

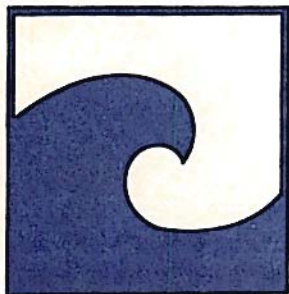
Retail Market Tests of Canned Pollock

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*Development of Products from
Underutilized Species of Fish: Booklet 10*



This is one in a series of booklets on minced fish products written for people in the food processing industry.

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DEVELOPMENT OF PRODUCTS FROM UNDERUTILIZED SPECIES OF FISH

10. RETAIL MARKET TESTS OF CANNED POLLOCK

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ABSTRACT

Canned pollock was test marketed in four supermarkets in a small upstate New York city. The project was scheduled to run 12 weeks. With publicity greater than expected, however, the initial lot sold in three weeks. Four and one half weeks elapsed while more pollock was prepared for marketing. The final sales period then ran for 31 days.

Sales during the initial period averaged 27 cans per store per day. In the final period (no promotion), sales averaged 13.5 cans per day. This was felt to be a successful sales record, especially when one considers the competition from sales of tuna.

In terms of consumer response to the product, the canned pollock must be considered highly successful. Of 70 consumers who were interviewed, 83% would like to see commercial production of canned pollock, 9% qualified their positive response by adding a statement to the effect that it would have to be cheaper than tuna. Only 7% saw no value in having pollock commercially produced.

Repeat sales figures support the popularity of the canned pollock with 86% of those interviewed having purchased the product more than once.

This indicates that the potential for commercial production of canned pollock is excellent.

DEVELOPMENT OF PRODUCTS FROM UNDERUTILIZED SPECIES OF FISH

RETAIL MARKET TESTS OF CANNED POLLOCK

INTRODUCTION

When a new food product has been successfully developed by food scientists then the consumer must be given the opportunity to react to that item.

As a part of a continuing search for new uses for underutilized fish and seafood, food scientists at Cornell University examined many possibilities for development and chose to work with pollock, among other species of fish. The abundance of pollock in the Atlantic, its current underutilization, and low market price led to its selection for development as a canned product. Expansion of sales as a fresh or frozen product would seem limited as pollock contains a compound, trimethylamine oxide, which reduces its refrigerated or frozen shelf life. Heat inactivates the enzyme trimethylamine oxidase and thus canning seems a logical method of increasing the potential amount of marketable pollock.

OBJECTIVES

Determination of a satisfactory method of canning pollock was done by food scientists at Cornell University. With a quality canned product (firm texture, no skin or bones, minimum amount of juice) ready to market, the objectives of the project reported herein were:

1. to determine whether consumers would buy canned pollock in competition with tuna and comparable products, and
2. to determine consumer satisfaction with the product.

PROCEDURES

The product

The method of canning the pollock was chosen after experimentation by Baker et al.* The steps in this procedure include cooking, skinning, boning and packing the fish chunks with 5% vegetable oil and 1% salt.

The container

The fish was canned in 7 ounce cans in keeping with the commonly used size for tuna. Some comparison and cross-use with tuna by consumers was thought to be inevitable, so it was felt wise to keep the weight similar. The dimensions of the can (211 x 304) were different from those of a tuna can to give it a distinguishing characteristic. The cans chosen were 1/4 lb tin plate throughout with single coat enamel on the body and with double coat enamel ends, and were manufactured by the American Can Company.

The label (see cover) was designed to attract and to inform the shopper as well as to provide identification with other products previously developed and test marketed by the Department of Poultry and Avian Sciences, New York State College of Agriculture and Life Sciences, Cornell University. Cayuga Brand identifies this group of products. The main panel of the label is highlighted with a stylized fish (in shades of gold) in a splash of bright blue water. The word "pollock" is boldly printed in gold. The descriptor, "chunk style" and the weight are prominently displayed.

One side panel describes the contents; "fully cooked", "mild flavor", "flaky texture", as well as stating that pollock "may be substituted for tuna in many of your favorite recipes." The required declaration of

* Baker, R.C., J.M. Darfler and E.J. Mulnix. Canned Red Hake and Pollock. Development of Products from Underutilized Species of Fish: Booklet 9. New York State Sea Grant.

ingredients is also stated on the label. The third panel gives a recipe for using the pollock and tells the consumer that more recipes are to be found on the inside of the label.

The label readily tells the shopper that the can contains fish but is so designed that it would not be mistaken for tuna.

Publicity and advertising

There was no paid advertising by either the project or the stores involved. Publicity was sought and obtained on a local radio station, a cable television outlet and in the local daily newspaper. Cornell University Media Services prepared a release for the University newspaper as well as for general media distribution.

