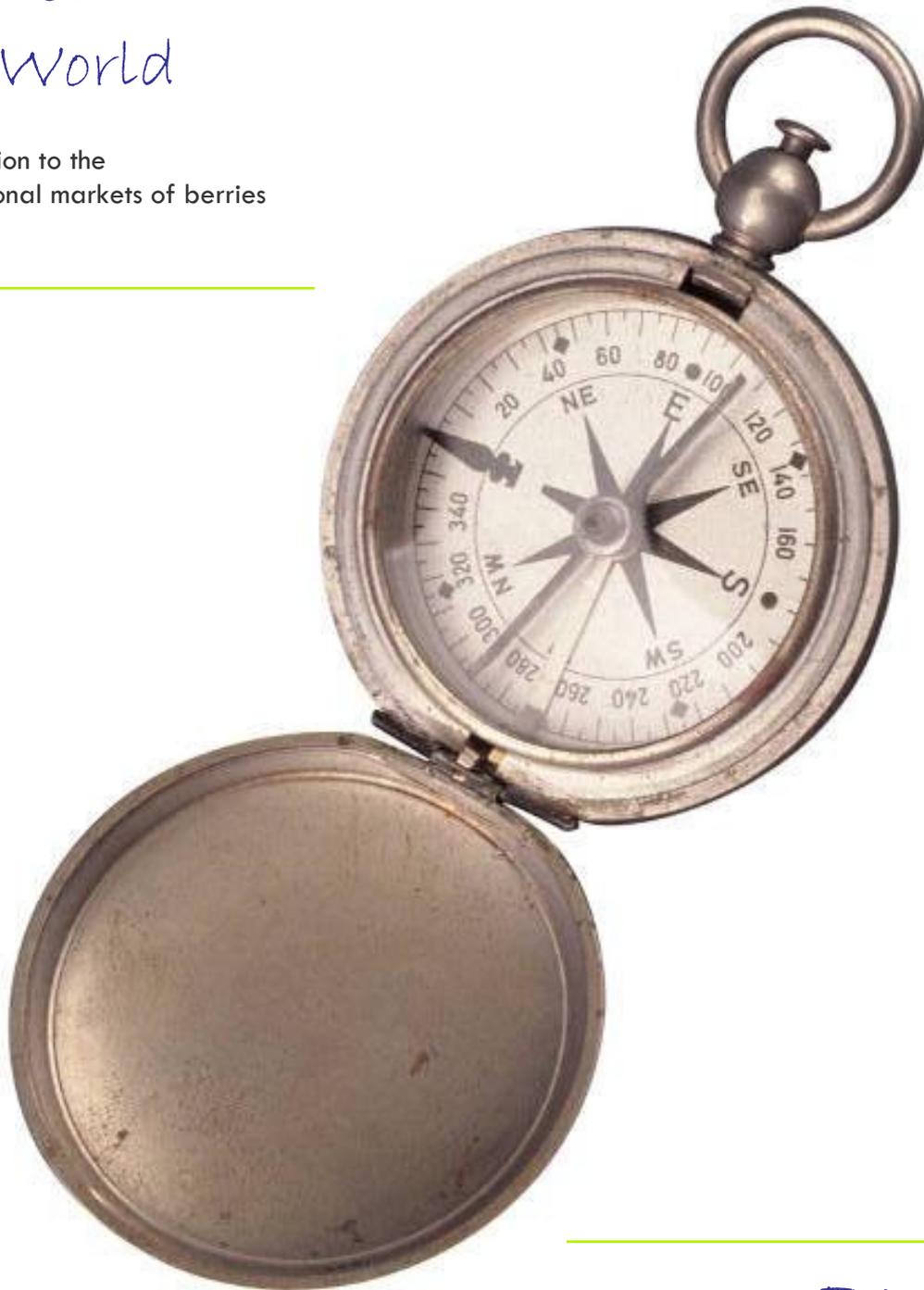

Berries in the World

Introduction to the
international markets of berries



Report

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A report prepared for SITRA/Lapinnova Oy by:

