

The Impact of the Assurance of High Quality of Seafoods at Point of Sale

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Introduction

The need and the potential of assuring the quality of seafoods at point of sale have been adequately discussed (Nickerson and Ronsivalli, 1979; Ronsivalli et al., 1978; and Gorga et al., 1979). Although the high seafood sales demonstrated for both white-cloth and fast-service restaurants have been attributed to the high quality of the seafoods handled by these establishments, a clear relationship between assured quality and increased sales has not been evident because it has been difficult to separate the effect of high quality from the effect of the consumer not having to prepare seafoods.

Recent results, however, do show clear and positive effects of assured quality on sales both in the United States and in Australia. In the United States, one effort was conducted collaboratively between the National Marine Fisheries Service (NMFS) and elements of the U.S. seafood industry with the leadership and the bulk of the funding coming from the Government (Gorga et al., 1979). A second U.S. effort was conducted by Bashas¹, a small western supermarket chain (Zwiebach, 1978). In Australia, one effort was conducted by that country's largest supermarket chain, G. J. Coles and Company, Ltd. (Watson, 1979). In all cases, sales were increased significantly, going as high as 67 percent in one case.

NMFS-Industry Effort

In 1975 NMFS technologists from the Gloucester Laboratory, Northeast Fisheries Center, and NMFS inspectors undertook a pilot collaborative effort with one seafood processor and six supermarkets from three different chains to explore the effect of assured seafood quality on sales. The pilot study, which lasted 2 years and cost a total of \$200,000, included a \$35,000 grant from the New England Fisheries Steering Committee and about \$10,000 in in-kind services (use of processing plant, retail outlets, personnel, advisory services, etc.) from the Empire Fish Company of Gloucester and the supermarket chains of A&P, DeMoulas, and Stop & Shop. NMFS inspectors, whose role was initially on a fee basis, eventually also contributed significant in-kind services at numerous meetings that were devoted to logistics problems. The NMFS inspectors also assisted in data collection and made many important observations that led to the success of the project.

Except for the NMFS inspectors, who by design were to continue in their role, Federal involvement ended after the 2-year period, and the technology transfer from Federal laboratory to industry was complete. Even as this

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¹Mention of trade names or commercial firms does not imply endorsement by the National Marine Fisheries Service, NOAA.

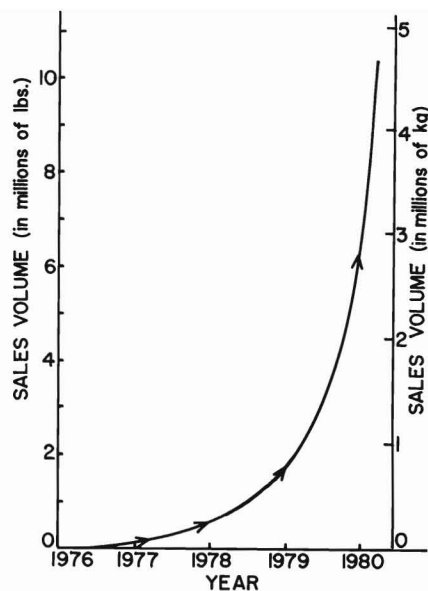


Figure 1.—Sales rates of fresh fish fillets carrying the U.S. Grade A sticker.

transition occurred, there was an expansion of industry efforts followed by a continuing accelerated growth. By the early part of 1980, the enterprise had grown to an annual volume of about 11,000,000 pounds worth nearly \$30,000,000 per year (Fig. 1). The figure includes an additional 1,000,000 pounds of product sold annually which does not bear the U.S. Grade A label but which employs the same technological concepts used in the Government-inspected system. The number of processors grew from one to eleven, and the number of supermarkets grew from six to more than 1,100 located in at least 15 states and the District of Columbia (Fig. 2), representing about 40 percent of the total U.S. population. Figure 2 shows only the 10 plants that are under inspection. It is estimated that the size of the enterprise could be twice as large except for the lack of supply of U.S. Grade A quality fish fillets. The demand for assured quality has been found to be so persistent that less popular species like pollock and whiting are receiving a surprising acceptance by consumers when introduced under the assured quality program.

