Business Review

PROBIOTIC CULTURES

SUPPLY/DEMAND PATTERNS IN FOOD & SUPPLEMENTS

Products, Players, Markets, Dynamics and Trends

China – India – Pakistan – Bangladesh

2011 – 2015

INTRODUCTION

Probiotics have enjoyed years of fast and innovative development in Japan and Europe to become one of the most successful functional food ingredient categories. However, the main question continues to be 'how to transpose the unilateral success in the premium yogurt market into a wider range of food sectors, as is the case in Japan, and into supplements?'. Now that the market is maturing in the West and because consumers are unlikely to understand and buy into branded strains, suppliers of probiotics are searching for alternative business strategies. Finding a more competitive positioning, differentiating through product properties and new applications will be essential. In spite of technological improvements which allow the selection of strains for a wide range of functionalities, important barriers in ingredient and end-product stability are yet to be overcome and probiotics producers continue to face tough technological and legal challenges.

With increasing scientific understanding of gut health benefits, probiotics are coming closer to achieving the scientific backing for a robust health claim, but at the same time prebiotics and fibres are making inroads in the same area. The uncertainty about health claim regulations continues to cast a shadow on growth opportunities in the developed countries which appears to leave Asia as the main area for market development in the short term. Given the huge population and recent economic development, China and the Indian sub-continent offer very interesting opportunities for probiotic producers, and hence a study covering these markets is of great value to probiotic producers and users. Giract, the leading agri-industry strategy and business research consultancy has a background of 40 years' analysis and forecasting in food ingredients and technology markets. It has unparalleled insights into the dynamics of the agri-food marketplace and privileged contacts with opinion leaders worldwide. It has a particularly strong presence in the key Asian countries. Like its prebiotic and fibre studies, Giract's first probiotic culture market study was an industry landmark breaking new ground in understanding the sector. Chr. Hansen, DSM, Danone, Meiji and many others were clients of this important study. The two probiotic Seminars held by Giract were attended by the leading players including Nestlé, Danone and Yakult.

As a key player or a company wishing to learn more about these important ingredients, this study serves a dual purpose for you – to help explore and exploit these high-profile markets and to make full use of an in-depth understanding of the market forces to develop your overall business in this sector in these important Asian markets.

OBJECTIVES

- To examine the production, prices and producers of these ingredients, by species, subspecies and strain if possible, understanding the strategic motives of suppliers
- To evaluate the market trends for end-products using probiotics
- To estimate current demand for probiotic ingredients across regions and sectors
- To understand the "why" and "why not" concerning the use of various strains by end-users
- To forecast demand by ingredient across regions and sectors

PRODUCTS

Lactobacilli, bifidobacteria and some streptococci, enterococci, etc.
End-use markets include yogurts, drinkable products, other foods, supplements and pharmaceuticals in capsule, tablet, sachet, and other forms.

MARKETS

China, India, Pakistan, Bangladesh.

TIMESCALE

2011 – 2015

PROGRAMME

Following an initial review of Giract's extensive in-house data, the dominant element of the study was interviews with key players – producers, industry experts, end-users – in order to derive real understanding of the latest changes in market drivers.

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SUBSCRIPTION

Flexible options available. Please ask.

For more info, contact
GIRACT
24, Pré-Colomb
1290 Versoix/Geneva
Switzerland

V. Krishnakumar or Russell Ward
Tel: + 41 22 779 0500
Fax: + 41 22 779 0505
info@giract.com
www.giract.com

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1.1.1. DIETARY SUPPLEMENTS

Probiotic supplements are relatively new in China. Giract estimates that there may be over 500 brands in the market. The market for probiotic supplements in China was valued at CNY ## bio (EUR ## mio) in 2011. Eight companies together account for almost ##% of the market

Probiotic supplement suppliers – sales 2011

No.	Company	Sales/CNY mio	Sales/EUR mio	Market share
1	BIOSTIME	###	###	###%
2	#######	120	15.0	###%
3	#######	###	###	###%
4	MDS	###	###	###%
5	#######	###	###	8.0%
6	Tongrentang	###	###	###%
7	#######	30	3.7	###%
8	Xiuzheng	###	###	2.5%
9	Others	###	###	###%
Total		**###**	**###**	**100%**

Source: Giract – derived from various sources and publications

Supplements are sold through a range of outlets. Some larger producers have dedicated stores or counters in department stores for the sale of their supplements.

Products targeted at pregnant women and at young mothers are sold through dedicated 'mother and baby' stores which sell a wide-range of products targeting this market segment. This is an important outlet for supplements.

Internet sales remain limited, probably accounting for only around 10% of the supplement market.

A relatively recent market segment; supplements have enjoyed very rapid growth to become well established in China. While year-on-year growth is expected to slow as the market becomes saturated, an annual average growth rate of ##% is likely in the coming period. Alongside this, consolidation in the market must be expected with many of the smaller players exiting the market and the shares of the major producers continuing to increase.