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1 Executive summary

- This market study aims to create an understanding about the markets for healthy nutrition and their trends, as well as the position of berries on the markets. Through benchmarks from the world we also illustrate commercialisation and marketing strategies used by berry companies.
- Berries are set to become one of the main beneficiaries of healthy eating trends. They tap into trend all natural and intrinsically healthy.
- Superfruits has proven itself a successful strategy for many berries. It is a niche strategy where companies try to command high value and low volume market niches through health platforms, novelty and convenience.
- Companies involved with berries can choose from many different commercialisation strategies. They can e.g. work with fresh berries, beverages, ingredients, cosmetics or dietary supplements. The more versatile the strategies are – the better are the companies' possibilities to succeed on the market.
- Fresh berries is a global and highly competitive market. Berry companies are working on 52 week availability, global sourcing, environmental issues, and increased consumer awareness and demand.
- The future for healthy nutrition and functional foods will be dominated by beverage concepts. Consumers are increasingly looking to beverages of all kinds to deliver health benefits – berries are in a good position to exploit this demand.
- Ingredients (purees, pieces, powders, extracts, etc) are seen as important drivers for the berry market development. An explanation is that in processed forms, berries are made available for consumers in more convenient forms.
- Japan leads the market for berry-based supplements. Blueberry (bilberry), cranberry and blackcurrant are the main berries used.
- The cosmetic market is very attractive for high performance natural ingredients that are proven to be effective and safe.
- Arctic berries have possibilities to differentiate themselves on the market through their special characteristics (provenance, wildness, versatility, health profiles).
- Marketing is a key issue for berry companies. A huge challenge for the berry companies is to better utilise the tools of marketing. Opportunities for market segmentation can be significant and should not be ignored nor assumed. The more limited the marketing resources are, the more important it is to target them. Not to forget, consumer insight is an essential ingredient for successful product and market development.

2 Introduction

This report constitutes an introduction to the international berry strategies and trends.

Objectives

The objective of the market study is to create an understanding about the markets for healthy nutrition and their trends, as well as the position of berries on the markets. We look for benchmark examples from the world and analyse the best known commercialisation strategies used by the major berry companies.

This report will allow the client to gauge:

- Competition in the berry industry in value-added forms and also in the form of extracts for dietary supplements.
- Significant companies investing in researching and marketing berry products and the strategies that are being followed.
- Whether a unique product proposition can be achieved in berries – and how.

- Examples of marketing strategies and marketing materials and messages.
- Possible size of the commercial opportunities.

Finally, we will summarise the key lessons from the experience of companies involved thus far in commercializing berries.

Methodology

The presentation of our findings will be based on the following methodology:

- Our own existing research into berry strategy and strategy for other fruits.
- Searches of our own databases and searches of commercial databases
- Telephone interviews with selected industry executives.
- Attending Global Berry Congress in London, May 2008.

3 Berry markets are not only about seasons anymore

If berries used to be about limited availability during a very short summer season, the reality today is very different.

The berry market is versatile. It involves not only fresh soft fruits, but also dried products, extracts, juices and beverages, oils and other highly specialized ingredients. Along with the growing trends of convenience, naturalness and intrinsic health, the role of berries is ever more so important. They are experiencing a strong growth in all areas.

Berries in themselves are versatile. Strictly botanically speaking, few of the fruits we commonly call berries are in fact berries at all. True berries are a simple fruit having seeds and edible pulp produced from a single ovary. In common language, berries are referred to as any small fruit that can be eaten whole and lacks objectionable seeds. They are usually brightly coloured, sweet or sour fruit and desirable in a healthy diet. This market research will focus on this broader understanding of berries. Table 1 summarizes some major commercially available berries.

Both production and consumption of berries is increasing. This is foremost fuelled by the megatrend of health which sweeps all over the globe and which will be addressed throughout this report.

The US remains the leading berry producer with more than 1.7m tons in 2007, a substantial increase from 1.5m tons produced the year before. According to the USDA the US is the world's leading producer of strawberries for both the fresh and frozen markets. It is followed by Spain and China. Spain is e.g. the world's second largest global grower of strawberries, with some 264,000 tons produced in 2007. Of this, Andalusia produces 96% and the business adds up to a turnover of some 300m EUR. Spain

is also topping the exports of strawberries, it exports double as much as the US. 25% of the production goes to countries within the EU and 10% outside the EU¹.

380,788 tons of soft fruit were imported to the EU countries in 2006 – both blueberries and blackberries are expected to increase their share of the market this year.

BERRY FACTS:

- Spain produced some 563,900 tons of strawberries and raspberries in 2007
- Italy is the 2nd most important berry producer in Europe even though overall production has declined
- In Europe, UK remains the most important market for fresh berries. They are expected to be available 52 weeks a year – fresh. UK consumers are also eager to try new berry varieties besides the familiar strawberries, raspberries and blueberries. Strawberries are sold for more than 200 m EUR every year (63% of the soft fruit market)
- Increasingly more blueberries and blackberries are imported to the EU. Chile and the US are the main drivers for this development.
- So far, organic berries constitute only a small market. However, demand is expected to grow, e.g. in Asian countries.

