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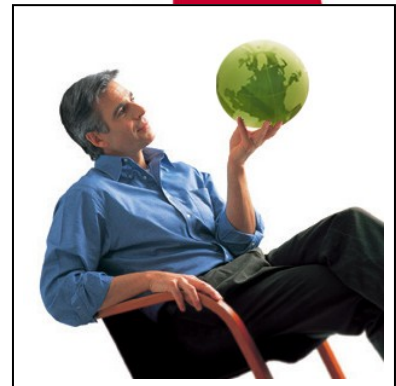
**International
Markets
Bureau**

MARKET ANALYSIS REPORT | NOVEMBER 2009



Consumer Trends

Functional Foods





▶ EXECUTIVE SUMMARY

In the past, foods were primarily recognized for their essential nutrients for normal body activity and function. During the past two decades, however, consumers have switched from an emphasis on satisfying hunger to an emphasis on the promising use of foods to promote well-being and to help reduce the risk of disease (Niva, 2007, Bogue & Sorenson, 2001). Today, there is a consensus that eating the 'right' foods extends life expectancy and improves the quality of life.

A number of factors are responsible for changing consumer attitudes toward foods and reshaping food supply trends. These include an aging population, increased health care costs, consumers' desire to enhance personal health, change in consumer awareness and expectations, advancing scientific evidence that diet can alter disease prevalence and progression, advances in food science and technology, and changes in food regulations.

Following the trends observed in consumer demand, the food industry introduced a new category of products named 'functional foods'—foods that bring science and high-technology into everyday life by 'promising' certain health benefits (Niva, 2007). This interest has been fuelled by increased media attention and an increasing number of consumers determined to take greater responsibility for their own health (L'Abbé et al., 2008).

Markets for this category show intense competition and, in order to survive, companies must carefully plan new product processes and base their decisions on consumer needs and wants (Henson et al., 2008; Ares & Gámbaro, 2007). This competitive atmosphere suffers from a lack of information and understanding of consumer attitudes and behaviour, which unfortunately could lead to poor market acceptance (Verbeke, 2005).

This report aims to provide insights to food producers and marketers into the territory of health-claimed foods. The information was compiled from research studies that analyzed in depth the determinants of consumer acceptance of functional foods.



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▶ DID YOU KNOW?

- ▶ The functional food industry is growing steadily worldwide.
- ▶ Predictors of functional food consumption are related to consumers' health motivation, perceived diet effectiveness of products, and knowledge about nutrition.
- ▶ Demographic characteristics of consumers play a minor role in consumer acceptance of functional foods.



▶ DEFINING FUNCTIONAL FOODS

There are many possible definitions for the term 'functional food' and there is no global consensus on its meaning (Health Canada, 2005; American Dietetic Association, 2004; Bech-Larsen & Grunert, 2003; Urala et al., 2003; Coletta, 1999). This is due, in part, to the variety of health benefits that are perceived to be provided by many conventional foods. For example, anti-oxidants occur naturally in foods such as blueberries, providing health benefits without additional modification. One might even argue that every food is functional on some level. A common criticism of functional foods is that it is not ideal to focus on the health benefits of a single product outside of the context of the total diet—health can only be improved and maintained through proper total diet and physical activity (Hooker & Teratanavat, 2008).

- ▶ The driving force behind the functional food concept is to market products that impart desired physiologic effects beyond those ordinarily associated with basic nutrients. As a general definition, a food can be said to be 'functional' if it contains a food component that affects one or a limited number of specific function(s) in the body in a targeted way so that it has positive effects. The 'effect' to which this refers should be relevant to well-being and health or reduction of risk of disease (Roberfroid, 1999).
- ▶ According to Health Canada (2005), a functional food is a 'food that is similar in appearance to, or may be a conventional food that is consumed as part of a usual diet, with demonstrated physiological benefits and/or reduce the risk of chronic disease beyond basic nutritional functions'.
- ▶ Functional foods have also been defined as products that have been modified or enriched with naturally occurring substances with specific physiologically preventative and/or health-enhancing effects (Poulsen, 1999).
- ▶ Based on the variety of definitions, functional foods may be classified into the following categories (Table 1):

Table 1 Categories of Functional Foods

| | |
|----------------------|--|
| Non-altered products | Foods naturally containing increased content of nutrients or components |
| Fortified products | Increasing the content of existing nutrients |
| Enriched products | Adding new nutrients or components not normally found in a particular food |
| Altered products | Replacing existing components with beneficial components |
| Enhanced commodities | Changing raw commodities to alter nutrient composition |

Source: Adapted from Spence, 2006

- ▶ There are many components in foods that are believed to have health benefits. Some examples are listed in Table 2:

