

RETAIL MARKET TESTS OF CANNED MINCED FISH



By
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 carried out by Dr. R. C. Baker, Mrs. June M. Darfler and Mrs. Emma Mulnix of the Department of Poultry Science at Cornell University. Package graphics and photographs were prepared by the Visual Communications Section of Media Services, Cornell University.

To the management and store personnel of cooperating retail outlets, we express our appreciation. Their interest in Cayuga Brand Canned Minced Fish 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) US Department of Commerce.

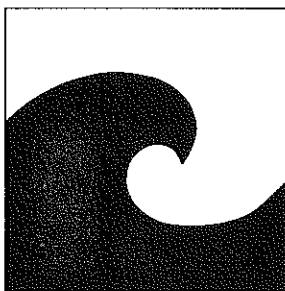


TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
OBJECTIVES	2
PROCEDURES	2
The Product	2
The Package	2
The Price	4
The Stores	4
In-Store Location	4
Promotion	4
RESULTS	4
Sales	5
Sales of Competing Products	6
SUMMARY AND CONCLUSIONS	7

RETAIL MARKET TESTS OF CANNED MINCED FISH

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

Introduction

Offering familiar foods in new forms has been a means of increasing consumer satisfaction as well as of creating business opportunities for marketers. New products from plant and animal sources are presented in US retail food stores in many more variations today than was the case just 30 years ago.

The same can be accomplished with fish and seafood items. In addition to the above outcomes, however, the value of otherwise undesired species or forms of fish or seafood may be significantly enhanced. One procedure for converting fish to a more desirable form is mechanical deboning. The resultant minced fish then can be prepared by the commercial food processor or the homemaker in a number of different ways.

This process could allow the economic recovery of nutritionally valuable protein by avoiding long-held negative consumer attitudes about certain fresh- and saltwater species. Hence, abundant but unfavored species could avoid market discount if their edible portions were presented in an otherwise desirable form.

Several consumer products with minced fish as the principal ingredient have been prepared and tested in selected stores by Cornell University.^{1/} The product reported in this publication is canned minced fish.

* The authors are Professor of Marketing and Research Specialist, respectively, in the Department of Agricultural Economics, Cornell University.

¹ Retail Market Tests of Frozen Minced Fish, Dana C. Goodrich, Jr. and Daniel B. Whitaker, A.E. Res. 77-6, June 1977, Department of Agricultural Economics, Cornell University, Ithaca, New York; Retail Market Tests of Minced Seafood Chowders, Dana C. Goodrich, Jr. and Daniel B. Whitaker, A.E. Res. 78-4, May 1978, Department of Agricultural Economics, Cornell University, Ithaca, New York; Retail Market Tests of Minced Seafood Crispies, Dana C. Goodrich, Jr. and Daniel B. Whitaker, A.E. Res. 79-2, February 1979, Department of Agricultural Economics, Cornell University, Ithaca, New York; Retail Market Tests of Frozen Prepared Minced Fish, Dana C. Goodrich, Jr. and Daniel B. Whitaker, A.E. Res. 80-4, April 1980, Department of Agricultural Economics, Cornell University, Ithaca, New York.

Objectives

The specific goals of this project were to:

- (1) Determine retail customer acceptance of canned minced fish as measured by sales of the new product in selected supermarkets,
- (2) Compare these volumes with sales data for canned tuna, the closest and most likely substitute, and
- (3) Examine the prospect of commercial success of such a product.

Procedures

Cayuga Brand Minced Fish was offered in two Upstate New York supermarkets for a period of seven weeks at a price of 57 cents per can.

The Product

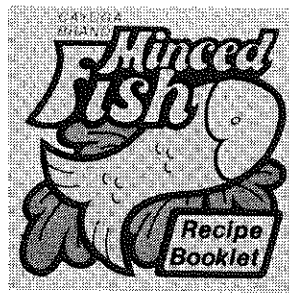
Minced white sucker (*Catostomus commersoni*) as described by Baker, et al., was canned by a commercially licensed and inspected food processor.^{2/} The product was developed to carry an appearance and consistency roughly similar to canned grated tuna. The intention was that its market position be that of a close substitute for tuna fish. With the expected ready availability and low cost of underutilized species used as the basic ingredient, retail presentation of the product as a low priced tuna alternative was considered justified.