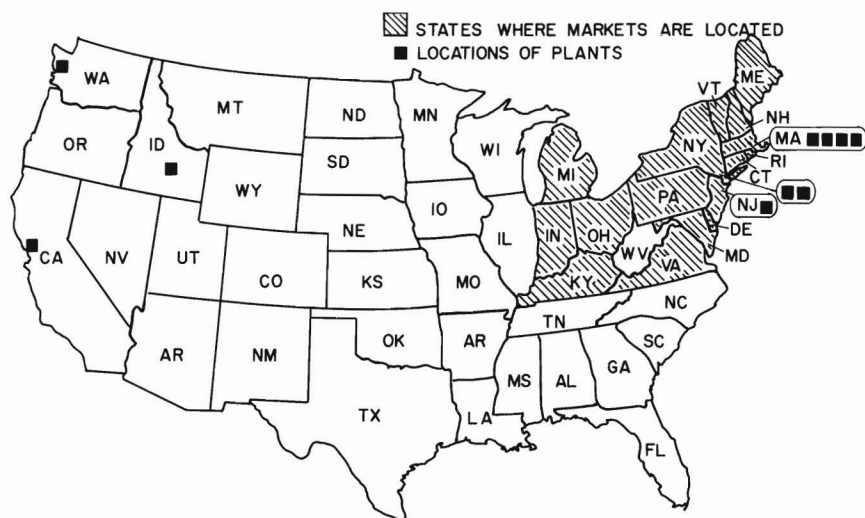


Figure 2.—Locations of markets and plants involved in distribution of U.S. Grade A fresh fish fillets.

If a benefits-to-cost (B/C) analysis of this effort is based on the value of cumulative sales volume and government costs, we estimate its ratio to be more than 150:1. Since the government cost is a constant, the B/C ratio will continue to increase. In fact, as long as the sales rate is in an exponential growth trend, the B/C ratio will grow to exceptional levels in a short time. This analysis does not take into account multiple and other relevant economic factors which would increase the B/C ratio to a much higher level; nor does it reflect the intangible benefits that accrue to the consumer such as assured quality, opportunity to use more seafoods, improved dietary selections, etc.; nor the improved image that accrues to the seafood industry from gaining the confidence of consumers. Also, there are the indirect benefits that will have a favorable impact for the United States which experiences an annual seafood trade deficit of about \$2 billion. If the domestic seafood industry can establish an image associated with high quality, there is the potential for capturing a larger share of the domestic market.

U.S. Industry Effort

The only other U.S. effort of which we are aware was conducted by a 26-

store supermarket chain (Bashas) in Arizona (Zwiebach, 1978). This chain recognized the need to gain consumer confidence regarding quality. The high-quality, fresh seafoods created an impetus that spread to frozen seafoods, and the sales of seafood in the chain increased by about 67 percent. The biggest problem encountered by the chain was the limited supply available from the coastal producers from whom the product was received by air freight. Bashas found that the consumers were willing to pay a higher price for high-quality seafoods.

Australian Industry Effort

Approximately 2 years after the start of the NMFS-industry effort, an Australian firm, G. J. Coles and Company, Ltd., began a similar pilot effort in Melbourne. In less than 3 years, it spread throughout most of Australia, requiring the building of six processing plants to supply the demand that was subsequently generated (Watson, 1979). The Australian effort eventually was limited by the inadequacy of supply as were both U.S. efforts. However, unlike the large U.S. effort, the Australians were unable to introduce their underutilized species on the coasts of their high-quality conventional products. This appears to have been due

to insurmountable organoleptic disadvantages of the Australian underutilized species that were not encountered in the U.S. effort.