¹ Eurofruit magazine, April 2008, No 406, p. 30-32

Table 1 Some major commercially available berries

Berry	Picture	Description	Availability	Market status	Comments
Strawberry		Low plant with runners – makes a network of plants A great variety of different kinds of strawberries are available	✓ Widely grown fruit ✓ Main producers are the US and Spain	Commodity Widely known Slowly growing sales and popularity	The number one berry in terms of commercial volumes. Mainly consumed fresh, but also frozen and processed into preserves Highly developed cultivation methods.
Raspberry		Woody brambles bearing usually red but sometimes black or yellow fruits	✓ Grown in many parts of the world	Commodity Widely known Slowly growing sales and popularity	Important commercially grown berry Grown for the fresh fruit market and for commercial processing into frozen fruit, purée, juice, or as dried fruit used in a variety of grocery products.
Gooseberry		Straggling bush growing to 1-3 m tall, the branches being thickly set with sharp spines	✓ Grows all over Europe, Russia is the biggest producer	Forgotten berry Consumers tend to be older Losing sales	Many uses, mostly in foods, cakes etc. Slightly sour taste.
Blueberry		Shrubs, vary in size. There are low-bush and high-bush varieties, of which the latter can grow up to 4m high.	✓ Native to North America, but is also cultivated in Chile, Argentina, Australia and New Zealand.	Gained superfruit status Rapidly growing sales Increased popularity, particularly for its convenient format and its good availability	Sweet taste, perceived as generally healthy. Used as fresh, frozen and increasingly in beverages and snack products.
Bilberry		Low-growing shrubs	✓ Wildly grown berry, mostly in Finland, Sweden, Russia, Scotland, Poland, Belarus	Superfruit status, widely popular particularly in Japan, suffers from poor availability and high prices	Known for its anthocyanin and its effect on eye health Increased interest for the berry internationally, but poorly commercialised. Strong colour and small size makes it difficult to handle – low convenience.
Lingonberry		Small evergreen shrub, 10-40 cm.	✓ Grows wild in forests of northern Eurasia and North America. ✓ Commercially sold mostly in the Nordic countries and Russia	Increased interest for the berry due to its health beneficial properties and as a rival to cranberry	Rich in vitamins and minerals, mostly used in processed and frozen formats. Sour taste.
Cranberry		Evergreen creeping shrubs or vines, 5-20 cm high.	✓ Grows in the cooler parts of the Northern Hemisphere ✓ Commercially grown mostly in the US and Canada.	Has gained superfruit status and sales have increased during the 21 st century	Recognised for its high antioxidant and nutritional values, and particularly its health benefits related to the urinary tract. Traditionally used as sauce, today more widely used in a range of processed formats, and as an ingredient
Cloudberry		Grows to 10-25 cm high. The leaves have hand-like lobes on straight, branchless stalks	✓ Grows in the Northern Hemisphere. Commercially available mostly in Finland, but also Alaska and Canada.	Commercially not very widely used, awareness internationally quite low.	Often made into jams, juices, tarts, and liqueurs. Increasingly used in e.g. cosmetics. Rich in vitamin C.

<p>Redcurrant</p>		<p>Deciduous shrub normally growing to 1-1.5 m tall</p>	<ul style="list-style-type: none"> ✓ Native to parts of western Europe ✓ Today countries like e.g. Poland produces larger quantities 		<p>Mostly for culinary use: juice, jellies and purees</p>
<p>Blackcurrant</p>		<p>Small shrub growing 1-2 m high</p>	<ul style="list-style-type: none"> ✓ Native to central and Northern Europe and Northern Asia. ✓ Today major producers are e.g. New Zealand, Poland, etc. 		<p>Mostly for culinary use: juice, jellies and purees</p>
<p>Blackberry (also known as bramble)</p>		<p>Perennial plant, 3-6 m high, naturally it has sharp spines, but new varieties without them exists.</p>	<ul style="list-style-type: none"> ✓ Many different varieties throughout the Northern Hemisphere ✓ Mexico has become increasingly important producer of blackberries 	<p>Slightly forgotten traditional berry that is slowly getting more recognition, e.g. through promotion activities.</p>	<p>Popular for use in desserts, jams, jellies and sometimes wine</p>
<p>Açaí</p>		<p>The fruit of the Açaí palm</p>	<ul style="list-style-type: none"> ✓ Grows in tropical Central and South America, from Belize south to Brazil and Peru. Mainly in floodplains and swamps 	<p>Rapidly grown as a superfruit.</p>	<p>. Sold as juice e.g. by Sambazon.com Known for its antioxidative properties Used mostly in processed forms due to its poor shelf-life as fresh.</p>
<p>Sea-buckthorn</p>		<p>Deciduous shrub, branches are dense and stiff, and very thorny</p>	<ul style="list-style-type: none"> ✓ Native over a wide area of Europe and Asia ✓ 90% of production comes from China 	<p>Increasingly recognised for its nutritional and antioxidant values</p>	<p>Used in traditional medicine. Today, increased use in cosmetics, supplements, and in food processing (e.g. jams).</p>
<p>Aronia (Chokeberry)</p>		<p>Deciduous shrub, 2 main varieties: red and black. Shrubs are 1-4m depending on the variety</p>	<ul style="list-style-type: none"> ✓ Popular particularly in Russia and Poland 		<p>Increasingly used in forms of juice wine, jam and in food processing. Also as flavoring or colorant</p>
<p>Goji (also known as Wolfberry)</p>		<p>Woody perennial plants, 1-3m high</p>	<ul style="list-style-type: none"> ✓ Cultivated in China which is also the main supplier country 	<p>Awareness grown particularly in the US during the 21st century, rapidly grown as a superfruit.</p>	<p>Known in traditional Chinese medicine Mainly used in liquid form.</p>

