things, from the standpoint of health, about drinking apple juice. "Has vitamins" (mentioned by almost half) led the list, followed by "nourishing, has food value" and "has a laxative effect," each mentioned by roughly a fourth (table 30).

Four out of five felt there were no bad things, from the standpoint of health, about drinking apple juice. The few who cited some disadvantage were most likely to mention "too laxative an effect" or other digestive problems (table 31).

Other Apple Products

Canned Applesauce

Almost 4 out of 5 of the homemakers interviewed in Fort Wayne had purchased cans or jars of applesauce in the 12 months preceding the interview. Those who were older, less well educated, with lower incomes, or with smaller families, were less likely to use this product.

Canned applesauce was used at least once a month by about half the respondents and 17 percent reported using it as often as once a week. Those who had not used it at all most often explained that they preferred to make their own applesauce (tables 36 and 37).

Canned Sliced Apples

About one-third of the women had used cans or jars of apples sliced for pie in the past year, although generally less often than once a month. Older homemakers, those in the lowest or highest formal education categories and those with smaller families, were less likely to have purchased canned sliced apples. The predominant explanations among all nonusers were "Prefer to use fresh apples" or "Don't ever bake apple pies" (tables 38 and 39).

Canned Baked Apples

Very few (5 percent) of the respondents had bought canned baked apples in the specified 12-month period. Most of those who had made such a purchase used canned baked apples less often than once a month. The majority of the nonusers explained either that they preferred to make their own baked apples or that they had never heard of such a product (tables 34 and 35).

Fresh Apples

Virtually all (98 percent) of the homemakers interviewed reported that they had used fresh apples in their homes during the preceding year. The fact that the family was fond of apples was the main reason advanced (58 percent), but quite a few (38 percent) spoke of health reasons such as nutritive value, vitamin content, or laxative or roughage aspects. Usefulness as a snack, convenience, and inexpensiveness were also mentioned by at least 1 in 10 (table 40).

Apples were eaten out-of-hand in practically every family. In addition, fresh apples were sometimes used by roughly 6 in 10 for baked apples, pies, and homemade applesauce; and about 4 in 10 occasionally used them in salads. No other specific uses were named by more than about 1 in 10 (table 41).

A majority used apples at least as often as once a week, on the average, for eating out-of-hand. None of the recipes was used frequently by large numbers of respondents (table 42).

Roughly half the women stated that when choosing eating apples they considered texture (they wanted a solid, firm, crisp apple, or one that suggested juiciness) or the particular variety. About 3 in 10 specified some aspect of taste (such as tartness or sweetness) or color (red, or a special shade of red), and almost as many cited appearance factors (mainly no blemishes, bruises, or spots) or the size of the apple (table 43). However, when they were asked "What don't you like about the looks of some eating apples?", bruises, blemishes, and soft spots (mentioned by 55 percent) headed the list. Wrinkled, withered, dry-looking apples were cited frequently (31 percent), as were undesirable color (25 percent) and size (18 percent) (table 44).

Specific questions about reactions to variety, the shade of red, and small bruises were asked of homemakers who had not already mentioned these points. Only about 1 in 10 had specified what degree of redness she liked in response to the two open-ended questions discussed above. Combining the results from all questions, we find that half the respondents care about the shade of red and half do not. Those who do judge in part by the shade were likely to speak of a deep, dark red, or a bright red (table 45).

Shoppers apparently feel more strongly about bruises. The women stated by a margin of 3 to 1 that even small bruises make a difference when they are selecting apples (table 46).

Variety was of major importance. Half the respondents had volunteered it as a consideration; an additional 3 in 10 said it was important when queried specifically about variety. A little over half of those who used fresh apples more than one way indicated they bought different varieties of apples for different purposes. The remainder tended to use the same kind of apple for everything (tables 47 and 48).

CONCLUSION

Flavor superiority is probably the most important single attribute of the superconcentrated apple juice. Also, the product can withstand considerable temperature fluctuation without impairment of flavor.

The product is convenient to use because of its high concentration; it remains a liquid even at temperatures of zero degrees F. or below, and a housewife can mix this juice immediately after taking it from the freezer. Also, the product when reconstituted yields twice as much beverage as a similar size can of the usual 3-to-1 concentrate.

The high concentration of the product acts as a preservative. The superconcentrate is pure apple juice which needs no added preservatives to maintain its quality.

While initial processing costs may be higher, the smaller bulk of the product, compared to single-strength and frozen juices, represents lower packaging, handling, and transportation costs which may more than offset the higher initial costs. At a selling price of 39 cents for two 4.6-ounce cans, the product was competitive with most frozen juices and some canned single-strength juices. But more important, it was a price at which a processor could make a fair return and producers should get much more than a salvage price for their apples.

These factors, in addition to the good sales record of the superconcentrate during the market test, indicate that the new product enjoys a favorable market potential.

There is a tendency in the apple industry to consider the production of apple juice as a salvage operation. Certainly, the low prices paid for apples which are crushed do not make this outlet a very profitable use of the crop. Therefore, growers probably hesitate to increase their sales of apples for crushing.

Coupled with the low prices for apples for crushing was an annual harvest that until 1957 was relatively stable. The production of apples was apparently not sufficiently excessive to stimulate the marketing of new food products made from apples in significant quantities. However, in recent years increases in apple production in the Nation suggest that producer and industry groups might seriously consider the merits of commercially introducing the new apple juice in major markets as one method of increasing the consumption of apples.

