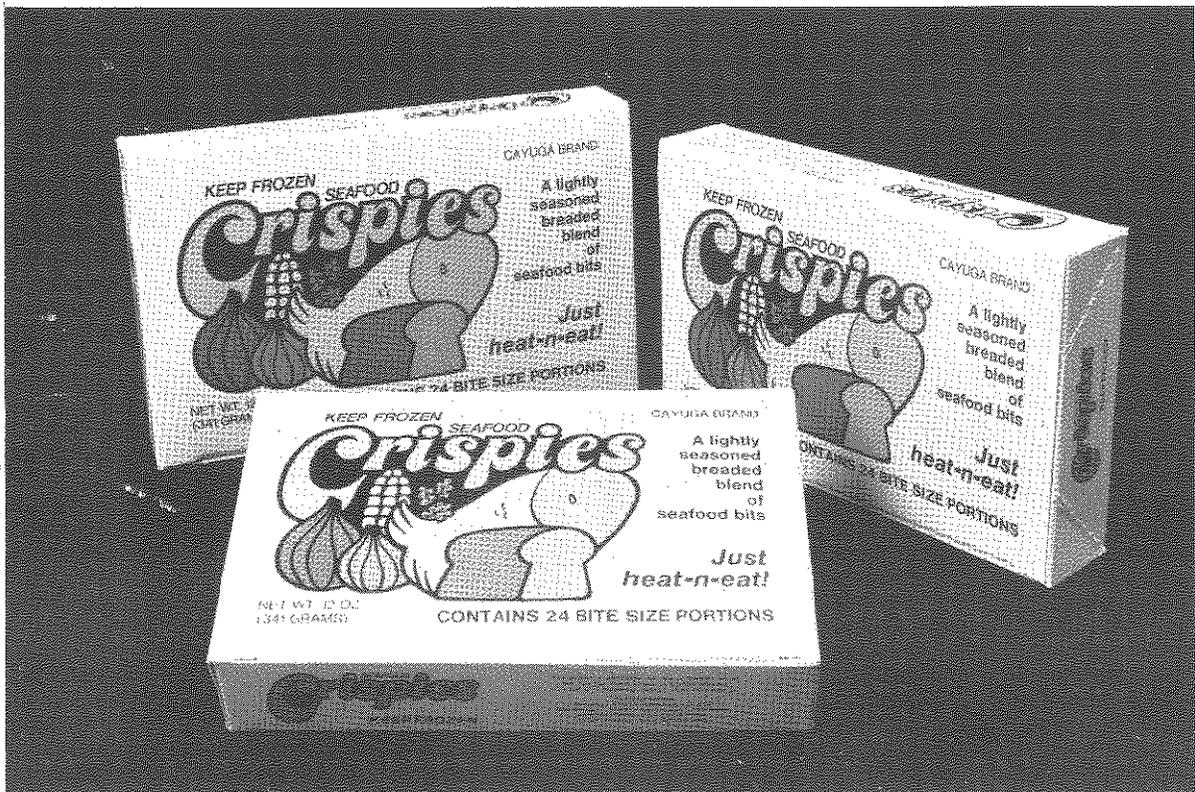


RETAIL MARKET TESTS OF MINCED SEAFOOD CRISPIES



Dana C. Goodrich, Jr.

and

Daniel B. Whitaker

Department of Agricultural Economics
Cornell University Agricultural Experiment Station
New York State College of Agriculture and Life Sciences
A Statutory College of the State University
Cornell University, Ithaca, New York 14853

It is the policy of Cornell University actively to support equality of educational and employment opportunity. No person shall be denied admission to any educational program or activity or be denied employment on the basis of any legally prohibited discrimination involving, but not limited to, such factors as race, color, creed, religion, national or ethnic origin, sex, age or handicap. The University is committed to the maintenance of affirmative action programs which will assure the continuation of such equality of opportunity.

ACKNOWLEDGEMENTS

Credits for test products described in this report are shared by several parties. Product development and formulation were successfully carried out by Dr. R. C. Baker, Dr. J. M. Regenstein, Mrs. June M. Darfler, and Mrs. Emma Mulnix of the Department of Poultry Science at Cornell University. Package graphics and photographs were prepared by Mr. Charles Hurlbut, Mrs. Susan Hartman and Mr. William Mesner of the Visual Communications Group of Media Services, Cornell University.

