

## Consumers' knowledge and information needs on organic aquaculture

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**Key words:** organic aquaculture, consumer, communication, label, focus group

### Abstract

*Organic aquaculture is a reasonably new market segment and so far little is known about consumers' knowledge and perception of organic aquaculture. Therefore the present article explores perceptions and knowledge of German consumers of organic aquaculture and related labels by using focus groups. One central result is that consumers were mainly unfamiliar with aquaculture in general. However, they had some clear expectations regarding sustainable and specifically organic aquaculture. The use of drugs should be minimized; production systems should be close to nature and respect fish welfare. Obviously, test persons deduced their understanding of aquaculture from theirs of terrestrial animal husbandry. The study also shows consumers' low awareness of the existing eco-labels on the German market.*

### Introduction

Products from organic aquaculture have only recently gained in importance in the market. That is why, so far only little attention has been directed towards consumers' knowledge and perception of organic aquaculture (Schlag & Ystgaard 2013 and references therein). Studies dealing with consumers attitudes towards aquaculture found that consumers are mostly unfamiliar with aquaculture (Aarset et al. 2004; DG Mare 2008). The image of aquaculture seems to be created by comparing it to agricultural systems and by contrasting it with fishing. Furthermore, Aarset et al. (2004) found that even though labels are of crucial importance in indicating fish quality most participants of their study were skeptical about and/or unfamiliar with existing eco-labeling schemes. With EU regulations for organic aquaculture in place, it is time for an update on consumers' attitudes towards organic aquaculture.

Accordingly, the present study aims to explore consumers' knowledge and perception of sustainable and organic aquaculture as well as those of sustainability labels especially organic ones. From our findings we derive consumers' understanding of organic aquaculture and deduce recommendations for further development of standards for organic aquaculture.

### Methodological approach

We consciously decided not to opt directly for consumers' views on organic aquaculture in order to find out if consumers differentiate between sustainable and organic aquaculture. In accordance with the 'Brundtland Report' (WCED 1987) sustainability is defined in this study as integrating the three dimensions of environmental, social and economic development. Organic aquaculture is seen as a specific form of sustainable aquaculture practice. The term 'fish' is used in this paper as an umbrella term for all kinds of seafood.

To find out about the range of sustainable aquaculture products and labels present on the German market, we carried out an inventory first. In total we visited 30 retail stores in nine German cities. All aquaculture products available in these stores claiming to be sustainable and related labels were registered.

Afterwards six focus groups each consisting of 7 to 12 participants were conducted in three German cities (Stuttgart, Leipzig and Hamburg). This qualitative approach was chosen due to the explorative character of the study. All participants had to purchase fish at least once per month. Three groups consisted of consumers of organic food, whereas the other three groups were made up of consumers buying conventional food. Consumers were classified as buying organic if they purchased at least once per week organic products. Each session lasted between one to one and a half hours and followed a thematic guideline. All focus group discussions were audio- and videotaped and transcribed for qualitative analysis.

In the focus groups, participants were asked to think about arguments for and against fish farming. Hereafter, they should describe the criteria they thought sustainable aquaculture should fulfill. The test persons were expected to have only limited knowledge of aquaculture production systems. Thus they were informed about the three main production methods in Germany (earth pond, flow through system and closed recirculation

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system) and asked about their attitudes towards the presented systems. Next, participants were shown the five most prominent labels we found in the inventory and the Aquaculture Stewardship Council label (ASC). The ASC label was introduced in 2012 to the German market and was listed because the food industry expects it to become an important sustainability label. The participants were asked if they recognized any of these labels from fish products.

## Results

According to the inventory a total of 143 different fish products claiming to be sustainable existed. Most of the products used labels as means of communication. More than half of the articles (61%) originated from organic aquaculture. Altogether, 18 different sustainability labels were found. Eight of which were organic ones. The most prominent label was the EU organic logo which was found on 40% of all articles. The second most frequent label was 'Naturland' (20%) followed by the German 'Bio-Siegel' with 12%.

Participants expected sustainable aquaculture to restrain from drug usage as far as possible and to work without artificial additives and hormones. Sustainable aquaculture should be a natural way of production respecting fish welfare and the environment. Fish feed should be sustainable itself and species-appropriate. Moreover, full transparency along the supply chain and outstanding quality were demanded by the participants. With regard to closed recirculation systems some associations with 'mass animal husbandry' came up. Fish welfare was heavily doubted in these systems. Likely ecologic advantages with respect to nutrient run-offs were outweighed by the lack of naturalness and the assumed deficiencies in fish welfare.