The amount of space given to the story in the daily paper was far greater than expected and the story was also fed to the news service used by the paper, thus arousing the interest of the public as well as alerting other news media to the new product. In addition to the local cable outlet, out-of-town television stations serving the area filmed short interviews with researchers regarding the canned pollock for use in their newscasts.

A negative aspect of this unexpected publicity was the inability to interpret its impact on the project. A positive force was the arousal of public curiosity about experimentation, and the demonstrated readiness of consumers to explore new forms of protein when available.

Duration of market test

The original plan called for the canned pollock to be on the market for 12 weeks starting January 19, 1981 and ending April 13, 1981. It was felt that this span of time would reflect a typical situation for the city in relation to grocery purchases: no major "eating" holiday, span of two seasons, and population stable in terms of vacations. This point is important in a community where high student populations result in a general exodus at vacation time.

The amount of pollock canned for sale was based on amounts of other products required in previous market tests. Stocking of shelves was done by market test personnel at a rate that insured the availability of the product over the period that demonstrators were in the stores. However, because of the highly positive response to the pollock, the original supply was quickly exhausted and four and one half weeks elapsed before more could be put on the market. This sell-out was satisfying in terms of consumer response, but it did not produce the anticipated progression from initial sales to repeat sales.

However, the intervening period, during which more of the product was being readied for the market, allowed for some degree of "extinction" of the original publicity and permitted a more realistic test of the ability of the product to attract consumers without special promotion.

Because of the amount of time when no canned pollock was available, the 12 week market test time has been divided into three periods for reporting purposes:

Period I, from January 19 through February 7 (21 days) represents the initial sales period. During this time, publicity was used and demonstrators were used briefly in two stores.

Period II designates an interim period from February 8 through March 11 (32 days) when no canned pollock was available for sale.

Period III includes the time between March 12 through April 12 (31 days) when canned pollock was again on the shelves. There was no publicity during this time and no demonstrators were used.

The stores

Cayuga Brand canned pollock was test marketed in a small city in upstate New York. Four supermarkets were chosen in an effort to vary the types of customers as well as the locations of the stores. Stores A and B were outlets for a regional chain. Stores C and D were locally owned supermarkets of a nationally-known buying co-operative.

Store A: Located in a 12 unit suburban shopping center; approximately 18,000 feet of selling space; 12,637 average transactions per week during the test market period.

Store B: Located in a residential neighborhood; free standing; approximately 30,000 feet of selling space; 13,662 average transactions per week during the test market period.

Store C: Located in a commercial area away from the city center; 7,000 feet of selling space; 4,803 average transactions per week during the test market period.

Store D: Located in a suburban residential area; part of an eleven-store center; 8,000 feet of selling space; 4,138 average transactions per week during the test market period.

Space for the canned pollock was allotted by the store managers and in all stores it was adjacent to tuna, salmon and mackerel displays. No attempt was made to give it a favored position. In Store A the location was a bottom shelf, in Store B, the top shelf. Store C placed it on the second from top shelf and Store D on the middle shelf. It was initially given a small number of facings (2-5) but these were increased as sales volume indicated.

Pricing the product

In determining the selling price of canned pollock it was felt important that it should be as close as possible to the price that would ultimately be asked for any commercially canned pollock. It was also necessary to make the pollock competitive with other canned fish of similar quality. A price too low might cause the shopper to think of the canned pollock as an inferior product. After consulting with grocery managers and checking regular and "special" prices, the price was set at 69 cents (7 ounce can).

Following the rapid sales of the first three weeks, it was felt that a higher price should be used since the price itself might be an influence in the decision to buy. Price increases had also occurred in some packs of tuna. When the second lot was ready, it was decided to increase the price to 79 cents per can. The consumers did not react to the higher price.

Contemporary

At about the same time that this market testing project was being conducted, several new canned fish products such as pilchards and sardines appeared on the market in other areas of the country. None were introduced in the test area during the period of market testing.

Examples of these products were obtained for taste paneling along with tuna, bonito and canned pollock. Two examples were taste-paneled by eight panelists. In the case of sandwich filling, canned pollock ranked second in overall desirability (although first in flavor) with bonito ranking first in overall desirability. It lost points in "appearance", probably because of its light color. In the case of a creamed hot dish, pollock again rated second in overall desirability with tuna ranking first.

Demonstrators

Experienced demonstrators were engaged for three days (total 13 hours) during the two weeks in each of the stores to present samples (pollock chowder) and product information including recipes. After the initial week of demonstrations, however, it became clear that the product was selling so rapidly that further demonstrations would deplete the supplies too quickly so the demonstrators were withdrawn. As a result demonstrations were conducted in only two stores for a total of 13 hours in each store.

RESULTS

Sales

Sales of canned pollock far exceeded expectation. During the 52 days of selling, nearly 4000 cans were sold in four supermarkets. Because the initial supply was quickly exhausted, sales must be reported for separate periods as explained on page 14. Sales for the four stores during Period I averaged 27 cans per store per day. During Period III this number was 13.5 cans.