To the management and store personnel of cooperating retail outlets, we express our appreciation. Their interest in Cayuga Brand Seafood Crispies and their patience with our research methods were essential to the successful completion of this test.

This research was sponsored by the New York Sea Grant Institute under a grant from the Office of Sea Grant, National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce.

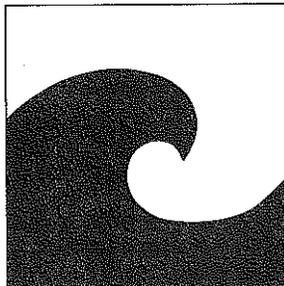


TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
OBJECTIVES	1
PROCEDURES	2
The Product	2
The Package	2
The Price	2
The Stores	2
In-Store Location of Seafood Crispies	4
Advertising	4
In-Store Demonstrations and Promotion	4
The Results	4
Competing Product Sales	6
In-Store Survey	8
Mail Survey	9
SUMMARY AND CONCLUSIONS	10

RETAIL MARKET TESTS OF MINCED SEAFOOD CRISPIES

Dana C. Goodrich, Jr. and Daniel B. Whitaker

Introduction

Previous marketing research at Cornell University has explored the possibility of offering fish and seafood in unique product forms.^{1/} One-pound blocks of Frozen Minced Fish were successfully market tested in 1976-77. In addition, Minced Seafood Chowders in test markets were well received in a later study.

This project examined the potential for minced fish and seafood offered in a highly processed, convenience-food form. The test product was marketed as Cayuga Brand Seafood Crispies. Current statistics suggest that the total market for all such "new generation" convenience foods amounted to 10-15 percent of food purchased for home use in 1973.^{2/}

Objectives

Since the main ingredients employed in the manufacture of Seafood Crispies were little known underutilized species, an attractive presentation was needed to inform purchasers of the product's potential. Furthermore, customer response had to be explored. Specifically, the purposes of this study were to:

- (1) Develop an effective package for retail presentation of the product that provided both necessary protection and visual attraction.
- (2) Determine consumer acceptance based primarily on the basis of sales performance of the product in retail food stores.

¹ Goodrich, Dana C., Jr. and Daniel B. Whitaker, Retail Market Tests of Frozen Minced Fish, A.E. Res. 77-6, June 1977, Cornell University, and Retail Market Tests of Minced Seafood Chowders, A.E. Res. 78-4, May 1978, Cornell University.

² Traub, Larry G. and Dianne D. Odland, "Convenience Foods vs. Home-Prepared: Costs, Yield, and Quality," National Food Review, USDA, September 1978, p. 31.

Procedures

The Product

Cayuga Brand Frozen Seafood Crispies were developed and prepared for testing by the Department of Poultry Science at Cornell University.^{3/} The product was a half-ounce, bite-sized blend of minced fresh water mullet (*Catostomus commersoni*) and chopped sea scallop mantles (*Pecten grandis*). It was coated with batter and breaded and deep-fried prior to freezing and packaging. In total, fish and scallops accounted for 77 percent by weight of each individual Crispie.

The Package

A four-color folding carton with a tuck top was custom manufactured for the test product. The exterior dimensions were 7 1/2" x 4 3/4" x 1 1/2". The principal display panel showed the Cayuga Brand stylized design depicting the main Crispies ingredients, including a fish, loaf of bread, onions, and corn. (See illustration.) The reverse panel featured a full color picture of a suggested serving of Seafood Crispies, french fried potatoes, lettuce and tartar sauce. Instructions for preparation using a conventional oven as well as an electric frying pan were printed on the reverse panel adjacent to this picture. The ingredient listing, distributor information and the Seafood Crispies "logo" were displayed prominently on the container's end and side panels.

Each package contained 12 ounces of product or 24 individual Crispies.

Since the Crispies were an entirely new product, an attractive package was essential for success in a highly competitive market. In all respects the test package was thoroughly professional in quality and compared favorably with competing commercial products. Production overruns of the package were used by the manufacturer's sales personnel as samples for prospective commercial accounts.

The Price

A price of 99¢ per 12-ounce package was selected. Since a major premise of all studies of minced fish products was the presumed low price of the underutilized species ingredient, a comparatively low retail price was appropriate. (The average retail price of competing frozen prepared fish/seafood items in test stores was \$1.74 per package, regardless of quantity of product contained.)

