

Consumer Attitudes Toward Aquaculture

Spanish Study Correlates Knowledge, Opinions



This supermarket signage shows an “unbeatable price” for farmed seabass. Labeling at traditional seafood markets does not always identify the sources of seafood.

Summary:

Consumer beliefs about the safety and sustainability of aquaculture are statistically related concepts that allow their reduction into a single attitude index. As consumers further identify safety and sustainability in the aquaculture, their opinions about farmed seafood tend to become more favorable. The industry can benefit by assuring that both conditions are satisfied in their operations and communicating them in an understandable language for all segments.

Following the bovine food crisis in the last decade of the 20th century, consumers’ awareness and attitudes toward food-harvesting methods increased in importance in purchase decisions. Attitudes toward technology related to the consumers’ predisposition to purchase new products and the expectation of possible risks.

Perceived risk in food technology is

also consistent with consumers’ social environment opinions, which include cultural habits, media and relatives. Input from the social environment can be stronger than other personal factors in decisions regarding food innovations.

Pre-existing Prejudice?

Despite being the only harvesting method that can guarantee full traceability in seafood markets, aquaculture is perceived by conservative consumers as an unnatural and less authentic way to provide markets with seafood. This is especially the case in regions such as the Mediterranean countries, which have deep-rooted culinary traditions and plenty of seafood in the common diet.

A survey funded by the Spanish Ministry of Fisheries and conducted yearly from 2003 to 2007 revealed that in Spain, a majority of seafood consumers assessed cultured species as of less quality and more unsafe than their wild equivalents. This showed some sort of prejudice among these consumers. This study provided the data used to arrive at the results presented here.

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Attitudes Affect Purchasing

Consumers’ attitudes toward seafood-harvesting methods and their effects on purchase decisions are as important as attitudes toward the products themselves. Knowledge of production methods usually need external assistance to be assessed.

It provides extrinsic keys to make expectations of quality, safety conditions and possible impacts on the environment and surrounding communities, which in turn are associated with the likelihood of purchase. Studies have shown that consumers value, and are also willing to pay for, extrinsic attributes that guarantee seafood safety and the use of sustainable fishing practices.

After discussions with groups of producers, consumers and retailers, a set of scales attempting to measure consumer beliefs about the safety and sustainability of aquaculture methods and products was used with the questionnaires collected between 2005 and 2007 (Table 1). Although the means of the scales for all three years were over 3 based on a scoring range of 1 to 5, variances of each measure indicated a polarized behavior among respondents, who were divided into favorable and unfavorable segments.

Factor reduction was applied to obtain an attitude index from the scales, with successful results that explained an average 60% of the total variance of the five scales in the three years, indicating a strong level of association between consumer beliefs about safety and sustainability issues of aquaculture. According to



Some consumers who shop at traditional fish markets may be less aware of the benefits of aquaculture.

the mean values near 3 obtained in the scales, the equivalent factor mean would indicate an indifferent position toward aquaculture among consumers. Using this mean to divide the samples, favorable and unfavorable segments were quantified (Table 2).

The effects of the attitudes on consumers’ beliefs and assessments of different cultured species were studied using structural equation models, and their results were presented at several international conferences.

The models indicated that the more favorable the attitude, as reflected in higher scores provided by respondents on the physical quality and safety of cultured species, the higher disposition to pay for them. These results were confirmed with seabream, seabass, turbot and trout.

Industry Communications

Based on the above results, industry may be interested in improving consumers’ attitudes towards aquaculture. Assuming that industry can assure seafood safety and sustainability, consumer perceptions can vary depending on the amount and quality of the information they receive and their capability to understand it.

Table 1. Yearly mean values (based on a 1-5 scale) obtained for consumer beliefs about aquaculture.

	2005	2006	2007
Aquaculture produces safe foods	3.52	3.60	3.41
Aquaculture produces quality foods	3.50	3.55	3.40
Consumption of cultured species contributes to health care	3.10	3.43	3.18
Consumption of cultured species contributes to the preservation of marine resources	3.51	3.86	3.56
I would recommend consumption of cultured species	3.22	3.37	3.51

Information about aquaculture can come from many different sources. Generic institutional advertising and information provided at the point of purchase were two sources studied within this research.

It was found that higher credibility of the institutional source led to a more favorable attitude towards aquaculture. Different levels of application of regulations on labeling also resulted in different levels of attitude.

While at large supermarkets, labeling for all species included the harvesting method, as required by law, this information was not always available in traditional stores. As a result, attitudes toward aquaculture were more favorable at self-service stores than at traditional fish markets and fishmongers.

Finally, the capability to understand the information received by consumers was affected by several personal variables. Age and education level were two such factors. Respondents between 30 to 64 years old from all samples had better attitudes toward aquaculture than the other two segments, which were unfavorable among older consumers. Also, attitudes improved as the respondents’ education level increased, while unfavorable attitudes were frequent in

Table 2. General attitudes of Spanish consumers toward aquaculture.

	2005	2006	2007
Favorable	53.4%	51.4%	52.8%
Unfavorable	46.6%	48.6%	47.2%

less-educated respondents.

This last result suggested the need to diversify communication channels and messages to assure favorable beliefs across all market segments. Existing communications appeared to fail in transmitting positive information to the less-educated segments, who perhaps found difficulties in understanding technical information and experienced confusion and prejudices.