APPENDIX

Table 1.--Frozen concentrated juice and drink products, by size of container, amount when reconstituted, and number of brands, audited in market test of superconcentrated apple juice, Fort Wayne, Ind., 1960

Product and size of container	Amount when reconstituted		Brands audited
	Juice	Drink	
	Ounces	Ounces	Number
Orange juice:			
6-ounce	24	--	3
6-ounce	32	--	1
12-ounce	48	--	3
Lemonade:			
6-ounce	--	32	3
6-ounce	--	32	1
12-ounce	--	64	2
Grape juice and drink:			
6-ounce	18	24	2
6-ounce	24	32	1
12-ounce	36	48	2
Punches (6-ounce):			
Citrus	--	32	1
Grape-lemon	--	32	1
Pineapple-lemon	--	32	1
Raspberry-lemon	--	32	1
Strawberry-lemon	--	32	1
Blend of 3 or more juices	--	32	2
Pineapple-orange juice (6-ounce)	24	--	1
Pineapple-grapefruit juice (6-ounce)	24	--	1
Orange-grapefruit juice (6-ounce)	24	--	2
Limeade, 6-ounce	--	24	2
Pineapple juice, 6-ounce	24	--	1
Grapefruit juice, 6-ounce	24	--	1
Lemon juice, 6-ounce (single-strength)	6	--	1
Superconcentrated apple juice, 4.6-ounce	32	--	1
Total	--	--	35

Table 2.--Canned or bottled single-strength juice products, by size of container and number of brands, audited in market test of superconcentrated apple juice, Fort Wayne, Ind., 1960

Product	Can or bottle size	Brands audited
	Ounces	Number
Orange drink	46	1
Pineapple-grapefruit drink	29	2
Pineapple-grapefruit drink	32	2
Pineapple-grapefruit drink	46	4
Grape drink	32	2
Grape drink	46	1
Grape juice	4	1
Grape juice	12	2
Grape juice	24	3
Grape juice	32	2
Punch drink	46	3
Pineapple-orange drink	29	2
Pineapple-orange drink	46	2
Apple juice	32	5
Apple juice	46	4
Orange-lemon drink	32	1
Orange-lemon drink	46	1
Apricot nectar	12	1
Apricot nectar	29	1
Apricot nectar	46	1
Blend of 3 or more juices	32	1
Grape-apple drink	32	1
Pineapple-lime drink	29	1
Pineapple-lime drink	32	1
Cherry drink	32	1
Total	--	46

Table 3.--Actual and estimated sales of superconcentrated apple juice in 23 supermarkets, Fort Wayne, Ind., 10-week test period, May 9 to July 18, 1960 1/

Stores and weeks	Actual sales			Estimated sales volume without instore demonstrations
	Volume	Amount when reconstituted	Retail value	
	Cases	Quarts	Dollars	Cases
15 stores audited weekly:				
With promotion:				
Week 1	167	4,019	784	33
Week 2	186	4,459	870	36
Week 3	137	3,295	643	43
Week 4	54	1,048	253	--
Total, weeks 1-4	544	13,069	2,550	166
Weekly average	136	3,267	638	42
Weekly average per store	9.07	218	42.53	2.80
Without promotion:				
Week 5	44	1,048	204	--
Week 6	32	766	149	--
Week 7	27	639	125	--
Week 8	30	716	140	--
Week 9	22	533	104	--
Week 10	25	611	119	--
Total, weeks 5-10	180	4,313	841	--
Weekly average	30	719	140	--
Weekly average per store	2	48	9.33	--
Total, weeks 1-10	724	17,382	3,391	345
Weekly average	72	1,738	339	23
Weekly average per store	4.82	116	22.60	2.30
8 stores not audited:				
Total, 10 weeks	47	1,125	219	--
Weekly average	.59	14	2.74	--
23 stores:				
Total, 10 weeks	771	18,507	3,610	392
Weekly average per store	3.35	80	15.69	1.70

1/ The test product was demonstrated in some of the stores during the first 3 weeks of promotion, and these stores had higher sales than the nondemonstration stores. Estimates shown in the last column are based on the assumption that, without the demonstrations, all stores would have had the same rate of sales as the nondemonstration stores.

Table 4.--Weekly sales of superconcentrated apple juice in 15 supermarkets, with and without instore demonstrations, Fort Wayne, Ind., May 9 to July 18, 1960

Weeks	With instore demonstrations		Without demonstrations		Weekly ratio, sales with demonstrations to sales without demonstrations
	Sales	Stores	Sales	Stores	
	Cases	Number	Cases	Number	
Week 1	151.29	6	16.16	9	9.4 to 1
Week 2	166.33	6	19.46	9	8.5 to 1
Week 3	105.79	4	31.50	11	3.4 to 1
Total	423.41	1/ 16	67.12	2/ 29	6.3 to 1
Weeks 4 - 10	--	--	233.72	3/105	--
Total	423.41	16	300.84	134	--
	Percent		Percent		
Percent of sales	58.4	--	41.6	--	--

1/ 14 stores for 1 week and 1 store for 2 weeks.
2/ 14 stores for 2 weeks and 1 store for 1 week.
3/ 15 stores for 7 weeks.

Table 5.--Processor's returns and cost of instore demonstrations for 10-week market test of superconcentrated apple juice, 23 supermarkets, Fort Wayne, Ind., May 9 to July 18, 1960 1/

Item	15 stores during demonstration weeks 2/		23 stores, all 10 weeks of test
	Total	Average per demonstration week	
	Dollars	Dollars	Dollars
Processor's total return	1,439.53	89.97	2,621.84
Cost of demonstrations:			
Wages at $1.50 per hour	501.00	--	501.00
Wholesale cost of samples (includes processor's profit)	161.91	--	161.91
Dry ice	140.20	--	140.20
Cups	99.37	--	99.37
Fixed costs (trays, pitchers, etc.)	96.00	--	96.00
Total	998.48	62.40	998.48
Processor's return less cost of demonstrations	441.05	27.57	1,623.36

1/ Based on wholesale price of $3.40 and retail price of $4.68 per case of 24 cans.
2/ Demonstration weeks totaled 16 (1 week in each of 14 stores, and 2 weeks in the 15th store).

Table 6.--Background information: Relationship between characteristics used as standard crossbreaks in household consumer survey, market test of superconcentrated apple juice, Fort Wayne, Ind., 1960 1/

Item	Fort Wayne total	Homemakers' -- Age: 35 and under	Age: 36 to 50	Age: 51 and over	Education: Grammar school	Education: Some high school	Education: Finished high school	Education: College
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Homemakers' age:								
35 and under	31	100	--	--	5	20	54	21
36 to 50	36	--	100	--	14	28	44	14
51 and over	32	--	--	100	51	14	18	17
Homemakers' education:								
Grammar school	24	7	21	69	100	--	--	--
Some high school	20	30	48	22	--	100	--	--
Finished high school	38	44	41	15	--	--	100	--
College	17	38	29	32	--	--	--	100
Family income:								
Under $5,000	31	31	21	46	40	24	26	10
$5,000 to $6,999	27	44	38	18	19	26	45	10
$7,000 and over	30	27	51	22	9	14	48	29
Family size:								
One or two	40	13	20	64	42	18	26	13
Three or four	37	43	40	17	14	21	45	20
Five or more	23	44	54	2	8	23	48	20