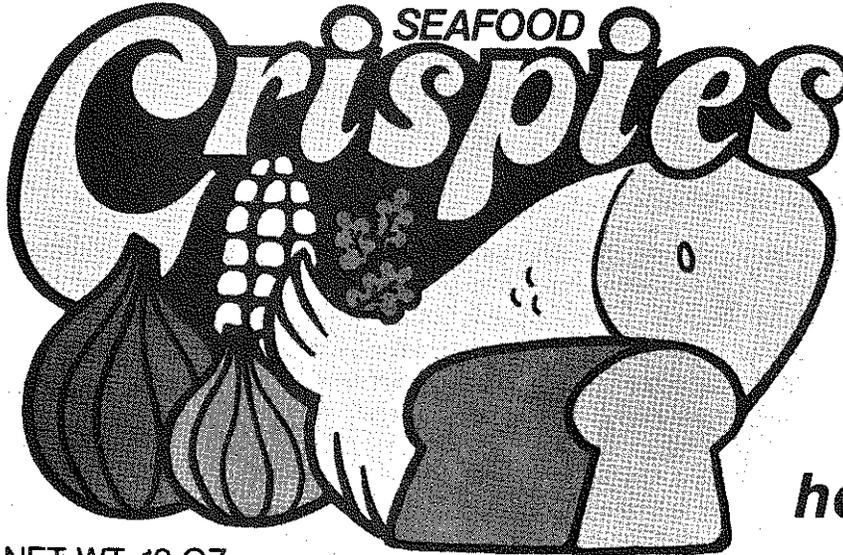
The Stores

The five test supermarkets of one Upstate New York food chain were selected so as to secure for the product a variation in shopper clientele.

³ Baker, R. C., J. M. Regenstein and J. M. Darfler, Seafood Crispies, Development of Products from Minced Fish: Booklet 2, September 1976, New York Sea Grant Institute, Albany, N.Y.

KEEP FROZEN

CAYUGA BRAND



A lightly
seasoned
breaded
blend
of
seafood bits

**Just
heat-n-eat!**

NET WT. 12 OZ.
(341 GRAMS)

CONTAINS 24 BITE SIZE PORTIONS



COOKING INSTRUCTIONS

OVEN - Preheat oven to 350° F. Arrange frozen Crispies on a cookie sheet. Bake 20-25 minutes, turning Crispies once. Serve golden brown. (Oven temperatures may vary; adjust baking time accordingly.)

FRYING PAN - Heat about ¾ inch of cooking oil to 350° F. Fry frozen Crispies 4-5 minutes, turning once.

MINI - FRYER - Deep fry frozen Crispies 4-5 minutes.

Serving suggestions:

Great as an appetizer or entree. Try them with tartar sauce. Delicious!

Best if used within two months of purchase.

Four stores were located in suburban shopping centers in widely separated areas of the test city. They were virtual "super stores," each containing over 50,000 square feet of selling space. They contained large specialty departments offering both food and non-food items. The fifth outlet was considerably smaller (20,000 square feet) and was located in a more urban neighborhood. It did not emphasize non-food or specialty departments.

In-Store Location of Seafood Crispies

The five supermarkets carried an average of 31 other frozen prepared fish/seafood products. These items were displayed in two separate sales areas in each store. About one-half of these items were displayed with other frozen goods including vegetables and prepared dinners. The remaining products were located in a completely different area of the store adjacent to the fresh meat and/or seafood. Cayuga Brand Seafood Crispies were displayed with this latter product group.

Four stores displayed two product facings of Crispies; one store provided three. The quantity of Crispies available during the course of a week varied, but in no instance did a "stock-out" situation occur.

Advertising

No paid advertising was employed during the 12-week test. An article describing the upcoming project appeared in a local newspaper in October 1977. The actual experiment did not begin until June 1978, a full eight months later, so it is unlikely that this news story had any effect on sales.

In-Store Demonstrations and Promotion

Professional home economists were engaged to prepare and serve Seafood Crispies samples two days (Thursday and Friday) each week for the first three weeks of the test. Each demonstrator heated sample Crispies in vegetable oil in an electric frying pan and offered them to shoppers passing the display. This procedure was followed from approximately 11:00 a.m. through 5:30 p.m. each day. Thus, the product was actively promoted for six days in each supermarket.