Variations in the sales as seen in Table 1 need some explanation. Store A, with average weekly transactions of 12,637, and Store B, with average weekly transactions of 13,662, sold 19 cans and 14 cans per 1000 transactions during Period I. Publicity was strong during this period but these two stores did not have the benefit of in-store demonstrations. During this same period, Store C (with 4803 average weekly transactions) and Store D (with 4138 average weekly transactions), but with in-store demonstrations on three days, sold 31 and 48 cans per 1000 transactions. The publicity situation was the same for all four stores.

During Period III quite a different pattern of sales emerged. At the start of this period, canned pollock had been off of the market for four and one half weeks and there was no publicity during this off sale time nor during the second market period. No demonstrators were used in any of the stores. In spite of these facts, sales were still excellent.

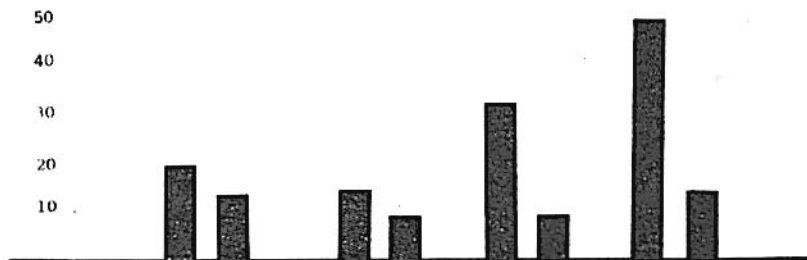
TABLE 1: COMPARATIVE SALES OF POLLOCK AND TUNA, FOUR SUPERMARKETS, ITHACA, NY

	<u>Total Invoices</u>		<u>Units/day</u>		<u>Units/1000 Transactions</u>	
	<u>Pollock</u>	<u>Tuna</u>	<u>Pollock</u>	<u>Tuna</u>	<u>Pollock</u>	<u>Tuna</u>
<u>Store A</u>						
Period I	720	3216	34	153	19	87
Period II		7272		227		128
Period III	720	6408	24	207	13	112
<u>Store B</u>						
Period I	576	5136	27	245	14	125
Period II		5856		183		96
Period III	504	7224	16	233	8	116
<u>Store C</u>						
Period I	408	288	19	14	31	22
Period II		960		30		46
Period III	193	792	6	26	8	34
<u>Store D</u>						
Period I	576	456	27	22	48	38
Period II		648		20		34
Period III	246	1032	8	33	13	54

As shown in Figure 1 Store A went from selling an average of 19 cans per 1000 transactions during Period I to 13 cans per 1000 transactions during Period III. Store B sold 14 cans per 1000 transactions during Period I and 8 cans per 1000 transactions in Period III. The changes in Stores C and D was more marked as the demonstrators had boosted their totals substantially during Period I. Store C, with 31 cans sold per 1000 transactions during Period I, sold 8 cans per 1000 transactions during Period III. Store D sold 48 cans per 1000 transactions during Period I, but during Period III with no publicity and no demonstrators, 13 cans per 1000 transactions were sold.

FIGURE 1: CANNED POLLOCK SALES IN FOUR SUPERMARKETS, ITHACA, NY, PERIOD I*, PERIOD III**

Units Per 1000 Transactions	Store A		Store B		Store C		Store D	
	Period I	Period III	Period I	Period III	Period I	Period III	Period I	Period III



*Period I Newspaper, radio and TV coverage of project in test market area. Stores C and D had demonstrators giving samples of pollock chowder 3 days.

**Period III No publicity in area. No demonstrators in stores.

The amount of competition for the consumer's dollar from the various market forms of tuna, salmon and mackerel is shown in Table 2.

TABLE 2: FORMS OF CANNED FISH AVAILABLE IN MARKET TEST STORES

	<u>Tuna</u>	<u>Salmon</u>	<u>Mackerel</u>
Store A	33	4	1
Store B	34	5	1
Store C	22	6	2
Store D	24	3	2

A number of shoppers expressed an interest in water-packed fish products as they wished to limit calories. In the four stores, sales of water packed tuna were more than double those of oil packed tuna. Specific figures are given in Table 3.

TABLE 3: OIL OR WATER PACK TUNA SALES, FOUR SUPERMARKETS, ITHACA, NY, JANUARY 19, 1981 - APRIL 12, 1981

Pack	Store A		Store B		Store C		Store D	
	Actual	%	Actual	%	Actual	%	Actual	%
Oil	4321	26	6717	37	1068	41	879	35
Water	12454	74	11450	63	1533	59	1649	65

It is difficult to assess the impact of pollock sales on those of tuna, as no clear trend became apparent from the study of invoices. Several factors are thought to have contributed to the lack of clarity. One might assume that high initial sales of pollock would cause a noticeable drop in tuna sales and that when pollock was no longer available, sales of tuna would go up. With the resumption of pollock sales, one might assume that without promotion they would be lower than in the initial period and that tuna would go higher once again. In fact, the only consistency observed was higher pollock sales during the period when considerable publicity was given the project.