The attributes participants ascribed to organic aquaculture mostly conformed to current organic aquaculture practice. Participants imagined organic production as a natural one that combines eco-friendliness with fish welfare. In this context, a typical comment was: *'[...] organic, the fish is happy [...]'* (HH2F2). Other traits of organic aquaculture mentioned by participants were the exclusive breeding of native fish species and the renunciation to drug usage especially antibiotics. Some participants referred to organic aquaculture as a practice that is ecofriendly in a holistic manner. Ponds or tanks should have a natural appearance (e.g., vegetation around the site). Organic aquaculture was interpreted by several of the participants as a more traditional one, which is less industrialized. These expectations led many of them to the conclusion that an organic aquaculture might use earth ponds or flow through systems but not closed recirculation systems since they were perceived as too technical and artificial. Some participants expected organic fish farms to be small to medium sized. Big dimensions were mostly associated with industrial livestock farming and perceived to contradict the idea of organic production.

A large part of the participants did not clearly distinguish between sustainable and organic aquaculture. Some of them mixed the two terms and used them synonymously. Nonetheless, several of the participants had rather clear conceptions and expectations of organic aquaculture. Whereas sustainability was a more or less vague term with unclear definition for most of the consumers, organic on the other hand was a fixed term familiar to the consumers. Some of the organic consumers participating knew that there exists a regulatory framework defining organic. Organic aquaculture was seen by a lot of the participants as the ideal aquaculture practice and some mentioned that sustainable aquaculture should follow organic standards. Overall, differences in perception and knowledge of sustainable and organic aquaculture and related labels were small between the groups of organic and conventional consumers.

The focus groups revealed an obvious lack of knowledge among the participants concerning aquaculture in general. This limited knowledge resulted in a romanticized and misleading image of aquaculture. Apparently consumers' concerns about intensive terrestrial animal husbandry were transferred to aquaculture. In accordance with findings of Aarset et al. (2004) this shows that one motive for buying organic fish is the avoidance of likely negative aspects of conventional products. On the one hand, some participants were aware of their lack of knowledge and called for more transparency and information in general concerning aquaculture. Several participating consumers asked for standardized and comprehensible information on the package. On the other hand, other participants did not wish to know more about fish farming because they feared that more information might be confusing because of an already existing information overload. It even might bring them to stop consuming fish.

Even though organic fish products are sold by all major food retailers in Germany most of the participants were unaware of sustainability labels on aquaculture products. The only sustainability fish label participants mentioned frequently and unaidedly was the Marine Stewardship Council label (MSC), which only refers to marine fishing. This shows that a part of the participants was not able to differentiate between sustainability labels for wild and farmed fish. Fish is still often perceived as a non-domesticated animal which is caught rather than farmed. However, some of the organic consumers recognized some of the labels and stated to

know them from other food. Several of the participants mentioned that they never before looked consciously for a sustainability label on fish products. Others said that they trust their retailer or fish monger and therefore did not look for labels. While discussing sustainability labels some participants said that they would trust organic fish products the most. But there was also some distrust of organic products among the participants for example concerning the certification process and the compliance to the specific organic standards. A general skepticism towards the food industry could be observed.

## Conclusions

An important result of this research is that consumers' knowledge on fish production was very low. It became also clear that many of the participants were even not interested in additional information.

The impression was that those participants who were interested in sustainability issues preferred organic products when purchasing fish. Obviously their understanding of organic aquaculture practice was inferred from their knowledge of other organic food production. Many consumers relied upon the organic standards for aquaculture complying with their understanding of organic agriculture. The longing for authenticity and naturalness was present through all the group sessions. As in the study of Aarset et al. (2004) the term organic was used by some participants as a heuristic for naturalness. This perception is well in line with communication messages used in the organic fish sector. Further communication of this trait seems promising. Most of the participants refused closed recirculation systems as organic. They only accepted earth ponds and flow through systems as potential methods for an organic aquaculture. It is important to realize that these findings have major impacts on aquaculture systems eligible for organic certification – and for the further development of organic aquaculture standards. Only systems close to the natural cycles of nature and respecting fish welfare concerns will be accepted by consumers as organic produce. Eventually, it is important for the organic aquaculture sector to maintain and improve their high production standards and to align them further to consumers' expectations.

So far labels appear to be of little help to consumers in distinguishing organic fish products from other ones. This finding is in accordance with the study of Aarset et al. (2004) and leaves the standard setting institutions with the task to improve their profiles and to intensify consumer communication. Against the background of frequent information overload and the limited demand for additional information by many discussants the question remains on how to provide information for those interested. Our recommendation is to make use of the internet to explain organic aquaculture and the organic certification system to interested consumers instead of adding further information to packages.

## Acknowledgements

We are grateful for the funding of the underlying research by the German Bundesprogramm Ökologischer Landbau und andere Formen nachhaltiger Landwirtschaft (BÖLN).

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