Large 2' x 3' four-color signs depicting the Seafood Crispies logo and the words "TRY ME" were displayed prominently at the demonstrators' tables. In addition, a similar sign was located at each store's Crispies display.

The Results

Total Seafood Crispies sales reached 4,968 units during the 12-week experiment, an average of 414 packages per week (Table 1). Sales per store varied according to size of store. Four stores were approximately equal in terms of selling space and total weekly volume of business. Each reported movement in excess of 1,000 units of Crispies during the test. Averages ranged from 85 to 101 packages per week.

Table 1. SALES OF FROZEN SEAFOOD CRISPIES, BY STORE
5 Supermarkets, 12 Weeks, June-August 1978
Upstate New York

Store	Total unit sales	Units per week
Store A	1,216	101
Store B	1,097	91
Store C	1,080	90
Store D	1,018	85
Store E	557	46
Total	4,968	414*

* Does not add due to rounding.

The fifth outlet was considerably smaller both in sales area and weekly volume. Total Crispies movement was about half the volume reported by the other markets.

The effect on total Seafood Crispies sales of the in-store demonstrators was dramatically evident (Table 2). During the introductory three-week period when home economists were preparing, serving and describing the product, 3,516 packages of Crispies were sold. This represented a weekly average of 1,172 units, or 234 packages per supermarket. Thus, approximately 70 percent of the total test volume was sold during the three-week introductory period.

Table 2. SALES OF FROZEN SEAFOOD CRISPIES, BY TIME PERIOD
5 Supermarkets, 12 Weeks, June-August 1978
Upstate New York

Time period	Total unit sales	Unit sales per week		Unit sales per \$1,000 store sales	Unit sales per 1,000 customer transactions	Unit sales as percent of total unit sales of frozen prepared* fish/seafood
		Total	Per store			
Demonstration (introductory 3-week) period	3,516	1,172	234	0.8	10.9	42
Weeks 4-9	1,059	177	35	0.1	1.7	10
Final 3 weeks	393	131	26	0.1	1.3	7
Total test	4,968	484	83	0.3	3.9	21

* Excluding prepared dinners.

During this introductory period, Crispies sales per 1,000 customer transactions were nearly 11 units. Total Seafood Crispies sales per \$1,000 gross store receipts were 0.8 units.

Individual store sales varied markedly during the period. One store reported a weekly average of 307 units purchased, while another averaged 135 units per week. These variations were not attributable solely to size of store. Differences in aggressiveness of demonstrators, as well as location of demonstrations in the stores appeared to be influencing factors.

The conclusion of in-store demonstrations brought an immediate reduction in Seafood Crispies sales. Total movement during the next six weeks (weeks 4-9) was 1,059 packages, an average of 177 units per week reported by all five stores in total. Average weekly volume per store was 35 packages.

Approximately 20 percent of total test movement was recorded during these middle six weeks. Weekly sales during this period varied among stores from a low of 16 units to a high of 58 units. Total sales per 1,000 customer transactions dropped to 1.7 units, while sales per \$1,000 gross store receipts were 0.1 units.

During the final three weeks of the market test, sales declined from previous high levels but tended to stabilize (Figure 1). Lingering effects of the initial product promotion had disappeared. Ten percent of total test volume was sold during these concluding weeks. The five stores reported total movement of 393 packages, or an average of 26 units per store per week. Individual weekly averages varied between 19 and 33 units. Sales per 1,000 customer transactions declined to 1.3 units while sales per \$1,000 gross receipts remained at about 0.1 units.