Item	Family -- Income: Under $5,000	Income: $5,000 to $6,999	Income: $7,000 and over	Size: One or two	Size: Three or four	Size: Five or more	Respondents
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Number
Homemakers' age:							
35 and under	31	38	26	16	51	33	161
36 to 50	18	29	44	23	42	35	186
51 and over	45	15	21	79	20	1	167
Homemakers' education:							
Grammar school	53	22	11	70	22	8	123
Some high school	36	34	21	35	39	26	106
Finished high school	21	32	38	27	44	29	199
College	18	16	52	30	43	27	89
Family income:							
Under $5,000	100	--	--	59	31	10	162
$5,000 to $6,999	--	100	--	31	30	39	140
$7,000 and over	--	--	100	25	49	26	158
Family size:							
One or two	46	22	19	100	--	--	206
Three or four	27	22	40	--	100	--	193
Five or more	13	45	35	--	--	100	121

1/ Percentages may add to less than 100 because some characteristics were not ascertained for some respondents.

Table 7.--". . . Have you seen or heard anything about this new frozen apple juice or not?" (If aware of test product) "Have you bought any of this new frozen apple juice?"

	Homemakers who had --		
	Heard of new product	Purchased new product 1/	Respondents 2/
	Percent	Percent	Number
Fort Wayne total	43	11	520
Homemakers' age:			
35 and under	52	11	161
36 - 50	44	17	186
51 and over	34	6	167
Homemakers' education:			
Grammar school	28	7	123
Some high school	36	8	106
Finished high school	53	14	199
College	51	17	89
Family income:			
Under $5,000	38	6	162
$5,000 - $6,999	49	12	140
$7,000 and over	44	15	158
Family size:			
1 or 2	36	8	206
3 or 4	41	12	193
5 or more	56	17	121
Use of other apple juice:			
Had used in preceding year	49	24	83
Had not used in preceding year	41	9	437

1/ Percentages based on all respondents.

2/ The number of respondents shown for some subgroups in this table, and those following, do not add to the Fort Wayne total because certain characteristics were not ascertained for some homemakers.

Table 8.--"How come you didn't buy this new juice?" (Asked only of aware homemakers who had not purchased the test product) 1/

	Percent
Preference	45
Don't like apple juice	15
Does not sound appealing	13
Prefer other juices	10
Don't care for any juice	4
Don't like apples	2
Don't like frozen juices	2
Miscellaneous preference reasons	3
Just haven't thought of it	10
Doesn't agree with me	9
Couldn't afford it	7
Had other juice on hand	6
Didn't see it in the store	6
Doesn't have the proper nutrients	4
Haven't had time to purchase it, just heard about it	2
Doesn't have storage place for frozen things	2
Reluctant to try new things	2
Miscellaneous	4
Not applicable	7
Number of respondents	163

1/ Percentages for indented answers add to more than the subtotal and the total is more than 100 because some respondents gave more than one answer.

Table 9.--"Tell me what you think the chances are that you will buy this new apple juice in the next few months; would you say that you probably won't buy it; might buy it but are not sure; or probably will buy it?" (Asked only of aware homemakers who had not purchased the test product)

	Percent
Probably won't buy it	30
Might buy it but are not sure	31
Probably will buy it	39
Number of respondents	163

Table 10.--"What would you say were the main reasons you bought this new juice?" (Asked only of homemakers who had purchased the test product) 1/

	Percent	
Preference		63
Liked the sample	33	
Sample had a natural, pure apple flavor	13	
Like apple juice	12	
Children wanted it	7	
Tasted like cider	3	
Like frozen juice	3	
Miscellaneous	1	
Something new, wanted to try it		49
Health		12
Good for you	6	
Nonfattening, no sugar	5	
On a restricted diet	1	
Convenience		8
Easy to store, keep in freezer	6	
Easy to mix	2	
Convenient, handy	2	
For variety		7
Economical		4
Miscellaneous		7
Number of respondents	107	

1/ Percentages for indented answers may add to more than the subtotals and these add to more than 100 because some respondents gave more than one answer.

Table 11.--"How many different times have you bought it (the new apple juice)?" (Asked only of homemakers who had purchased the test product)

	Percent	
Once		46
More than once		54
Twice	20	
Three times	14	
Four times	7	
Five or more times	13	
Number of respondents	107	

Table 12.--Reasons for liking the new apple juice, among homemakers who had purchased the test product 1/

	Percent	
Taste		78
Tastes natural, like fresh apples	44	
Like the taste	25	
Tastes like cider	9	
Just right sweetness, sweet taste	7	
Has a tangy taste	2	
Convenience		39
Easy to mix, prepare	22	
Easy to store, keep in freezer	17	
Handy, convenient	4	
Refreshing, thirst quencher		18
For variety		11
We like it		11
Nutritious, good for you		9
Economical		4
Smells good		2
Acts as a laxative		2
Miscellaneous		9
Nothing liked		6
Number of respondents		107

1/ Percentages for indented answers add to more than the subtotals and these add to more than 100 because some respondents gave more than one answer.

Table 13.--Reasons for disliking the new apple juice, among homemakers who had purchased the test product

	Percent
Taste	10
Nothing disliked	78
Too expensive	3
Just don't like it	3
Can is too small	2
Miscellaneous	3
Not applicable	1
Number of respondents	107

Table 14.--"Do you have any suggestions for (other) changes or improvements?" (Asked only of homemakers who had purchased the test product) 1/

	Percent
No suggestions	67
Increase size of can	23
Make it less sweet	4
Lower the price	2
Make flavor stronger	3
Miscellaneous	4
Not ascertained	2
Number of respondents	107

1/ Percentages add to more than 100 because some respondents gave more than one answer.

Table 15.--"How have you served this new juice--with meals, between meals, or both?" (If with meals) "Which meals have you served it with?" (Asked only of homemakers who had purchased the test product) 1/

	Percent
Ways served:	
Between meals only	55
For breakfast and between meals	14
For lunch or supper and between meals	10
For breakfast only	9
For lunch or supper only	4
For breakfast and lunch or supper	1
All three ways	5
Haven't served test product yet	2
Summary of ways served: 1/	
Between meals	84
For breakfast	29
For lunch or supper	20
Haven't served test product yet	2
Number of respondents	107

1/ Percentages add to more than 100 because some respondents gave more than one answer.