Table 2 Potential Benefits of Food Components

| Component | Product | Potential benefit |
|--|--------------------|---|
| Lycopene | Tomato products | Reduce the risk of prostate cancer |
| Beta-glucan | Oats, Barley | Reduce risk of cardiovascular disease, lower LDL and total cholesterol |
| Long chain omega-3 fatty acids-DHA/EPA | Fish oils | Reduce risk of cardiovascular disease and improve mental functions |
| Catechins | Tea | Neutralize free radicals and reduce risk of cancer |
| Isoflavones | Soy-based products | Reduce risk of cardiovascular disease and lower LDL and total cholesterol |
| Flavones | Flax seed | Neutralize free-radicals and reduce risk of cancer |
| Lactobacillus | Yogurt | Improve quality of intestinal microflora |

Source: Agriculture and Agri-Food Canada



▶ MARKET OVERVIEW

The functional food industry is growing steadily worldwide. Innovative products are being launched continuously and competition is fierce. Researchers agree that the market is growing at an annual rate of 8-14%, but the exact size of markets for functional foods is difficult to measure. Depending on the source of data and definition of this category of products, the global market could range from US\$7 to US\$167 billion (Market Research, 2004). Market researchers are frequently vague about the criteria used to define product ranges and the methodology used to create their market numbers for functional foods, which is confusing to supply chain participants.

- ▶ The functional food industry is resource-intensive, both in terms of financial resources and the time required for basic research, technology development, and commercialization, including obtaining product approvals and developing and resourcing marketing strategies (Hobbs, 2002). In this particular industry, many health-promoting ingredients are still being tested for their long-term effects on health or face discrepancies with regard to scientific opinions.
- ▶ The complexity of this industry leads to the formation of new supply chain partnerships among input suppliers, farmers, researchers, and food processors. There exist opportunities for strategic alliances or joint ventures and the need for a consistent supply of functional ingredients through contracts or special supply arrangements. Thus, not only a wide range of products but different market segments and economic conditions characterize this industry. In particular, the functional food industry reflects a shift from a 'mass market' to a market with differentiated products, serving consumers with relatively high incomes.
- ▶ Today, supply chain participants perceive the functional food industry as an opportunity to gain market share through improved margins and customer loyalty. Nevertheless, this type of industry is still highly concentrated, which means that a small number of large companies dominate and shape its direction. In addition, it is generally characterized by a high rate of failure for new food products, often due to insufficient market research. Although they possess unique nutritional and health characteristics, functional foods still compete with conventional foods for market share and shelf space in retail stores (Hobbs, 2002).

▶ WHO BUYS FUNCTIONAL FOODS

There seems to be a consensus among researchers that 'demographic characteristics play a minor role in consumer acceptance of functional foods and their perceptions of health claims' (Verbeke et al., 2009). Significant predictors of functional food consumption are related to consumers' health motivation, perceived diet effectiveness of products, and knowledge about nutrition (Landström et al., 2007; Petrovici & Ritson, 2006). There is evidence that consumers most likely to have a positive attitude toward functional foods are the ones who have faced illness among relatives or have experienced illness themselves (Verbeke, 2005). Chronic diseases are strongly associated with the demand for functional foods—products targeted at preventing widespread diseases such as heart diseases and cancer capture a great deal of attention from consumers (West et al., 2002). Therefore, it is important to understand predominant public health issues in a targeted market because they strongly dictate consumer behaviour toward the purchase and consumption of products with health claims.

- ▶ The literature is conflicting with respect to the demographic profile of functional food consumers. Studies developed in different markets have shown results either highlighting stronger purchase behaviour by females or no gender differences. Both higher and lower levels of education have been associated with positive attitudes toward functional foods (Herath et al., 2008; Urala & Lähteenmäki, 2007; de Jong et al., 2003; Verbeke, 2005).
- ▶ Regarding age groups, it seems that older consumers perceive the use of functional foods as more beneficial than younger consumers (Herath et al., 2008; Landström et al., 2007). This relationship may be explained by the exposure of older consumers to more health problems.
- ▶ Level of income may also play a role in functional food consumption, but research data lack consistency. Some studies show that consumption of functional foods is associated with lower income households (Herath et al., 2008). Others, however, highlight that it is a market dominated by well-off consumers, arguing that packaged functional foods tend to be available at a premium price and are perhaps beyond the reach of consumers with modest incomes, particularly retired consumers where the incidence of poverty is high (Petrovici & Ritson, 2006).
- ▶ The conflicting information found in the literature highlights the importance for companies to understand consumers in their global markets and define target audiences in a strategic manner.