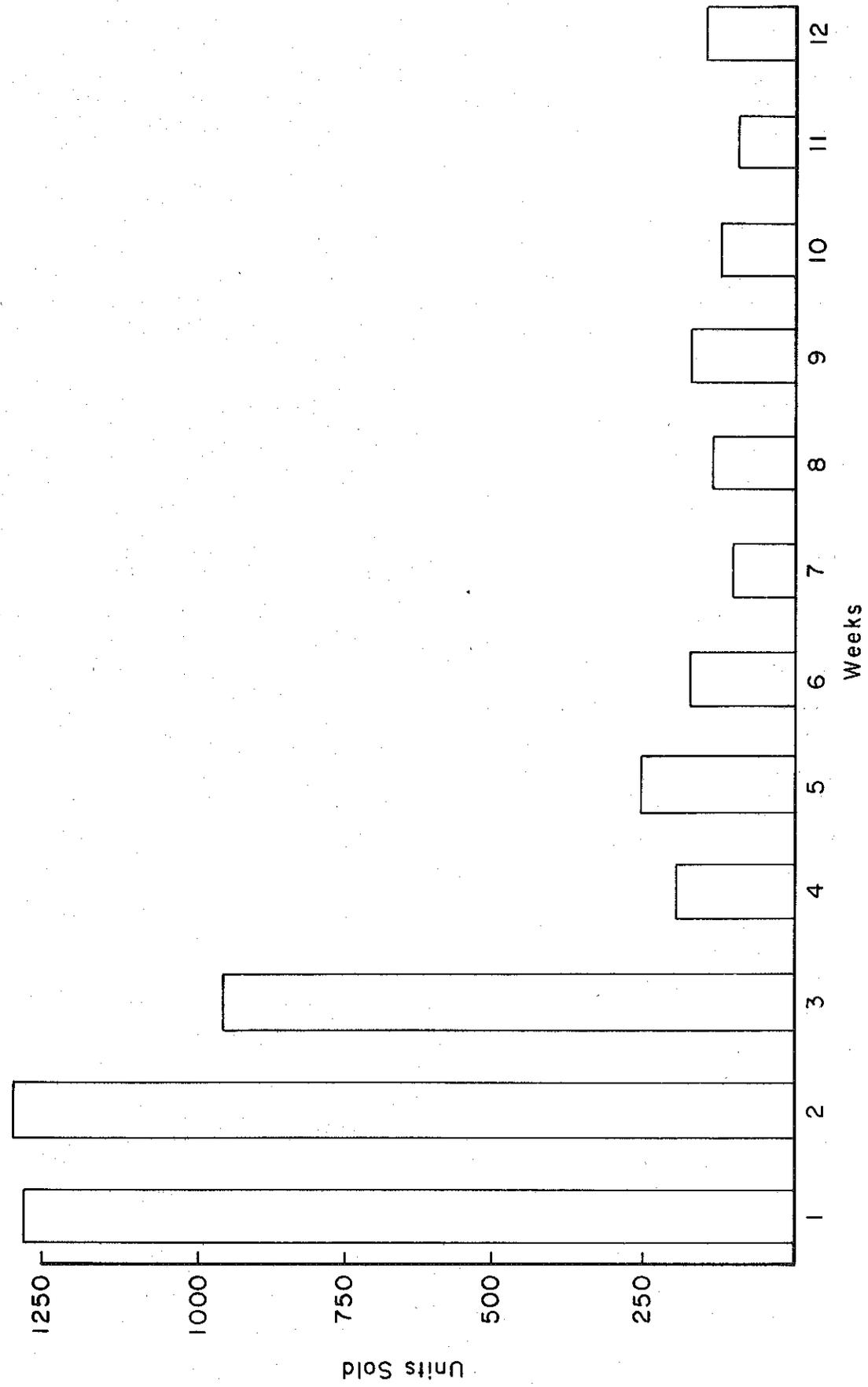
One of the reasons for Crispies purchases falling to new lows during the final three weeks, rather than remaining at a higher figure, was related to the seasonal weather. Especially warm outdoor temperatures during August discouraged the use of ovens. Since one of the two principal means of home preparation of Crispies called for the use of ovens, the anticipation of heat-related discomfort no doubt inhibited sales.

Competing Product Sales

To provide a better measure of the significance of sales levels achieved, Crispies volume was related to that of similar products. Competing products were considered to be all frozen prepared fish or seafood items packaged separately and purchased as an entree. Examples of such competing items are frozen breaded fish sticks, fish portions or prefried shrimp. Specifically excluded from this list were frozen prepared seafood dinners and unprocessed (unprepared) frozen fish and seafood.

Examination of weekly store invoices revealed that the proportion of total frozen prepared fish and seafood products represented by Seafood Crispies sales varied during the test. During the introductory three-week period, Seafood Crispies accounted for 42 percent of the unit volume of such sales.