Discussion and Recommendations

The three studies cited above should leave no doubt as to the beneficial impact of assuring the quality of seafoods at the point of sale. To add to these findings, a very recent New Zealand study concerned with the potential for increasing New Zealand's seafood exports to Japan concluded that it can depend on a large Japanese market only if it improves the quality of its product (Anonymous, 1979). (There is some evidence to show that the growth of the U.S. seafood export volume is also impeded by inferior quality of U.S. seafood products.) In another recent announcement, the president of the Fisheries Association of Newfoundland and Labrador has stated: "Quality enhancement is a key to the future of the industry, in both catching and processing. Without a major effort on quality, success in terms of the potential will not be achieved" (Wells, 1980).

There are two major problems which we believe require attention: 1) Lack of monitoring of product quality at most of the retail outlets and 2) inadequacy of supply. Although there was no stated concern in any of the efforts described above regarding the monitoring of quality at the retail outlets, it has been and still is a major concern of the authors. Even though the U.S. industry has assimilated the NMFS technology, it did not accept the entire recommendations. One of the NMFS recommendations was to maintain a monitoring capability at the retail level, and except for about 200 stores, this important recommendation has not been followed. What impact this laxity will have in the long run is not certain, but it does have the potential for eroding consumer confidence which is necessary for the program's success.

The problem of inadequate supply can be solved in a number of ways. Since high-quality products command a higher price, one solution is to provide for an economic incentive for fishermen. If fishermen are paid to

bring in more high-quality fish, they will do it. Quality maintenance aboard vessels requires adequate refrigeration (usually more ice) and undoubtedly more time-consuming handling. It is not in the financial interest of fishermen to increase their expenses without a higher return.

A second solution lies in the introduction of underutilized species. This is not difficult when the underutilized species meet certain selection criteria. For example, whiting fillets and pollock fillets, considered underutilized not too long ago, have enough desirable organoleptic qualities to have been accepted by many U.S. consumers. In cases where organoleptic characteristics are unfamiliar, the solution is obviously more complicated but by no means insoluble.

A third solution to the problem is to develop concepts for new products which can be made from underutilized species which do not appear to have marketing potential, and from the by-products of conventional species. For example, small fish, like sand lance, which are too small to process eco-

nomically, and the "frames" from groundfish, which are a by-product of the process for producing fish fillets, can be deboned and used to produce a variety of new, precooked, ready-to-serve products.

Summary

The success of the three efforts described in this paper attests to the accuracy of the identification of a major problem common to the bulk of seafoods available to consumers in supermarkets and to the foresight and commitment of the management and personnel of the few companies cited above. The success of the NMFS-industry effort in particular is evident from the high benefits-to-cost ratio that has been achieved and from the fact that 5 years after its start, its growth is still in an exponential trend. All of this means that the potential for the domestic seafood industry is indeed very large. The smooth transfer of technology in that study was due to industry's clear understanding of its role from the very beginning and its agreement that

the NMFS guidance held a high promise for success.

The extraordinary expansion of the idea of guaranteed U.S. Grade A quality is believed to be due to the NMFS stipulation that quality has to be assured throughout the chain of distribution up to and including the moment that it is purchased by the consumer.

Literature Cited

- Anonymous. 1979. Higher quality is key to success in big Japanese market. *World Fishing* 28(12):5-6.
- Gorga, C., J. D. Kaylor, J. Carver, J. Mendelsohn, and L. Ronsivalli. 1979. The economic feasibility of assuring U.S. Grade A quality of fresh seafoods to the consumer. *Mar. Fish. Rev.* 41(7):20-27.
- Nickerson, J. T. R., and L. J. Ronsivalli. 1979. High quality frozen seafoods: The need and the potential in the United States. *Mar. Fish. Rev.* 41(4):1-7.
- Ronsivalli, L. J., C. Gorga, J. D. Kaylor, and J. H. Carver. 1978. A concept for assuring the quality of seafoods to consumers. *Mar. Fish. Rev.* 40(1):1-4.
- Watson, I. 1979. Supermarketing fish: Fortunes favor the bold. *Aust. Fish.* 38(10):37-42.
- Wells, W. E. 1980. Newfoundland fisheries overview. *The Sou'wester* 12(8):2.
- Zwiebach, E. 1978. Bashas' flying fish plan freshens section's sales. *Supermarket News* 27(18):54.