▶ HOW CONSUMERS SEE FUNCTIONAL FOODS

Despite the overwhelming interest in and increasing consumption of functional foods, very little is known about how consumers perceive these products (Herath et al., 2008). Moreover, the majority of studies looking at consumers' behaviour and attitudes toward functional foods are focused on developed countries such as the US, Canada, Finland, Australia, and Sweden, leaving out potential emerging markets. What these studies have in common is that consumers undergo a rational decision making process when purchasing health-claimed foods (Verbeke, 2005).

- ▶ Foods are still classified in consumers' minds as 'good' or 'bad', and their healthfulness is still closely associated with natural and unprocessed products (Niva, 2007). Therefore, artificially introduced healthy ingredients in manufactured foods may not be seen as 'genuine' healthiness by some consumers (Niva, 2007; Urala & Lähteenmäki, 2004). In fact, a significant segment of worldwide consumers believe that functional foods are used to compensate for an unhealthy lifestyle—their opinion is that people should eat and live a healthy life, without relying on single food products (Landström et al., 2009). One way of perhaps attracting these consumers to the functional food world might be by emphasizing the 'good' feeling derived from using functional foods (Urala & Lähteenmäki, 2004).
- ▶ The Theory of Basic Human Values developed by social psychologist Shalom Schwartz also brings some insights into this debate by the analysis of the 'harmony' and 'mastery' values of consumers (Niva, 2003). Harmony-oriented consumers emphasize co-existence with nature and reject manipulation of it (Niva, 2003). These consumers may be less prone to consuming manufactured functional foods, but may be attracted to foods that naturally bring health benefits without manipulation. Mastery-oriented consumers, on the other hand, are positive about the active and self-assertive manipulation of social and natural environment, and, therefore, may have a positive purchase behaviour toward manufactured functional foods (Niva, 2003).
- ▶ Because consumers seek healthy foods for a variety of reasons and have different preference patterns, functional foods should be designed for niche markets, rather than being developed for the whole marketplace (Ares & Gámbaro, 2007). From a marketing perspective, it is important to understand that consumers weigh different factors when making a purchase decision and these include not only health and nutrition but also price, convenience, and taste (Verbeke, 2008). Taste, in particular, has been regarded as the critical factor for functional food's acceptance, along with trustworthiness of health claims—consumers will rarely compromise on taste for foods with potential health benefits (Verbeke, 2006; Urala & Lähteenmäki, 2004)). This means that food manufacturers have to ensure that pleasant taste solutions are incorporated into their new product development processes and that a strategic approach is developed to achieve targeted markets.



▶ CONSUMER PERCEPTIONS OF HEALTH CLAIMS

Health Canada considers a health claim for food as 'any representation in labelling or advertising that states, suggests, or implies that a relationship exists between consumption of a food or an ingredient in the food and a person's health' (Health Canada, 2009).

- ▶ With the introduction of the concept of functional foods in the market place, health claims have become a means to communicate to consumers the health benefits of foods that contain specific formulations, conveying relevant information that would otherwise remain unknown (Jew et al., 2008). Communication can have a great impact on changing consumers' knowledge and attitudes and reshaping their decision-making processes (Verbeke, 2008). Health claims are indeed key factors for the development of a successful market for functional foods, especially if the product is made of novel ingredients, or its health benefit is not widely known.





- ▶ In response to the growing demand for functional foods, regulatory bodies in a variety of countries have developed policies and regulations governing health claims for foods (Jew et al., 2008) (Table 3).

Table 3 Regulatory Bodies Governing Nutrition Health Claims in Various Countries Around the World

| Country | Regulatory body for nutrition health claims |
|---------------------------|---|
| Australia and New Zealand | Food Standards Australia New Zealand |
| Brazil | National Health Surveillance Agency |
| Canada | Health Canada |
| China | State Food and Drug Administration |
| European Union | European Food Safety Authority |
| France | French Food Safety Agency |
| Japan | Ministry of Health, Labour and Welfare |
| The Netherlands | Netherlands Nutrition Centre |
| Sweden | Swedish Nutrition Foundation |
| United Kingdom | Joint Health Claims Initiative |
| United States of America | Food and Drug Administration |