The Package

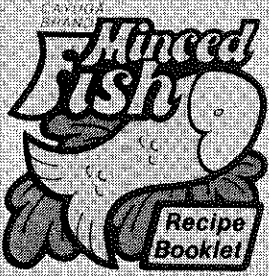
A standard commercial tuna fish-sized can (303 x 113) was used. The specially prepared three-color label adopted the same stylized presentation that was characteristic of the series of previously tested minced fish products (see cover). It included the mandatory information on content, ingredient and responsible party, as well as an inconspicuous declaration of the product's use in test marketing.

A three-color, three-page fold-out, no larger than 2 1/4" x 6 5/8" fully extended, was affixed to the top of the can for easy removal and use. A replica of the label design filled the front panel. This folder presented three recipes using minced fish, two of them similar to uses commonly made of tuna fish. The dishes were "Sandwich Filling or Salad," "Cheesy Fish Casserole," and "Jiffy Chowder." Pictures of this printed material appear in Figure 1.

² Canned Minced Fish, R. C. Baker, E. J. Mulnix and J. M. Darfler, Development of Products from Minced Fish: Booklet 8, 1981, Department of Poultry Science, Cornell University, Ithaca, New York.



You have purchased a can of **Minced Fish**. The texture is crumbly rather than flaky. It can be used in many of your favorite tuna fish recipes, but you will find its flavor is milder.


 A smaller version of the cartoon fish character holding a "Recipe Booklet" sign, positioned to the right of the introductory text.

<p>Sandwich Filling or Salad</p> <p>Minced Fish 1 can 1/2 cup mayonnaise 1/2 cup celery 1/2 cup onion 1/2 cup carrots 1/2 cup lettuce 1/2 cup tomatoes 1/2 cup pickles 1/2 cup olives 1/2 cup mushrooms 1/2 cup cheese 1/2 cup salt</p> <p>Makes about 1 cup. Can be used as a sandwich filling or salad.</p>	<p>Cheesy Fish Casserole</p> <p>Minced Fish 1 can 1/2 cup mayonnaise 1/2 cup celery 1/2 cup onion 1/2 cup carrots 1/2 cup lettuce 1/2 cup tomatoes 1/2 cup pickles 1/2 cup olives 1/2 cup mushrooms 1/2 cup cheese 1/2 cup salt</p> <p>Makes about 1 cup. Can be used as a sandwich filling or salad.</p>	<p>Jiffy Chowder</p> <p>Minced Fish 1 can 1/2 cup mayonnaise 1/2 cup celery 1/2 cup onion 1/2 cup carrots 1/2 cup lettuce 1/2 cup tomatoes 1/2 cup pickles 1/2 cup olives 1/2 cup mushrooms 1/2 cup cheese 1/2 cup salt</p> <p>Makes about 1 cup. Can be used as a sandwich filling or salad.</p>
--	--	--

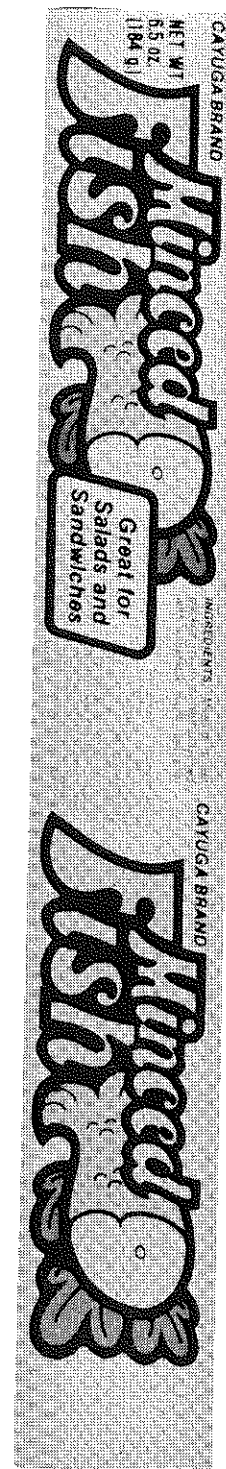


Figure 1. Printed Matter on Cayuga Brand Minced Fish. (Left, recipe booklet; right, can label.)