Table 16.--"When you used this new juice, what were you using it in place of?" (Asked only of homemakers who had purchased the test product) 1/

	Percent	
Fruit juices		64
Orange juice	48	
Grape juice	17	
Pineapple juice	9	
Tomato juice	8	
Grapefruit juice	4	
Prune juice	2	
Orange-grapefruit juice	2	
Fruit juice (gen.)	7	
Other fruit juices	5	
Soft drinks, ades and punches		56
Soft drinks	39	
Lemonade	14	
Other ades and punches	16	
Milk		10
Coffee		7
Tea		7
Other drinks		3
Miscellaneous		3
Haven't used it yet		2
Not ascertained		1
Number of respondents	107	

1/ Percentages for indented answers add to more than the subtotals and these add to more than 100 because some respondents gave more than one answer.

Table 17.--"How would you feel about buying four cans of the new apple juice at a time if they were a little cheaper that way - would you buy four cans at a time, or not?" (Asked only of homemakers who had purchased the test product)

	Percent	
Would buy four cans at a time		76
Would not buy four cans at a time		20
Didn't like test product	8	
Not enough storage space	6	
Don't like to keep supply on hand	3	
Miscellaneous	3	
Other answers		4
Depends on price	2	
Would if family learned to like it	2	
Number of respondents	107	

Table 18.--"Have you used any other kinds of apple juice in your home in the past year?"

	Used other apple juice	Had not used other apple juice	Respondents
	Percent	Percent	Number
Fort Wayne total	16	84	520
Homemakers' age:			
35 and under	17	83	161
36-50	16	84	186
51 and over	14	86	167
Homemakers' education:			
Grammar school	11	89	123
Some high school	18	82	106
Finished high school	14	86	199
College	25	75	89
Family income:			
Under $5,000	15	85	162
$5,000 - $6,999	17	83	140
$7,000 and over	16	84	158
Family size:			
1 or 2	13	87	206
3 or 4	19	81	193
5 or more	17	83	121

Table 19.--"How come you haven't used (any other kinds of) apple juice in your home?" (Asked only of homemakers who had not used other apple juice in the preceding year) 1/

	Percent
Preference	51
Don't like apple juice	25
Does not sound appealing	8
Use other forms of apples	7
Prefer other juices	8
Don't care for any juice	3
Don't like apples	2
Miscellaneous preference reasons	1
Just haven't thought of it	14
Not familiar with apples as a juice	9
On a restricted diet	8
Too expensive, can't afford it	3
Doesn't have the proper nutrients	3
Haven't seen it in the stores	2
Miscellaneous	5
Not ascertained	9
Number of respondents	437

1/ Percentages for indented answers add to more than the subtotal and the total is more than 100 because some respondents gave more than one answer.

Table 20.--"Suppose you had some apple juice: How would you serve it--with meals, between meals, or both?" (If with meals mentioned) "Which meals would you serve it with?" (Asked only of homemakers who had not used either the test product or other apple juice in the preceding year) 1/

	Percent
Between meals	67
For breakfast	36
For lunch or supper	26
Not ascertained	11
Number of respondents	398

1/ Percentages add to more than 100 because some respondents gave more than one answer.

Table 21.--"What are the main reasons you use apple juice in your home?" (Asked only of homemakers who had used other apple juice in the preceding year) 1/

	Percent
We like it	41
Good for you, healthy	40
Gives variety	35
Children like it	8
Recipe calls for it in cooking	5
Refreshing, thirst quencher	4
It is inexpensive	2
Miscellaneous	4
Not ascertained	8
Number of respondents	83

1/ Percentages add to more than 100 because some respondents gave more than one answer.

Table 22.--"About how often do you serve it?" (If less than once a week) "How come you don't use it more often?" (Asked only of homemakers who had used other apple juice in the preceding year)

	Percent
Once a week or more	33
Once a month or more, but less than once a week	29
Less than once a month	38
Reasons for serving less than once a week:	
Don't like it that well	29
Want variety	5
Use it only in certain recipes	4
On a restricted diet	2
Other juices more nutritious	2
Use only when apples not in season	2
Miscellaneous	12
Not ascertained	11
Number of respondents	83

Table 23.--"Do all members of your family drink apple juice?" (If no) "Who doesn't drink it?" (Asked only of homemakers who had used other apple juice in the preceding year)

	Percent
All family members drink it	77
Some do not drink it	23
Family members who do not:	
Husband	9
Wife	4
Adults	2
Children	1
Other members of household	3
Whole family - only use in cooking	4
Number of respondents	83

Table 24.--"Do any members of your family like apple juice especially well?" (If yes) "Which ones?" (Asked only of homemakers who had used other apple juice in the preceding year)

	Percent
None like it especially well	49
Some like it especially well	51
Family members who do:	
Children	18
Wife	14
Husband	7
Adults	6
Husband and child	2
All members of household	2
Not ascertained	2
Number of respondents	83

Table 25.--"Have you served apple juice for (breakfast, lunch or supper, between meals) in the past year?" (If serves apple juice more than one way) "In which of these ways would you say you use the most apple juice?" (Asked only of homemakers who had used other apple juice in the preceding year)

	Percent
Ways served:	
Between meals only	28
For breakfast and between meals	28
For lunch or supper and between meals	12
For breakfast only	7
All three ways	16
Miscellaneous	7
Not ascertained	2
Summary of ways served: 1/	
Between meals	83
For breakfast	52
For lunch or supper	31
Ways most apple juice used (includes those who served it only one way):	
Between meals	58
For breakfast	28
For lunch or supper	7
Miscellaneous	3
No answer	4
Number of respondents	83

1/ Percentages add to more than 100 because some respondents gave more than one answer.

Table 26.--Amount of apple juice usually served, among homemakers who had used other apple juice in the preceding year 1/

	Percent
2 ounces	2
3 ounces	23
4 ounces	28
6 ounces	24
8 ounces	12
10 ounces	6
Use only in cooking	4
Not ascertained	1
Number of respondents	83

1/ Respondents were handed a card illustrating glass sizes and asked: "Please show me the glass which is closest to the size you usually use when serving apple juice (for major use). How near to the top do you usually fill it?"

