

Innovation of Functional Products in the Brazilian Dairy Industry: Case Study of *Elegê Alimentos S.A.*

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Abstract

Traditionally in Brazil, the products of the dairy agro-industry are of reduced aggregated value and low differentiation. This frame can change, because in the last few years the profile of the consumer is also changing, and their new requirements are lining up with the increasing search for health, beauty and well-being. The innovation of dairy products, tied with these needs of the modern consumer, presents as an opportunity for the differentiation of products and market segmentation, making possible the value aggregation. This tendency starts to be observed with the launching of pro and prebiotic foods, special kinds of milks, amongst others, all of them with strong allegations of the health benefits related with their consumption (functional dairy products). In this direction, through a case study, the efforts in the development of new functional products of Elegê Alimentos S.A. were characterized. This company is a Brazilian, national leader of market in many segments and competitor of traditional multinational companies. Elegê is developing 32 products, most of them with functional appeals based in the Wellness, Power/Fitness, Low Carb and Cosmeceutic concepts. Despite the raising dynamism in these innovations, limitations about the acceptance of the alleged benefits, in a medium/long stated period, are not totally known. The professionalisation of the chain has assisted in a quality increase of the raw material, however the innovations are only occurring through the addition of functional ingredients and not through the creation of totally new products, due to the hardening caused by the monopoly of the equipment manufacturer.

Keywords: dairy, differentiation, functional foods.

1. Introduction

The agrifood industry is characterized as a traditional sector, where the innovation is mainly of incremental character (BYÉ; GALIZZI; VENTURINI, 1996) and the low aggregated value of the non-manufactured agricultural products places the production scale as a determinative factor of income. Despite this, there are sectors that have searched for more radical innovations in their products to reach new markets and to differentiate themselves of competing products. And it is through changes in process and addition of new ingredients that the Brazilian dairy sector is gaining competitiveness and adding value in its products.

To have commercial acceptance, it is primordial to know which aspects of the innovative

product are more appreciated nowadays by the consumer - as quality, security, differentiated properties or practical and attractive presentation of foods. In this context, from scientific discoveries - that identified relations between certain substances naturally present or added in determined foods and several benefits to health and well-being when consumed - the development of functional foods brought excellent opportunities of innovation to the food industry. This is noticed, once the higher level of information to the consumer on the consequences of bad diet meets the allegations of health when consuming these new products.

The need of innovation of the Brazilian dairy industry is urgent. The truth is that, even so the country appears among the largest milk producers in the world, the consumption in the domestic market remains restricted to products with low differentiation, however, worldwide, the dairy sector is responsible for the biggest number of launchings between functional foods.

From these evidences, the intention of this article is to present and to discuss the degree of development of the Brazilian dairy industry when related to the new worldwide tendency of innovation via functional foods, through a case study of a national company of dairy products - Elegê Alimentos S.A.

The text was structuralized in the following form: the first section presents a contextualization of the Brazilian dairy sector and the second part deals with the trends for this dairy sector, emphasizing the functional foods. After that, the case study in Elegê Alimentos S.A. was presented, as well as the final conclusions and the references in which the study was based.

2. Considerations on the Brazilian Dairy Sector

The liberalization of the Brazilian economy in the 1990s generated impacts in the entire productive sector, due to the opening of the economy and entrance of several multinationals in the market of farming products. If initially this was harmful, specially for the national companies, who had reduced innovation and low competitiveness, the reaction of these companies, to guarantee their survival, was to improve quality and diversity of their products and the efficiency of process, aggregating new technologies of production and new ingredients.

Tied to other factors, these efforts reverberated in the growth of the Brazilian economy, with all the economic indicators pointing to good results, including the reduction in the unemployment taxes (FIPE, 2002). Thus, in the dairy sector, for example, there has been an increase in the domestic and foreign demand. The milk production in Brazil reached 23,320 thousand tons in 2005, positioning the country as the sixth largest milk producer in the world (ANUÁRIO BRASILEIRO DA PECUÁRIA, 2005). The largest Brazilian producers are the states of Minas Gerais, Goiás and Rio Grande do Sul, and the last one presents the largest productivity and growth potential to become leader of production (KRUG, 2005). In relation to the exportations, since 2004 the Brazilian trade balance of dairy products became positive, with perspectives of production growth higher than the largest producers in the world like EUA and Australia (ALVIM, 2004).