WEEKLY SALES OF CAYUGA BRAND SEAFOOD CRISPIES, FIVE SUPERMARKETS,
ROCHESTER, NEW YORK, 12 WEEKS, JUNE - AUGUST 1978



This proportion fell to 10 percent during the middle six-week period. However, during the final three weeks of the experiment Seafood Crispies accounted for 7 percent of the total volume. (It should be recalled that no advertising or promotion was employed for the last nine weeks of the test.) Thus, during that final test period, Crispies sales continued at a unit rate twice as high as that for the average of all frozen prepared fish/seafood items.

In-Store Survey

During the final days of in-store demonstrations, a short opinion survey was administered to shoppers passing the Seafood Crispies display. Only those who had purchased and served the product prior to the interview were included in the survey.

Responses from 89 such users were collected. Approximately 30 percent of these shoppers had purchased the product on two or more different occasions. Well over one-half, 55 percent, bought two or more packages during the previous weeks (Table 3).

Table 3. IN-STORE SURVEY RESPONSES OF 89 SEAFOOD CRISPIE PURCHASERS
5 Upstate New York Supermarkets, 1978

Factor	Results
Percent of respondents purchasing Seafood Crispies two or more times	30
Percent of respondents purchasing two or more units of Seafood Crispies	55
Percent of respondents expecting to repurchase	94
Percent of intended repurchases, by frequency of repurchase:	
Once per week	23
Twice per month	48
Once per month	13
Non-specific frequency	17
Percent of purchases as substitute for breaded fish or seafood	35

Reaction to the product was favorable. Well over 90 percent indicated they would continue to buy Crispies if available in the future. Intended repurchase frequency varied, but 71 percent felt they would buy the product at least twice a month. Another 13 percent indicated they would purchase Seafood Crispies once per month.

Respondents also were asked if their purchase(s) of Crispies was in substitution for that of another breaded fish or seafood product. Nearly one-third said that the test product was not intended to replace a previously planned purchase of available commercial items. This proportion no doubt would be higher in periods when sales were not influenced by the in-store demonstration and promotion.

Mail Survey

During the final two weeks of the test, pre-stamped postal card questionnaires were inserted in the Seafood Crispies packages. Five hundred fifty such questionnaires thus were taken by purchasers. A total of 149 completed and returned questionnaires represented a response rate of 27 percent.

Two-thirds of the respondents had purchased the product on two or more occasions. Almost half had on at least one occasion purchased multiple units of the product during the preceding weeks. Clearly this survey late in the test captured a much higher proportion of repeat purchasers than was the case in the in-store survey.

Of those returning the survey, 90 percent indicated they would continue to buy Seafood Crispies if available. The remaining 10 percent chose not to purchase again. Their negative comments dealt mostly with the "taste" of the Crispies.

The intended frequency of repurchase varied. Nearly one-third said they would purchase Seafood Crispies at least once a week. Somewhat more than one-third said they would buy them every other week. Approximately one-fourth felt they would buy Crispies once a month, while a few gave no specific intention or simply said "occasionally."

About one-half the respondents purchased Seafood Crispies as a substitute for other breaded fish or seafood products (Table 4).

Table 4. MAIL SURVEY RESPONSES OF 149 SEAFOOD CRISPIE PURCHASERS
5 Upstate New York Supermarkets, 1978

Factor	Results
Percent of respondents purchasing Seafood Crispies two or more times	67
Percent of respondents purchasing two or more units of Seafood Crispies	46
Percent of respondents expecting to repurchase	90
Percent of intended repurchases, by frequency of repurchase:	
Once per week	31
Twice per month	37
Once per month	26
Non-specific frequency	6
Percent of purchases as substitute for breaded fish or seafood	50

Mail data relating to repurchase intentions probably were more reliable than those from the in-store survey. Mail respondents collectively had more experience with the product, they had more time to develop answers, and they were free from possible interviewer bias.

Summary and Conclusions

Test sales results and customer surveys indicate that Frozen Seafood Crispies were successful in the market place. Even though testing was conducted in a limited number of stores and over only a 12-week period, it appears that a product comprised mainly of undervalued fish and seafood can command a commercially satisfactory share of the market. Indeed, the absence of extended promotional support which ordinarily would accompany the commercial introduction of such a convenience product makes the above sales achievements all the more remarkable.