1.1.1.1 CULTURE PRICES

The prices of cultures supplied in China for various end-uses are in the following ranges:

Price of probiotic raw ingredients

Categories	Price/CNY/kg (EUR/kg)	CFU/g
Standard starter culture	###-### (###-###)	2×10^{10}
Probiotic culture	###-### (###-###)	2×10^{10}
Probiotic powder for supplement & pharmaceuticals	###-### (###-###)	1×10^{11}
Probiotic powder for feed	65-130 (8-16)	###

Source: Giract - based on interviews

1.1.2. CAPTIVE SUPPLIERS

Danone with its BIO (Activia) spoonable yogurt and Yakult with its drinkable dairy supplement both use imported proprietary strains.

1.1.2.1 DANONE

Danone's flagship product in China is BIO (Activia) yogurt which contains its proprietary *Bifidobacterium animalis DN173010*. Giract estimates that ### tons of this culture was used in production of BIO in 2011.

1.1.2.2 YAKULT

Yakult uses its proprietary *Lactobacillus casei Shirota* strain in its product. Giract estimates that approximately ### tons of this culture was used by Yakult in 2011.

1.1.3. LICENSING COMPANIES

1.1.3.1 LALLEMAND/INSTITUT ROSSELL

Lallemand is a world-leading biotechnology company with R&D centres in Canada and in France. It has 13 manufacturing facilities throughout the world. Its annual turnover is reported to exceed EUR 650 mio. It markets two ranges of patented probiotics: PROBIOCAP and STAR. Lallemand also distributes Probi's *Lactobacillus plantarum 299v*.

In China Lallemand supplies Biostime with probiotic cultures for use in its supplements for children and in Leseil capsules for adults. It also supplies Hangzhou Minsheng Pharmaceutical with cultures for use in supplements. Lallemand's sister company, Institut Rossell, has established a representative office in Hangzhou, Zhejiang province, to conduct the raw ingredient business sector.

1.1.3.2 PROBI

Lactobacillus Plantarum 299v is supplied to Biostime for use in its probiotic supplements. Supply is through Lallemand/Institut Rossell rather than directly from Probi.

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1.1. SUPPLY

A major part of the total demand for probiotics is supplied by imported ingredients.

Probiotic ingredients – Market shares 2011

Supplier	Market share
######	##-##%
######	15-17%
######*	##-##%*
Chr Hansen	##-##%
Others	##-##%
	100%

Source: Giract, based on interviews
*###### is imported as a finished product

Local probiotic producers are:

- ###### India (www.######.com)
- ###### Biotech (www.######.com)
- Kaypeeyes Biotech (www.######.com)

1.1.1. PRODUCERS AND SUPPLIERS

1.1.1.1 CHR. HANSEN (INDIA) PVT.LTD

B- 605 Everest Grand, Mahakali Caves Road, Mumbai 400 093
Tel: +91 226 1399200
www.chr-hansen.com

Chr. Hansen supplies customers in India from its office Mumbai, which is responsible for sales, marketing, application support, and customer service. There is also an application laboratory located in Mumbai which provides support on fermented milk products.

The company is believed to be the leading supplier of probiotics for food applications in India with a market share of around ##%. It also supplies the pharmaceutical sector (OTC and prescribed drugs).

The company focuses its marketing effort on three probiotics strains, shown in the following table. All are imported from Europe, and are supplied in both frozen and freeze-dried forms.

1.2. DEMAND

1.2.1. CURRENT DEMAND

Current Probiotic Demand (*volumes in kg @ 10^{11} CFU/g)

Market Sector	CAGR %	2011	
		Volumes*/kg	Value/EUR mio
Food	#%	###	###
Animal Feed	##%	###	###
######	15%	###	###
Total		**###**	**###**

Source: Giract, based on interviews

1.2.2. FACTORS IMPACTING PROBIOTICS MARKET IN INDIA

1.2.2.1 DIGESTIVE OR STOMACH DISORDERS

Digestive ailments have risen over the years in India due to irregular eating habits, unhygienic food consumption, lack of exercise and stressful lifestyles; and this trend has positively affected sales of antacids, digestive enzymes, laxatives and diarrhoea remedies.

Lifestyle changes of urban consumers have led to increased occurrence of digestive ailments. In particular skipping meals and having food from unhygienic fast food outlets has created its share of problems. In some cases a lack of proper nutrients in the diet has contributed to digestive ailments.

Increased stress, which may lead either to constipation or diarrhoea, or to increased stomach acidity, especially among young working adults, has increased demand for digestive remedies.

Anti-spasmodic remedies are given for indigestion and heartburn. Due to the belief that standard/allopathic products have greater efficacy than their herbal/traditional counterparts, consumers generally prefer taking allopathic products which provide rapid relief from severe bouts of acidity and other digestive ailments.

However, consumers who take digestive remedies on a regular basis, over a period of time, tend to prefer herbal/traditional products, due to reduced side effects.

With more than 1.4 mio of the 9 mio child deaths worldwide in 2008 being attributed to diarrhoea, 49% of them occurred in five countries: India, Nigeria, Democratic Republic of the Congo, Pakistan and China, there is an urgent need for intervention to prevent and control diarrhoeal diseases. Developing countries like India continue to struggle with nutritional and health challenges and bear the greatest burden of diarrhoea.