In relation to the improvement of the historic problems in the quality of milk, actions like granary, genetic improvement, modernization of the techniques of milk production and payment for milk quality can already be perceived in the current picture (COSTA, 2006), with an important rule of the government, through regularization, like Normative Instruction 51 of the Ministry of Agriculture (BRASIL, 2002b).

Although there is this trend to increase the demand of milk and derivatives, the capacity of differentiation and the aggregated value of the product most representative in volume – the Long

Life milk (UHT¹) - are very low (AGROLEITE, 2004). This product corresponds to 73% of the market share in the Brazilian milk market (NASCIMENTO, 2002). For milk UHT, the consumer usually chooses based only in the lowest price, owning one of the lowest rate of fidelization per brand for nourishing products: 0,5% (WILDER, 2003). This market, gradually, becomes problematic for the milk chain, whose professionalization and legislation requirements, that demands for quality, security, amongst others, enter in conflict with the low value of traditional fluid milk.

It is in a context of low aggregated value of milk and competition with other products that the innovation toward products of higher aggregated value emerges as a strategically behavior for the survival and improvement in the performance of the firms (MILKPOINT, 2005). In this direction, when the last launchings of the largest dairy companies of the world are observed, it is noticed a trend in the development and promotion of new possibilities in functional dairy, which are products that beyond its basic characteristics benefit health or quality of life of the consumer, combining innovation to the market needs (ROBERFROID, 1998; LÄHTEENMÄKI, 2003).

3. Functional Food Consumption - Trends For the Brazilian Dairy Sector

The profile of the consumer in the last years is changing. Beyond more exigent, when enjoying the great offer of foods available nowadays, he is more worried about the technological innovations in foods and wants more precise information on what he is consuming (AZTI TECNALIA, 2000).

It is perceived, still, that significant segments of the Brazilian population, with high income and educational level, are very syntonized with trends spread worldwide of quality, health, environmental conservation, convenience and praticity, security and nutritional value of foods (FANORPI, 2003). The national expansion of the healthful food consumption is also attributed to the divulgation, through media, scientific research and governmental campaigns that have alerted on the disastrous consequences of a bad diet (TURCO, 2004).

This higher knowledge of the products characteristics and of the questions of health involved in feeding, leads the consumer to prefer foods that corroborate with the binomy food-health (AZTI TECNALIA, 2000). This trend is in syntony with the search for social acceptance and perspectives of reduction in the effects of the aging, that praise a healthful lifestyle, body care, illnesses prevention and a feeding that embody these aspirations (GILÉDE, 2000; TURCO, 2004). And to attend these demands, the consumer is inclined to pay more for these foods (POULSEN, 1999; MENRAD, 2003).

Innumerable distinguishing characteristics are present in foods offered to the consumer in the last years. The industrial processes are been modified for the development of more healthful and nutritionally richer products, with lower sugar and fat, and more attributes as security and quality (STEFANELO, 2003).

Soy, organic juice, cereals, fortified milk, integral pasta, light and diet snacks, nutritional supplements, fibers and functional foods are products that are part of the universe of those adepts of healthful lifestyle and are gaining space in the shelves of the supermarkets (TURCO, 2004).

The dairy sector is the larger part of functional foods produced in the world, specially due to theirs low price (HOOLIHAN, 2003) and inherent nutritional composition (SAXELIN;

¹ UHT – Ultra High Temperature: abbreviature used to identify the process of commercial sterilization of milk by heating it at temperatures between 408 and 423 Kelvin during 4-15 seconds and immediately transferred into pre-sterilized packages in a aseptic environment (TETRA PAK, 1995).