Consumer reaction

Several methods can be used to determine the reaction of the consumer to a new product. The simplest would perhaps be repeat sales, but to do this a large quantity of the product must be available and the test period needs to be fairly lengthy. To provide these circumstances is expensive, so when the sales period is relatively short, it is necessary to elicit direct response (verbal or written) from purchasers. In the case of canned pollock, 70 persons who had bought and used the fish were interviewed. The personal interview technique is particularly useful when a new basic product is involved as it encourages the consumer to share information that may not have been requested but is useful to the project.

The response to canned pollock was overwhelmingly favorable with evident enthusiasm for both taste and price. A summary of responses can be found in Table 4. Many people used it as they would tuna but others substituted it for fresh fillets. Perhaps because samples of pollock chowder and the recipe were offered by the demonstrators, many consumers used the fish in that manner. They felt this to be a recipe in which they would not use canned tuna and were pleased to find a less expensive substitute for the fresh fillets.

TABLE 4: SUMMARY OF CONSUMER SURVEY RESPONSES

How many times have you purchased canned pollock?

Once	10
Multi	60

How did you use your previous purchase?

Chowder	24	Stir Fry	1
Casseroles	14	Plain	1
Sandwiches	18	Newburg	1
Salad	14	Dip	1
Fish Cocktail	1	With Yogurt	1
Patties	2	With Cottage Cheese	1
Creamed	2		

Would you like to see a commercial company put this product on the market?

Yes	58 (83% qualified (if price is low)	6 (9%)
No	5 (7%)	

How often might you buy this product?

Once per week	31	44%
Twice per week	22	31%
Once per month	12	17%
Less often	3	4%

Would you buy it in addition to or instead of tuna?

In addition to tuna	41	59%
Instead of tuna	27	39%

Would you think the price should be

Less than tuna?	6	9%
Similar to grated tuna?	15	23%
Similar to chunk tuna?	44	67%
Similar to solid tuna?	1	1%

When asked how often they might purchase canned pollock or tuna, 44% said once a week, 31% would buy twice a month while 17% would buy once a month and only 3% would buy less often than once a month.

Consumers (83%) felt that canned pollock is a product they would like to see in commercial production but 9% of those questioned qualified their "yes" with a statement to the effect that the price would have to be lower than that of tuna for their continued interest. Only 7% felt the product should not be pursued further.

To determine the potential effect of canned pollock on the sales of tuna, consumers were asked if they would buy pollock in addition to tuna or instead of tuna. The larger number (59%) replied that they would buy the pollock in addition to tuna while 39% of the respondents said they would buy it instead of tuna.

In conversation, other comments were made that might have implications for the future:

"Would consider canned pollock a staple."

"Bought it first time for the price, but bought it again for the taste."

"Wish it had been packed in water."

"Great for chowder."

"Kids reacted to smell but then really like the fish."

Strong sales plus favorable consumer comment make the commercial potential of canned pollock very attractive.

Other Sea Grant publications of interest:

In this series:

SEAFOOD CHOWDERS. Development of Products from Minced Fish: Booklet 1. R. Baker, J. Regenstein, and J. Darfler. 32 pp. 1976. \$.75

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CANNED RED HAKE AND POLLOCK. Development of Products from Underutilized Species of Fish: Booklet 9. R.C. Baker, J.M. Darfler, E.J. Mulnix. 24 pp. 1980. \$.75

Of general interest:

SEAFOOD SOURCEBOOK. A consumer's guide to information on food from our oceans and lakes. New England Marine Advisory Service. 48 pp. 1978. \$1.00

RETAIL MARKET TESTS OF MINCED SEAFOOD CRISPIES. D.C. Goodrich, Jr. and D.B. Whitaker. 10 pp. 1979. Free

NEW YORK SEA GRANT: THESES Vol. II, No. 1: 15 pp. 1979. Free

Of technical interest:

IN VIVO CLEARANCE OF ENTERIC BACTERIA FROM THE HEMOLYMPH OF THE HARD CLAM AND THE AMERICAN OYSTER. B.J. Hartland and J.F. Timoney. 4 pp. 1979. \$1.00

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MARICULTURE IN NEW YORK STATE. Proceedings of the Symposium. O.W. Terry and D.M. Chase. 96 pp. 1979. \$1.50

FISHERIES. MESA New York Bight Atlas Monograph 16. J.L. McHugh and J.J.C. Ginter. 129 pp. 1978. \$4.00

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