Source: Adapted from Jew et al., 2008

- ▶ While the process of having a health claim approved requires substantiation with strong scientific evidence and convincing human data, the level of evidence varies greatly across countries (Jew et al., 2008). Therefore, a claim permitted in one country may not apply in another. Companies developing global brands for functional foods should make sure the claims used are permitted in the target market.
- ▶ In Canada, the following claims have been permitted since 2003 (Health Canada, 2009):
 - ▶ a healthy diet low in sodium and high in potassium and reduced risk of high blood pressure;
 - ▶ a healthy diet with adequate calcium and vitamin D and reduced risk of osteoporosis;
 - ▶ a healthy diet low in saturated and trans fat and reduced risk of heart disease;
 - ▶ a healthy diet rich in vegetables and fruit and reduced risk of some types of cancers; and
 - ▶ non-fermentable carbohydrates in gums and hard candies and reduction in dental caries
- ▶ It is generally accepted that health claims should only be used if the average consumer can understand the message. In this context, industry stakeholders would benefit from understanding how consumers perceive health claims and how labelling influences their purchase decisions.
- ▶ Various studies have looked at how consumers evaluate and understand health claim formats on food labels. In general, consumers see health claims on foods as useful (Williams, 2005). In addition, consumers tend to have a more positive attitude toward claims linked to products that have a long history of safe consumption and healthiness such as yogurt and margarine (Hailu et al., 2009; Ares & Gámbaro, 2007; Landström et al., 2007). There is some indication that “hard” physiology-based health benefits (e.g., heart disease, cancer, constipation) are preferred over “soft” ones (e.g., lack of energy, inner beauty, stress) (van Kleef et al., 2005). A more recent study has suggested that highlighting lowered disease risk in the claim may be more effective in influencing the purchase of functional foods than information stressing the reduction of a specific risk factor for an illness (Devcich et al., 2007). Consumers may better process and trust the information provided by a claim if there is a short health claim on the front of the package with the full health claim on the back (Hooker & Teratanavat, 2008; Williams, 2005).



- ▶ Although a great deal of research is being conducted to prove the health benefits of certain foods and ingredients, the development of persuasive health claims has proven to be challenging because they must balance consumer information, consumer protection against false claims, and company marketing (van Trijp & van der Lans, 2007; van Kleef et al., 2005). They also play a role in promoting social benefits such as a healthier population and in reducing healthcare costs, when supported by standards, testing, certification, and enforcement services.
- ▶ Functional food claims are considered 'credence attributes'—product attributes that cannot be verified by consumers. For example, a label on a milk product might claim that the milk is enriched with calcium and omega-3 essential fatty acids; however, consumers cannot evaluate this claim, even after drinking the milk, because these ingredients cannot be tasted or smelled, nor do they possess any shape or specific colour. In addition, consumers cannot observe any direct impact of these ingredients on their immediate health status. Because consumers are not in a position to assess the validity of credence claims even after purchase, they tend to be more sceptical about a claim made by a product manufacturer. This is particularly true in Canada where the large majority of consumers do not trust what food processors have to say about food safety (Williams, 2005; West et al., 2002). In general, worldwide consumers place little value on non-verified claims and must trust the source of information in order to have a positive attitude toward food products. One way of counteracting this problem is to have the government regulate health claim labelling for functional foods, which will validate credence attributes. It has been confirmed by research that Canadians are more likely to accept a functional food if the verification of health claims is done through government agencies (Hailu et al., 2009).
- ▶ For Canadian companies, an important consideration is that consumers in different countries perceive health claims differently and that different benefits being claimed are perceived in a distinct manner in terms of perceived newness and ability to understand the message (van Trijp & van der Lans, 2007; Williams, 2005). Unfortunately, little is known about which combinations of health claims and food products are most convincing to consumers worldwide (van Kleef et al., 2005).
- ▶ From a marketing standpoint, difficulties with targeting cognitively and attitudinally specific consumer segments may result in a decrease in market growth and distrust by consumers on the health benefits of products (Verbeke, 2005). This means that stepping into the global market for functional foods translates into a great deal of investment in communication and marketing strategies, which will have to be tailored for each targeted country. Companies should bear in mind, however, that an excessive marketing or advertising-driven strategy and positioning may raise the risk of lower credibility and scepticism among consumers (Verbeke et al., 2009).



▶ CONCLUSION

There is no doubt that the functional food industry is growing steadily worldwide. However, successful commercialization of new products is proving to be challenging especially due to the need for a strategic approach to product development processes. The main component of these processes is the understanding of how consumers perceive functional foods and what factors influence a positive attitude toward their purchase.

This report has provided some insight on the complex reasoning process that consumers undergo for the acceptance of functional foods. Consumers think and act differently in different countries, and demographic factors seem to play a minor role in consumers' acceptance of functional foods.

Functional foods should be designed for niche markets, rather than being developed for the whole marketplace. Besides strategically identifying targeted markets, companies need to concentrate their efforts on educating consumers and communicating the health benefits of their products in a way that consumers understand and find credible. Since the supply chain for functional foods is complex, opportunities exist to partner and collaborate with other stakeholders, especially with government agencies, because consumers place a high level of trust in information sourced from them.



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Agriculture and Agri-Food Canada
1341 Baseline Road, Tower 5, 4th floor
Ottawa, ON
Canada K1A 0C5
E-mail: infoservice@agr.gc.ca

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