KORPELA; MÄYRÄ-MÄKINEN, 2003), emphasizing the pro and prebiotic foods ² (GOMES; MALCATA, 1999).

In the Brazilian dairy sector, several innovations promise to insert them in a prominence position in functional food area. Example of this are the launches of milks, beyond probiotic, added with functional ingredients approved by the recent Brazilian legislation on the subject (BRASIL, 1999a; BRASIL, 1999b; BRASIL, 2002a). All of these products tend to help Brazilian industry in the value aggregation, market segmentation and higher competitiveness with substitute products.

Another question that can still be approached is the process innovations that are partially restricted in the Brazilian food industry. Cabral (2003), confirming empirical research of Casati, Banterle and Baldi (1996), observed that the equipment suppliers are almost the exclusive sources of this type of innovation, in Brazil. Thus, with the standardized development of technological equipment, in a sort of monopoly, the innovations tend to be mainly of incremental character, through the addition of differentiated ingredients (CONNOR; SCHIEK, 1997).

Finally, even if exists an increasing market and the functional foods represent a sustainable trend in the food market (MENRAD, 2003), there are several particularities in the development and promotion of these products. The benefits of functional to health are not evaluated immediately (can be influenced by several subjective factors like: genetics, life habits, age, among others), the credibility of the claimed messages becomes a key-factor (LÄHTEENMÄKI, 2003). Some studies reveal that the consumer get frequently confused with a complex nomenclature system and, also, with claims of properties not demonstrated scientifically (NATIONAL CONSUMER COUNCIL (1997); LEVY, 1996). In this case, the credibility of the brand can assist; however, effective regulation via legislation is important to the market growth in the long stated period (HOOLIHAN, 2003).

4. Methodology

The objective of this research was to observe and to analyze the importance that the functional foods have in the innovation of the Brazilian dairy industry, through the study of the efforts in the development of new functional products in a representative agro-industry of the sector.

A case study (YIN, 1994) was applied in Elegê Alimentos S.A. (ELEGÊ ALIMENTOS S.A., 2005). This dairy industry is responsible for the captivation of 53% of milk with inspection in the state of Rio Grande do Sul, which equivalent today to something around 2 million liters/day, and it is still the largest producer of Long Life Milk of the country, with a market share superior to the addition of 2^o, 3^o and 4^o companies in national ranking (KRUG, 2005). This representation justified the choice of the company as an object of study of this phenomenon.

The information were collected, mainly, by a technical visit in the 18^o day of November of 2005, in the headquarters of the company, in the city of Teutônia, state of Rio Grande do Sul (RS)/Brasil. The primary data were obtained through a personal interview with the director of the unit, Dr. Ernest Enio Budke Krug, using a questionnaire half-structuralized with questions script. Beyond information on the description of the company and its representation in the market, the interview tried to understand how is the process of products innovation, as well as if there was products in development that explored the appeal of health and well-being related to its consumption - functional dairy foods. After the interview, the industrial plant was visited, where

² Concepts and further information about the characteristics and benefits of pro and prebiotic can be found in Havenaar and Huis In't Veld (1992), Giléde (2000) and Saxelin; Korpela and Mäyrä-Mäkinen (2003).

several information "non-officials" were obtained with the employees of each sector.

For the secondary data, the divulgation material of the company was consulted, in the website (www.elege.com.br) and also adds, news and bibliographies related to the company. The data interpretation was based on the chosen theoretical referential.

5. Development of New Products in Elegê Alimentos S.A.

Established in 1976, from the congregation of several cooperatives, becoming the Dairy Gaucho Central Cooperative Ltda. - CCGL, and named Elegê Alimentos S.A. in 1996, when it was acquired by the group Avipal S.A. Even though it was managed by a private group, the company kept its cooperative character, which characterize about 90% of the milk captivation in the state of Rio Grande do Sul (MARASCHIN, 2004).

To reach these expressive numbers, the company united a strong capillarization of its products in several regions of the country to a constant offer of innovative and adequate products to different market segments.