Table 27.--"Do you think 'Apple Squeeze' is a good name for apple juice or not? Why do you feel this way?" 1/

	Ft. Wayne total	Homemakers who-- Used the test product	Homemakers who-- Did not use the test product
	Percent	Percent	Percent
Good name	85	83	85
Reasons given:			
Explains exactly what it is	47	41	47
It is a good selling name	34	40	34
Makes you think of Johnny Appleseed	6	7	6
Miscellaneous	1	2	1
Don't know	10	9	10
Not a good name	13	15	13
Reasons given:			
Doesn't sound like what it is	6	6	7
Is not appealing	6	8	6
Don't know	1	2	2/ *
Not ascertained	2	2	2
Number of respondents 3/	520	107	461

1/ Percentages for indented answers may add to more than the subtotals because some respondents gave more than one answer.

2/ Asterisk indicates less than 1 percent.

3/ The number of test product users and nonusers exceeds the number shown for all homemakers because proportionate weights for basic and supplementary sample interviews were used in computing the total figures.

Table 28.--"What do the words 'super-concentrated' make you think of?" 1/

	Ft. Wayne total	Homemakers who-- Used the test product	Homemakers who-- Did not use the test product
	Percent	Percent	Percent
Greater amount of water has been removed	55	67	54
Better quality, extra fine, pure	29	21	30
More flavor to it	3	6	2
Added vitamins	3	3	3
Thicker, more body to it	3	9	3
More nutritious, more vitamins	2	---	2
Prepared in a special way	1	2	1
Don't know	9	4	9
Miscellaneous	2	---	2
Not ascertained	9	4	9
Number of respondents	520	107	461

1/ Percentages add to more than 100 because some respondents gave more than one answer.

Table 29.--"When you think of apple juice and cider, do you consider the words 'apple juice' and 'cider' as meaning the same thing or are they different?" (If they are different) "Which do you like better, apple juice or cider?" (If mean the same thing) "Which name do you like better?"

	Percent	
They are different		76
Product preferred:		
Apple juice	28	
Cider	17	
No preference	25	
Haven't tasted one or both	4	
Not ascertained	2	
Mean the same thing		23
Name preferred:		
Apple juice	7	
Cider	5	
No preference	9	
Not ascertained	2	
Not ascertained		1
Number of respondents		520

Table 30.--"Do you think there are any good things, from the standpoint of health, about drinking apple juice?" 1/

	Ft. Wayne total	Homemakers who-- Used the test product	Homemakers who-- Did not use the test product
	Percent	Percent	Percent
Has vitamins	45	56	44
Nourishing, healthful, has food value	28	21	29
Has a laxative effect	23	20	23
Aids digestion, easy to digest	4	7	4
Has minerals	5	10	5
Low in calories	1	3	1
Supplies the liquid needed daily	1	3	1
Has natural sugar, low in sugar	1	3	2/ *
Good for specific ailments	2	1	2
Miscellaneous	2	4	2
Don't know, not ascertained	7	4	8
No good things	4	3	5
Number of respondents	520	107	461

1/ Percentages add to more than 100 because some respondents gave more than one answer.

2/ Asterisk indicates less than 1 percent.

Table 31.--"Do you think there are any bad things, from the standpoint of health, about drinking apple juice?" 1/

	Ft. Wayne total	Homemakers who-- Used the test product	Homemakers who-- Did not use the test product
	Percent	Percent	Percent
No bad things	81	80	81
Can have too laxative an effect	6	7	5
Too acid for some	4	2	5
Some people are allergic to apples	3	2	3
Causes indigestion for some	3	2	3
Too much sugar for some	2	1	2
Miscellaneous	1	2	1
Don't know, not ascertained	2	4	2
Number of respondents	520	107	461

1/ Percentages may add to more than 100 because some respondents gave more than one answer.

Table 32.--"Which of these (frozen, canned or bottled) products have you used in your home in the past 2 or 3 months?" 1/

	Ft. Wayne total	Homemakers who-- Used the test product	Homemakers who-- Did not use the test product
	Percent	Percent	Percent
Frozen products:			
Orange juice	73	86	71
Grape juice	27	44	26
Other fruit juices or blends	21	35	20
Lemonade	60	79	58
Other fruit drinks, punches, or ades	11	25	9
None of these	19	7	19
Canned or bottled products:			
Apple juice	12	21	10
Grape juice	40	37	40
Other fruit juices or blends	47	45	47
Grape drinks, punches, or ades	16	15	16
Orange drink	42	33	43
Other fruit drinks	22	35	20
None of these	20	18	21
Number of respondents	520	107	461

1/ Percentages add to more than 100 because some respondents gave more than one answer.

Table 33.--"Now, think of the biggest container you have which you could mix frozen juice in and store in the refrigerator--how many pints do you think it would hold?"

	Ft. Wayne total	Homemakers who-- Used the test product	Homemakers who-- Did not use the test product
	Percent	Percent	Percent
2 pints	36	33	37
3 pints	10	9	9
4 - 5 pints	39	44	39
6 or more pints	11	12	11
Not ascertained	4	2	4
Number of respondents	520	107	461

Table 34.--"Have you bought any canned baked apples in the past year?" (If no) "How come you haven't bought any?" 1/

	Percent	
Bought some in past year		5
Haven't bought any in past year		95
Reasons for not buying:		
Prefer to make own baked apples	33	
Never heard of them	28	
Have never seen them	8	
Don't like baked apples	8	
Don't like canned baked apples	7	
Haven't thought about it	4	
Too expensive	5	
Miscellaneous	3	
Not ascertained	3	
Number of respondents		520

1/ Percentages for indented answers add to more than the subtotal because some respondents gave more than one answer.

Table 35.--"About how often (have you bought canned baked apples) in the past year?"

	Once a month or more	Less than once a month	Haven't bought any in the past year	Respondents
	Percent	Percent	Percent	Number
Fort Wayne total	1	4	95	520
Homemakers' age:				
35 and under	1	5	94	161
36-50	---	4	96	186
51 and over	1	4	95	167
Homemakers' education:				
Grammar school	2	2	96	123
Some high school	---	1	99	106
Finished high school	1	5	94	199
College	---	9	91	89
Family income:				
Under $5,000	1	5	94	162
$5,000 - $6,999	1	2	97	140
$7,000 and over	---	5	95	158
Family size:				
1 or 2	1	4	95	206
3 or 4	---	6	94	193
5 or more	1	3	96	121

Table 36.--"Have you bought any applesauce in cans or jars in the past year?" (If no) "How come you haven't bought any?" 1/

	Percent
Bought some in past year	82
Haven't bought any in past year	18
Reasons for not buying:	
Prefer own applesauce	12
Don't like applesauce	4
Miscellaneous	2
Not ascertained	1
Number of respondents	520

1/ Percentages for indented answers add to more than the subtotal because some respondents gave more than one answer.