The Price

Cayuga Brand Canned Minced Fish was priced at 57 cents per 6.5-ounce can. This was lower by eight cents than any other canned tuna in the test stores. The prices of all commercial brands, sizes and styles of canned tuna fish in the test stores ranged from 69 cents to \$2.09 per can. The very low price of Cayuga Brand Minced Fish was chosen to reflect the projected substantially lower ingredient cost of the underutilized species than of tuna.

The Stores

Two supermarkets of about equal size located in the same market area and operated by the same management were chosen as test sites. Together they registered total gross annual sales of about five million dollars.

One was situated in a small shopping center closely surrounded by a suburban residential area. The other was located in a more commercialized downtown area but with a residential area nearby.

In-Store Location

Cayuga Brand Minced Fish was displayed in open shelves beside canned tuna fish. Two facings of the product were always maintained. Daily inspection of the display sites by the research staff ensured a fully stocked condition.

Promotion

The pattern of promotion similar to that developed for use in previous market tests of new minced fish products was applied. In-store demonstrators prepared and provided sandwich-filling samples of Cayuga Brand Minced Fish for three days (Thursday, Friday and Saturday) during each of the first two weeks of the test. Coverage was achieved from about 11:00 a.m. to 6:30 p.m. Shoppers were urged to taste the sandwich filling made from the canned product. When possible, demonstrators explained the role of New York Sea Grant in the experiment. The great majority of shoppers expressed satisfaction with the sample.

No other forms of promotional support were applied during the test.

Results

The intended duration of the market test period was 12 weeks. This length of time would have allowed for inevitable settling of sales to the low but steady level ordinarily achieved by new fish products after withdrawal of the early in-store promotion.

Cayuga Brand Minced Fish was removed from the stores at the end of seven weeks. The test was prematurely terminated at this time because it was not possible to maintain a continuous supply of product of acceptable quality.

Experimental data were analyzed on the basis of only seven weeks. The following sales information should be viewed with care, in the knowledge that the period of nonpromotion prior to the final sales weeks was necessarily shortened. Thus, these final weeks may reflect abnormally high sales since the effects of in-store demonstration a month earlier may still have prevailed.

Sales

Total minced fish sales for both supermarkets reached 1,507 units during the seven-week experiment (Table 1). Total average weekly sales were 215 units. Store A (suburban) reported weekly average movement of 122 units while the figure for Store B (downtown) was 93 units. Thus, Store A accounted for 57 percent of total sales.

Table 1. SALES OF CAYUGA BRAND CANNED MINCED FISH
Two Supermarkets, Seven Weeks, October-November 1979
Upstate New York

Time period	Total unit sales	Units per week		Units per \$1,000 store sales	Units per 1,000 customers
		Per store	Total		
Demonstration					
2-week intro.	1,107	277	554	6.0	51.1
Weeks 3-5	248	42	83	0.9	7.9
Final 2 weeks	152	38	76	0.8	7.2
Total test	1,507	108	215	2.3	20.3

The two supermarkets were not equal in terms of weekly gross sales and total customer transactions. Store A was approximately 30 percent larger than Store B in both respects. Consequently, calculations of units of Cayuga Brand Minced Fish sold per 1,000 customer transactions and per \$1,000 gross store sales were made. In both of these measures the stores were nearly identical. Each outlet reported average minced fish sales of approximately 2.3 units per \$1,000 gross sales. Unit sales per 1,000 customer transactions were 20.3 at Store A and 20.2 at Store B.

