What if the gene is never expressed? Additionally, with many genes having multiple copy numbers in the genome, how quantitative is the approach to determine pathogenic potential? Current work involves studying the RNA from these same cards, and preliminary results suggest this is very useful. In fact, early work studying the stressors that upregulate the expression of these_Vibrio toxins is proving quite interesting, but needs to be studied more thoroughly. The authors are also developing quantitative PCR testing to make this approach more robust, more sensitive and less labor intensive. Additionally, their work is seeking to expand the number of virulent species and virulence genes of study.

Call For Field Samples

With RNA and quantitative PCR work under way, the next step for this group is to start studying_Vibrio samples from abroad, the original intent for the microbial discovery group. The Microbial Discovery Group will now seek willing shrimp producers to ship nucleic acids on these FTA cards from their low- and high-producing ponds, combined with completed questionnaires relating to management practices and water chemistry data. Collection of this data will help the scientific and shrimp producer communities understand_Vibrio in relation to management practices, stressors and resulting effects on shrimp economics.

Perspectives

By using FTA cards as a sampling method for remote, overseas or otherwise inaccessible water samples, one can pre- serve a genetic snapshot of the biological community present at the time of collection. FTA card-based sampling techniques and DNA- or RNA-based virulence gene detection and quantification can be valuable tools in the monitoring of_Vibrio virulence potential.

The ability to detect and understand differences in the_Vibrio community composition of shrimp production systems water samples will enable researchers to understand the relationships among these organisms, pond performance, management practices and environmental stressors.

Summary:

Healthy eating will likely be a dominant trend in food consumption in coming decades. According to a literature review, consumers will demand more information about seafood and the possibility to trace its movements through the value chain. Best practices certifications may increase as interest in sustainable production and transparency grows in influence. The extent to which these trends affect future seafood demand will partly depend on the level of retail promotion, as well as the size and economic status of concerned consumer groups.

The major tastes and preferences of consumers in food markets and expected future changes were recently analyzed in a literature review published by SNF Bergen. This review identified five major drivers for consumer food choices: food safety concerns and health benefits, corporate social responsibility, production systems and technology, sustainability and geographic origin. Actions implemented by governments, non-governmental organizations and the private sector were also considered. The effectiveness and consequences of these drivers on seafood consumption are presented here.

Food Safety, Health Benefits

Increasing concerns about a global rise in the proportion of overweight consumers and obesity-related diseases will make healthy eating one of the dominant trends in food consumption in the coming decades. Governments will play an important role in promoting healthy eating habits to the public through campaigns of many kinds. As a consequence, demand for foods associated with potential health benefits will increase, and the consumption of “fast and fat” food will decline. Seafood can be perceived by consumers either as a source of benefits or risks, depending on social and personal factors.

The identification of fish and shellfish species as part of a healthy diet, mainly related to their omega-3 fatty acid content, makes this consumer concern an opportunity for market development. However, the adoption and consumption of healthy foods will not be equal among consumers and countries or individuals due to varied availability and ability to process technical nutritional information, understand

The demand for foods associated with health benefits is projected to increase. Seafood can be perceived by consumers either as a source of benefits or risks, depending on social and personal factors.

Consumers’ concerns about health are closely related to food safety concerns. Consumers will demand more information about seafood products and the possibility to trace their movements through the value chain.

Corporate Social Responsibility

Attention toward corporate social responsibility is a rising trend among consumers and retailers. Consumers will demand more transparency from producers about food products and pay more attention to production sustainability, ethical sourcing and “food miles,” among other factors. An abundance of publicly available information related to the seafood industry, impacts on natural stocks, production mistakes, failures and unreached social responsibility impacts on natural stocks, production mistakes, failures and unreached social responsibility...
The extent to which these new trends will in fact affect seafood demand in the future will partly depend on the level of retail promotion, as well as the size and economic status of the segments of concerned consumers.

**Sustainability**

The concept of buying local products is highly promoted among consumers, particularly in Europe. Attitudes, traditions and special production methods distinguish the food in national and international markets and highlight the potential challenges for local foods over imported products.

**Country, Region Of Origin**

The region of origin has proven to be a powerful influence in consumer seafood choices, both positive or negative. For some species, the region of origin is a quality assurance itself – as with wild salmon from Alaska or farmed fish from Norway. In other cases, consumer ethnocentrism can limit consumer purchases of imported seafood, although for value-added products and fillets this is much less the case.

**Perspectives**

As we continue breaking through on the importance of seafood in human health – and believe me, we are – seafood production people have to bring new on product innovations, and marketing people must promote them to consumers who favor taste over health benefits in food choices. “The new frontier is how to make healthy foods delicious.”

**Summary**

International food organizations fully understand that seafood plays an essential role in human nutrition and is an excellent source of protein as well as essential fatty acids and micronutrients deficient in many diets. Now seafood production people have to bring new on product innovations, and marketing people must promote them to consumers who favor taste over health benefits in food choices. “The new frontier is how to make healthy foods delicious.”

**Marketplace**

Healthy ... But Tasty, Too

Seafood Must Join New Frontier In Food Production Systems, Innovations

The future development of the food industry and processing procedures will be affected by consumers. In some cases, such as organic aquaculture, production systems will revert toward more traditional ones. In other cases, developments in nanotechnology and genetic modifications will stimulate the production of new and more sophisticated species. The acceptance of genetically modified products and nanotechnology will continue to be low due to consumers’ negative perceptions toward modified foods.

The confrontation between traditional and innovative food production is of special interest in seafood. This fact materialized in the market interactions between wild and farmed species, and the limitations of the latter for achieving optimal prices in regions and cultures with strong preferences toward traditional catch production.

**Sustainability**

The consumer interest in the sustainable production of foods will continue to be an increasing trend, especially in wealthy developing countries. Fish stock and forest depletion, as well as the effects of production on climate, were among the concerns mentioned. Legislation will reinforce the trend toward sustainable production.

Eco-labels are the best known example of the translation of consumers’ sustainability concerns into the seafood markets. As in the case of health benefits, results in terms of market return may depend on several social, economic and individual factors. Having the right to use an eco-label will not necessarily mean increased income for a fisherman or farmer, but certainly can avoid rejection due to environmental critics of the fishery and aquaculture industries.

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