Table 37.--"About how often (have you bought applesauce in cans or jars) in the past year?"

	Once a week or more	1-3 times a month	Less than once a month	Haven't bought any in the past year	Respondents
	Percent	Percent	Percent	Percent	Number
Fort Wayne total-----	17	38	27	18	520
Homemakers' age:					
35 and under-------	29	40	17	14	161
36-50--------------	17	41	30	12	186
51 and over--------	7	34	32	27	167
Homemakers' education:					
Grammar school-----	12	25	33	30	123
Some high school---	19	36	28	17	106
Finished high school	21	45	24	10	199
College------------	15	47	22	16	89
Family income:					
Under $5,000-------	16	30	28	26	162
$5,000 - $6,999----	21	41	23	15	140
$7,000 and over----	13	45	29	13	158
Family size:					
1 or 2-------------	8	33	31	28	206
3 or 4-------------	23	37	29	11	193
5 or more----------	22	49	18	11	121

Table 38.--"Have you bought any cans or jars of apples sliced for pie in the past year?" (If no) "How come you haven't bought any?" 1/

	Percent	
Bought some in past year----------		37
Haven't bought any in past year----------		63
Reasons for not buying:		
Prefer to use own apples----------	30	
Don't bake apple pies, or bake----------	21	
Don't like or can't eat pastry----------	3	
Too expensive----------	3	
Don't like apple pie----------	2	
Don't like canned sliced apples----------	1	
Haven't thought of it----------	1	
Never heard of them----------	1	
Don't like apples----------	1	
Miscellaneous----------	1	
Number of respondents----------		520

1/ Percentages for indented answers add to more than the subtotal because some respondents gave more than one answer.

Table 39.--"About how often (have you bought cans or jars of apples sliced for pie) in the past year?"

	Once a month or more	Less than once a month	Haven't bought any in the past year	Respondents
	Percent	Percent	Percent	Number
Fort Wayne total----------	10	27	63	520
Homemakers' age:				
35 and under----------	7	36	57	161
36-50----------	14	26	60	186
51 and over----------	9	19	72	167
Homemakers' education:				
Grammar school----------	11	17	72	123
Some high school----------	9	33	58	106
Finished high school------	9	34	57	199
College----------	10	20	70	89
Family income:				
Under $5,000----------	8	25	67	162
$5,000 - $6,999----------	13	31	56	140
$7,000 and over----------	8	28	64	158
Family size:				
1 or 2----------	9	20	71	206
3 or 4----------	12	32	56	193
5 or more----------	9	31	60	121

Table 40.--"What are the main reasons you use fresh apples in your home?" (Asked only of homemakers who had used fresh apples in the preceding year) 1/

	Percent
Preference	58
Just like them	32
Like the taste	20
Children like them	11
Health	38
Nutritious, healthful (general)	18
Contain vitamins	10
Good laxative, supply roughage	9
Good for the teeth	4
Nonfattening	4
Contain minerals	2
Ways used	21
Good as a snack	16
Good to put in packed lunch	5
Versatile, can be used many ways	5
Like them baked	3
Miscellaneous	2
Inexpensive	12
Convenience	11
Easy to eat, not messy	9
Handy, no trouble	4
Keep well, don't spoil easily	3
Grow own or receive as gift	4
Miscellaneous	4
Not ascertained	8
Number of respondents	512

1/ Percentages for indented answers add to more than the subtotals and these add to more than 100 because some respondents gave more than one answer.

Table 41.--"In which of these ways have you used fresh apples in the past year?" (Asked only of homemakers who had used fresh apples in the preceding year) 1/

	Percent
Out-of-hand	98
Baked apple	65
Pie	64
Apple sauce	56
Salad	39
Apple dumpling	11
Fried apples	7
Apple crisp	5
Apple cake	4
Apple betty	2
Miscellaneous	9
Number of respondents	512

1/ Percentages add to more than 100 because some respondents gave more than one answer.

Table 42.--"About how many times have you used fresh apples for (each way used) in the past year?" (Percentaged for all homemakers who had used fresh apples in the preceding year, but asked only of homemakers who had used fresh apples these ways.)

	Once a week or more	1 - 3 times a month	Less than once a month	Frequency not ascertained	Haven't used this way	Respondents
	Pct.	Pct.	Pct.	Pct.	Pct.	No.
Out-of-hand	63	23	6	6	2	512
Baked apple	4	24	37	1/ *	35	512
Pie	3	27	30	4	36	512
Applesauce	8	22	20	6	44	512
Salad	2	16	19	2	61	512

1/ Asterisk indicates less than 1 percent.

Table 43.--"When you are choosing eating apples, what things do you consider important?" (Asked only of homemakers who had used fresh apples for eating out-of-hand in the preceding year) 1/

	Percent	
Texture		56
Solid, firm, crisp	42	
Ones that are juicy	20	
The variety		50
Taste		32
Tart	11	
Sweet	10	
Not too tart or sweet	4	
Taste (general)	7	
Color		28
Want red apples	19	
Dark red, deep red	3	
Bright red	2	
Miscellaneous	5	
Appearance		24
No blemishes, bruises, spots	16	
Smooth skin	5	
Good condition, attractive	4	
Size		23
Ripeness (general)		7
Price		6
Miscellaneous		2
Not ascertained		1
Number of respondents	500	

1/ Percentages for indented answers may add to more than the subtotals and these add to more than 100 because some respondents gave more than one answer.

Table 44.--"What don't you like about the looks of some eating apples?" (Asked only of homemakers who had used fresh apples for eating out-of-hand in the preceding year) 1/

	Percent
Bruises, blemishes, soft spots	55
Wrinkled, withered, dry looking	31
Color (general)	25
Size	18
Worm holes	13
Knots, scabs	11
Soft, soft looking	11
Hard looking	2
Tough skin, thick skin	2
Misshapen	2
Yellow skin	2
Dull color	2
Unripe or over-ripe	2
Miscellaneous	3
No dislikes mentioned	6
Not ascertained	3
Number of respondents	500

1/ Percentages add to more than 100 because some respondents gave more than one answer.