As with all other tested minced fish products, rate of movement varied during the course of the experiment. Sales were greatest during the two-week introduction when the in-store demonstrators offered product samples to shoppers. Volume was about seven times the level of the final weeks of the test.

Total sales during this introductory period reached 1,107 cans of minced fish, an average of 277 units per store per week. Minced fish sales per \$1,000 store sales were 6.0 units while sales per 1,000 customer transactions were 51.1 units. Removal of the in-store demonstrations brought an

immediate decline in sales volume. During the test's middle three weeks 248 units of minced fish were sold, an average of 42 cans per store per week.

The final set of data arose from the last two weeks of the test and can be considered a measure of the persistence of purchases farthest removed in time from the influence of in-store demonstrations. Weekly store sales were 38 cans of Minced Fish, lower than the previous period by only about 10 percent. This relatively small difference suggests that most of the effects of the in-store promotion had disappeared.

Sales of Competing Products

In the face of easily recognized and heavily couponed competitors' products, sustained sales of a new product lacking promotional support is a notable achievement. Some indication of this performance is the minced fish sales relative to sales of the close substitutes represented by 21 different brands, can sizes and styles of tuna fish. During the introductory two-week period, Cayuga Brand sales accounted for more than 40 percent of this entire product group (Table 2). During the remaining five weeks of the shortened test, Cayuga Brand accounted for 15 percent of the total, but in the final two weeks, a full month after withdrawal of promotion, it captured a 17 percent share of the market.

Table 2. SALES OF CAYUGA BRAND CANNED
MINCED FISH AND COMMERCIAL CANNED TUNA
Two Supermarkets, Seven Weeks, October-November 1979

Time period	Cayuga Brand Canned Minced Fish	Commercial canned tuna*	Both canned varieties	Cayuga as percent of both canned varieties
(Average number of cans per week)				
Two-week pre-test	--	648	648	--
Test:				
Introductory 2 weeks	554	732	1,286	43
Middle 3 weeks	83	624	707	12
Final 2 weeks	76	360	436	17
Total test	215	579	794	27

* Twenty-one different items and sizes of canned tuna.

From another perspective, sales of the test product can be stated in unit volume terms relative to its "average share." That is, since a total of 22 different items (including Cayuga Brand) comprised the relevant product group, it can be said that the equivalent average share of unit movement for each item in this group was about 4.5 percent ($100 \div 22$). In those

terms, Cayuga Brand achieved a unit movement rate about 3.8 times the average rate among all items in the group ($17.0 \div 4.5$) during the final two weeks of the experiment.

An important but unmeasured factor contributing to this strong showing of Cayuga Brand Minced Fish was price. At 57 cents, the product was clearly cheaper than the lowest priced item in the canned tuna group. It was the one new minced fish product in the current Cornell series of tests which so substantially underpriced "competing" goods. The hypothesis of lower ingredient costs notwithstanding, it must be acknowledged that the attractively low price probably influenced the performance of Cayuga Brand Canned Minced Fish in this shortened market test.^{3/}

Summary and Conclusions

Canned Minced Fish was offered in two Upstate New York supermarkets for seven weeks at a price significantly lower than that for canned tuna fish with which the new product presumably competed. Two weeks of in-store product demonstration and sampling induced very high sales volume of the test product. Sales during the final two weeks of the test period, however, were sustained at about 17 percent of the unit volume of the canned tuna group. Cayuga Brand Minced Fish maintained nearly four times the average unit movement among the 22 items in this group one month after withdrawal of in-store demonstrations. A strong but unmeasured positive effect on sales of the test product probably was due to its price, the lowest among all 22 competing items.

Commercial sales possibilities thus were not clearly identified. Yet, they appear encouraging if the hypothesized low ingredient cost can be realized to support this relatively low retail price of the new product.

³ Repurchase rate was to be examined through follow-up customer surveys near the end of the scheduled 12-week test. However, the unexpected withdrawal of the product at the end of seven weeks precluded this.