With relation to raw material, the company maintain constant efforts for the systematic improvement of the characteristics of the *in natura* milk, with payment for quality, technical assessorship and the farmer awareness. So, all the chain is directed to the professionalization, already evidenced by Costa (2006), in syntony with the new requirements of the Brazilian legislation.

Following the indications of Lähteenmäki (2003), on the credibility of the claimed benefits of a functional product, a concern of the company is to search for relevant scientific information, that base the possible benefits to health and well-being, related to the products offered. However, the diversity of subjective factors, that interfere in the effects of these foods, can generate low fidelization in the consumption of the product in a medium/long stated period, requiring from the industries highest knowledge of the consumer behavior and expectations related to functional foods.

Elegê Alimentos S.A. created a specific department responsible for the development of new products, with people of different knowledge areas, which searches in specific publications the main trends for the sector and adapted the ingredients/processes to the technological reality of the industry in question. One of main bets of the company is exactly those discussed by Roberfroid (1998) and Lähteenmäki (2003) and consists in products with differentiated characteristics, lined up to the new consumer requirements. According to the company, however, due to the little knowledge that Brazilian consumer has on "Functional Food" and limitations, on some health claims and use of determined ingredients, by the Brazilian legislation (BRASIL, 1999a; BRASIL, 1999b; BRASIL, 2002a), it is decided to divulge the products of this line under the denomination of "modified milk".

According to institutional advertising of the company, these new products are focused in the worldwide phenomenon to reduce the consumption of fats, sugars and sodium, and to increase fibers and calcium. Approximately 32 products are in development and launched on the basis of the concepts in vogue in the functional food market, mainly in the United States: Wellness, Power/Fitness, Low Carb and Cosmeceutic, aiming the promotion of distinguishing characteristics as well-being, aesthetic and health.

The most revolutionary concept and promising in this food line is the cosmeceutic. According to Giléde (2000) and Turco (2004), when aiming at the promotion of health, well-being and appearance improvement, this concept takes place next to the necessities observed in the modern consumer. Beyond the presence of soy protein, calcium and antirust substances (as vitamin E),

the product in development that will cause highest impact in the market, according to Elegê, is the milk complemented with CLA³. In a concentration of 3 g/L, the company promises a 5% loss of the fat corporal mass, in 2 months, without exercises, for those who consume it daily.

Corroborating with the studies of Connor and Schiek (1997), it was evidenced that the biggest innovations are restricted to the addition of differentiated ingredients and not in the significant alteration of process, once that, in this area, the low development of the equipment technology limits some of the innovation potentialities of the company.

6. Final Conclusions

It is evidenced from the study made in Elegê Alimentos S.A., that the dairy sector is in syntony with the new worldwide trends of consumption. This differentiated dynamics of innovations can be anchored in the facility of addition new elements to milk without losing its basic characteristics and in the low aggregated value of traditional fluid milk.

The use of innovative ingredients, whose benefits are scientifically proven, can be a guarantee of success for the development of new products. However, the industrial innovation would be largely stimulated if the equipment suppliers flexibilited their technology of products so they would be able to quickly adaptate to the requirements of the food industry.

The "functional food" concept, however, needs to be promoted with more intensity by the food industry, so that Brazilian consumer feels safer regarding to these innovative products. The Brazilian legislation agencies need to exchange information with the industries so that the worldwide growth trend of functional foods occurs in the same scale in this country.

One of the limitations of this work was the absence of data on the acceptance of "special milks" of Elegê Alimentos S.A. by the consumer. Moreover, the lack of consumption projections, in the medium and long stated period, of functional foods in Brazil, difficult the forecast of future actions of the company in this product segment.

Do not exist significant scientific research that point on the behavior of Brazilian consumer in relation to functional foods, which opens a vast field for researchers interested in exploring this area. To verify the alignment among marketing strategy of the food industry and the consumer expectations on the functional food, blunt as a great question to be answered.

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³ Conjugated Linoleic Acid (CLA) – fatty acid that delays the formation of the adipose tissue in the body, promoting, simultaneously, the transformation of fat in energy (GNÄDIG et al, 2003).

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