Table 45.--"When you are buying red apples, does the shade of red make any difference to you, or not?" (If shade of red makes a difference) "In what way?" (Percentaged for all homemakers who had used eating apples in the preceding year, but asked only of homemakers who had not mentioned shade preferred in previous questions)

	Percent
Shade preferred mentioned previously	9
Does not make any difference	50
Does make a difference	41
Shade of red preferred:	
Deep, dark purplish	13
Bright	9
Real red, redder the better	4
Medium	2
Miscellaneous	2
Not ascertained	11
Number of respondents	500

Table 46.--"Do small bruises make any difference to you, or not?" (Asked only of homemakers who had used eating apples in the preceding year)

	Percent
Makes a difference	63
Does not make any difference	18
Not ascertained	19
Number of respondents	500

Table 47.--"Does the variety or name of the apple make any difference to you, or not?" (Percentaged for all homemakers who had used eating apples in the preceding year, but asked only of homemakers who had not mentioned considering variety important in previous questions)

	Percent
Importance of variety mentioned previously	50
Makes a difference	33
Does not make any difference	16
Not ascertained	1
Number of respondents	500

Table 48.--"Do you buy the same variety or name of apples for every use, or do you buy different kinds for different purposes?" (Percentaged for all homemakers who had used fresh apples in the preceding year, but asked only of homemakers who had used fresh apples in more than one way)

	Percent
Use fresh apples only one way	47
Use different kinds for different purposes	41
Use same kind for everything	12
Number of respondents	512

With the exception of check-box material, office-record information, and free-answer space, the questionnaire used for this study is reproduced below in entirety. Data from a few of these questions have been omitted from tables and text because the number of responses involved were too small to be significant.

Budget Bureau No. 40-6089
Expiration Date 9-30-60

Superconcentrated Apple Juice Market Test

Cluster No. _____
Interviewer _____
Interview No. _____

Address _____
Date _____

☐ Basic Sample
☐ Supplementary Sample

Time interview started _____
Time interview ended _____

SUGGESTED INTRODUCTION: Hello. I am working on a survey for the United States Department of Agriculture. The Department is concerned with developing markets for new food products. To do this, we often need to know the opinions of people like yourself.

A-1 First, let's talk about a new kind of apple juice--one that is a frozen superconcentrate (the kind you mix with water before using). The name of this product is "Apple Squeeze." (SHOW CAN) Have you seen or heard anything about this new frozen apple juice or not?

☐ have seen or heard about it
☐ have not--GO TO Q. C-1

AWARE HOMEMAKERS

A-2 How did you find out about it?

Now, I want to ask you about some other ways you may have seen or heard something about this new frozen apple juice, just to be sure that we've covered everything. (ASK ABOUT EACH INDENTED ITEM NOT ALREADY MENTIONED)

A-3 Did you read about it in a newspaper or not?
A-4 Did you hear about it on the radio or not?
A-5 Did you find out about it on television?
A-6 Did you see a billboard advertising it?
A-7 Did you notice a special demonstration in a store?
A-8 Did you receive some to taste in a store?
A-9 Did you see it in the regular frozen juice department in a store?
A-10 Did someone tell you about it?
A-11 Did you find out about it any other way? (IF YES) How?

A-12 Have you bought any of this new frozen apple juice?

☐ Yes

A-13 What would you say were the main reasons you bought this new juice?
A-14 How many different times have you bought it?
A-15 How many cans did you buy (each time)?
A-16 Did you buy it from a demonstrator or from the regular frozen juice department (each time)?

☐ No

B-1 How come you didn't buy this new juice?
B-2 Tell me what you think the chances are that you will buy this new apple juice in the next few months; would you say that you probably won't buy it; might buy it but are not sure; or probably will buy it.
B-3 Can you tell me about how much the cans of frozen apple juice cost?
B-4 (IF PRICE MENTIONED) do you think the price is reasonable or not, considering what fruit juices cost nowadays?

NOW GO TO Q. C-1

TEST JUICE USERS

A-17 In general, how would you rate this new apple juice; would you say it is very good, good, fair, or poor?
A-18 Why do you say that?
A-19 Is there anything (else) you like about it?
A-20 Is there anything (else) you don't like about it?
A-21 Do you have any suggestions for (other) changes or improvements?
A-22 When you mixed the concentrated apple juice with water, how much water did you use (last time)?

A-23 How did you measure the water (last time)?
A-24 Did you find that it was inconvenient in any way to mix apple juice from the concentrate?
☐ No ☐ Yes--In what way?
A-25 After you mixed water with the juice, how long did you keep it in the refrigerator before you served it (last time)?
A-26 How long after you mixed it did you have the juice before it was all used up (last time)?
A-27 How have you served this new juice--with meals, between meals, or both?
A-28 (IF SERVED WITH MEALS) Which meals have you served it with?
A-29 When you used this new juice, what were you using it in place of?
A-30 Tell me what you think the chances are that you will buy this new apple juice again in the next few months; would you say that you probably won't buy it; might buy it but are not sure; or probably will buy it.
A-31 Can you tell me about how much the cans of frozen apple juice cost?
A-32 (IF PRICE MENTIONED) Do you think the price is reasonable or not, considering what fruit juices cost nowadays?
A-33 How would you feel about buying four cans of the new apple juice at a time if they were a little cheaper that way--would you buy four cans at a time, or not?
☐ Would buy ☐ Would not buy--Why? ☐ Depends--Comments
A-34 Have you used any other kinds of apple juice in your home in the past year?

☐ Yes

A-35 What are the main reasons you use apple juice in your home?
A-36 About how often do you serve it?
A-37 (IF LESS THAN ONCE A WEEK) How come you don't use it more often?
A-38 Do all members of your family drink apple juice?
☐ Yes ☐ No--Who doesn't drink it? (IDENTIFY) Why?
A-39 Do any members of your family like apple juice especially well?
☐ No ☐ Yes--Which ones? (IDENTIFY)
A-40 Have you served regular apple juice for breakfast in the past year?
A-41 Have you served regular apple juice for lunch or supper in the past year?
A-42 Have you served regular apple juice between meals in the past year?
A-43 (IF SERVES MORE THAN ONE WAY) In which of these ways would you say you use the most apple juice?
A-44 (HAND RESPONDENT CARD SHOWING THREE GLASS SIZES) Please show me the glass which is closest to the size you usually use when serving apple juice (FOR MAJOR USE).
(b) How near to the top do you usually fill it?
(c) Do any members of your family usually use another size glass or fill it differently when drinking apple juice (FOR MAJOR USE)? If yes, explain. NOW GO TO Q. E-1.

☐ No

A-35b How come you haven't used any other kinds of apple juice in your home?

NOW GO TO Q. E-1

NONUSERS OF TEST JUICE

C-1 Have you used any other kinds of apple juice in your home in the past year?

☐ Yes

C-2 What are the main reasons you use apple juice in your home?
C-3 About how often do you serve it?
C-4 (IF LESS THAN ONCE A WEEK) How come you don't use it more often?
C-5 Do all members of your family drink apple juice?
☐ Yes ☐ No--Who doesn't drink it? (IDENTIFY) Why?
C-6 Do any members of your family like apple juice especially well?
☐ No ☐ Yes--Which ones? (IDENTIFY)
C-7 Have you served apple juice for breakfast in the past year?
C-8 Have you served apple juice for lunch or supper in the past year?
C-9 Have you served apple juice between meals in the past year?
C-10 (IF SERVES MORE THAN ONE WAY) In which of these ways would you say you use the most apple juice?
(HAND RESPONDENT CARD SHOWING THREE GLASS SIZES)
C-11 Please show me the glass which is closest to the size you usually use when serving apple juice (FOR MAJOR USE).
(b) How near to the top do you usually fill it?
(c) Do any members of your family usually use another size glass or fill it differently when drinking apple juice (FOR MAJOR USE)? If yes, explain.

☐ No

D-1 How come you haven't used apple juice in your home?
D-2 Do you think of apple juice as being mainly for children, mainly for adults, or for both?
D-3 Suppose you had some apple juice: How would you serve it--with meals, between meals, or both?
D-4 (IF WITH MEALS MENTIONED) Which meals would you serve it with?

ALL HOMEMAKERS

E-1 Do you think "Apple Squeeze" is a good name for apple juice or not?
E-2 Why do you feel this way?
E-3 What do the words "superconcentrated" make you think of?
E-4 When you think of apple juice and cider, do you consider the words "apple juice" and "cider" as meaning the same thing or are they different?
☐ Same--Which name do you like better?
☐ Different--In what ways are apple juice and cider different?
Which do you like better, apple juice or cider?
E-5 Do you think there are any good things, from the standpoint of health, about drinking apple juice?
E-6 Do you think there are any bad things, from the standpoint of health, about drinking apple juice?
(HAND RESPONDENT CARD)
E-7 Which of these frozen products have you used in your home in the past 2 or 3 months?
☐ frozen orange juice
☐ frozen grape juice
☐ any other frozen fruit juices or blends
☐ frozen lemonade
☐ any other frozen fruit drinks, punches, or ades
E-8 Which of these canned or bottled products have you used in your home in the past 2 or 3 months?
☐ canned or bottled apple juice
☐ canned or bottled grape juice
☐ any other canned or bottled fruit juices or blends
☐ canned or bottled grape drinks, punches, or ades
☐ canned or bottled orange drink
☐ any other canned or bottled fruit drinks, punches, or ades
E-9 Incidentally, where do you usually shop for food? (RECORD EXACT NAME AND ADDRESS OF STORE)
E-10 Now, think of the biggest container you have which you could mix frozen juice in and store in the refrigerator--how many pints do you think it would hold?
Now, just a few questions about some other apple products--
E-11 Have you bought any canned baked apples in the past year?
☐ Yes--About how often in the past year? ☐ No--How come you haven't bought any?
E-12 Have you bought any apple sauce in cans or jars in the past year?
☐ Yes--About how often in the past year? ☐ No--How come you haven't bought any?
E-13 Have you bought any cans or jars of apples sliced for pie in the past year?
☐ Yes--About how often in the past year? ☐ No--How come you haven't bought any?
E-14 Have you used any fresh apples in your home in the past year?
E-15b ☐ No--How come you haven't used fresh apples in your home? NOW GO TO Q. E-24.
E-15 ☐ Yes--What are the main reasons you use fresh apples in your home?
(HAND RESPONDENT CARD)
E-16 In which of these ways have you used fresh apples in the past year? (CHECK BELOW)
E-17 (FOR EACH USE MENTIONED) About how many times have you bought fresh apples for _____ in the past year?

	Used	Number times bought
Eating out of hand	☐	_____
Making apple sauce	☐	_____
Baking pies	☐	_____
Baked apples	☐	_____
Other--What ways?	☐	_____

IF "EATING" NOT MENTIONED, GO TO Q. E-23

FRESH APPLE USERS

E-18 When you are choosing eating apples, what things do you consider important?
E-19 What don't you like about the looks of some eating apples?
E-20 (IF NOT ALREADY MENTIONED) When you are buying red apples, does the shade of red make any difference to you, or not? ☐ No difference ☐ Makes a difference--In what way?
E-21 (IF NOT ALREADY MENTIONED) Do small bruises make any difference to you, or not?
E-22 (IF NOT ALREADY MENTIONED) Does the variety or name of the apple make any difference to you, or not?
E-23 (IF USES APPLES MORE THAN ONE WAY IN Q. E-17) Do you buy the same variety or name of apples for every use, or do you buy different kinds for different purposes?

ALL HOMEMAKERS

Now, we need to know just a little more about you and your family.
E-24 Please tell me all the members of your family who are currently living at home.
E-25 (FOR EACH PERSON LISTED) What was _____'s age last birthday?
E-26 What was the last grade you completed in school?

E-27 (HAND RESPONDENT CARD) What was your family's total income before taxes last year?

- ☐ Under $1,000
- ☐ $1,000 - $1,999
- ☐ $2,000 - $2,999
- ☐ $3,000 - $3,999
- ☐ $4,000 - $4,999
- ☐ $5,000 - $5,999
- ☐ $6,000 - $6,999
- ☐ $7,000 - $7,999
- ☐ $8,000 - $8,999
- ☐ $9,000 - $9,999
- ☐ $10,000 - or more

Thank you very much.

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