DEVELOPMENT AND KEY FACTORS INFLUENCING THE BERRY MARKET

The berry market is global. Berries exist in all parts of the world and different geographical areas have their own special varieties.

Two major crops dominate the market: strawberries and raspberries. They constitute the lion's share of the market –both in terms of volume and value. However, a clear market development is the rise of the more alternative (niche) berries. During the past decade, interest for all kinds of berries has increased. The producers of niche berries are actively looking for new applications and take action to promote their berries to attract new consumer groups. Exotic characteristics, interest for health and search for new taste experiences are all drivers for the internationally less known berry varieties.

The most striking feature of the berry market is its polarization between fresh berries and processed berries. Their value creation chains and rules of the markets are quite different and at times, it seems that the companies work in quite different industries even though they are working with the same raw material (Figure 1).

Fresh berry companies are more one-dimensional and focus on serving the retail with fresh produce. They concentrate on better consistency, improved flavour and year-round availability of berries. To their nature these companies are large, they work internationally and source berries from all over the world where the season is at its best. For instance, one of the largest companies, Total Produce PLC operates in 13 countries and has a turnover of 2.4 billion EUR.

Companies working with processed berries vary depending on their line of business. Their customers may be e.g. food processors, dietary supplement, cosmetic or ingredient manufacturers. They may have developed different strategies for their berries: beverage strategies, ingredient strategies, etc. Ocean

Spray in Canada is a good example of a cooperative that has managed overcome the poor sensory attributes of cranberries and successfully versatile its use.

The berry production industry is facing some major challenges, similar to those of all fruit and vegetable producers. One of the most prominent challenges is labour.

Many berry producers all over the world are battling with the lack of harvest workers. Many producers increase their tonnage and it is becoming more and more difficult to recruit workforce. E.g. in the UK, the companies are failing to attract the Polish workers that so far have been the most important workforce. The difference between wages declines, they find more vocational jobs at home and many are reluctant to come to the UK because of the poor availability and high cost of accommodation in UK. Nordic countries like Finland and Sweden have been to some extent able to utilize the seasonality of their produce and have been able to attract Thai rice workers, who work with opposite seasonality in their own country. The regulative situation is however not clear when it comes to their expanded recruitment.

Another major emerging challenge for the berry industry is the issue of environmental impact. Pressured by public opinion, media, governments and retail, the producers are constantly looking for ways to reduce the environmental impact of berry production. Particularly in the fresh

BERRY FACTS:

In a nutshell, the profitability of the berry sector is highly reliant on management of costs. The overall challenges in the berry sector is

- To develop high yielding varieties
- Develop both varieties and harvest technologies that make picking easier (labor issues)
- To be able to efficiently use or preferably reduce fertilisers and water (environmental issues / meeting consumer demand)
- Manage pests and diseases
- Promote berries to increase consumption

production sector, the use of irrigation and pesticides, as well as transport and logistics are the major burdens. A central concern related to the environmental issue is the use of packaging. Particularly the retail is demanding less use of packaging. Major producers are looking at new schemes to reduce the cost and impact of logistics

from field to supermarket, improve shelf-life of products, optimize the packaging process and increasingly use recyclable or biodegradable materials and also grant high hygienic standards for fruits and vegetables.

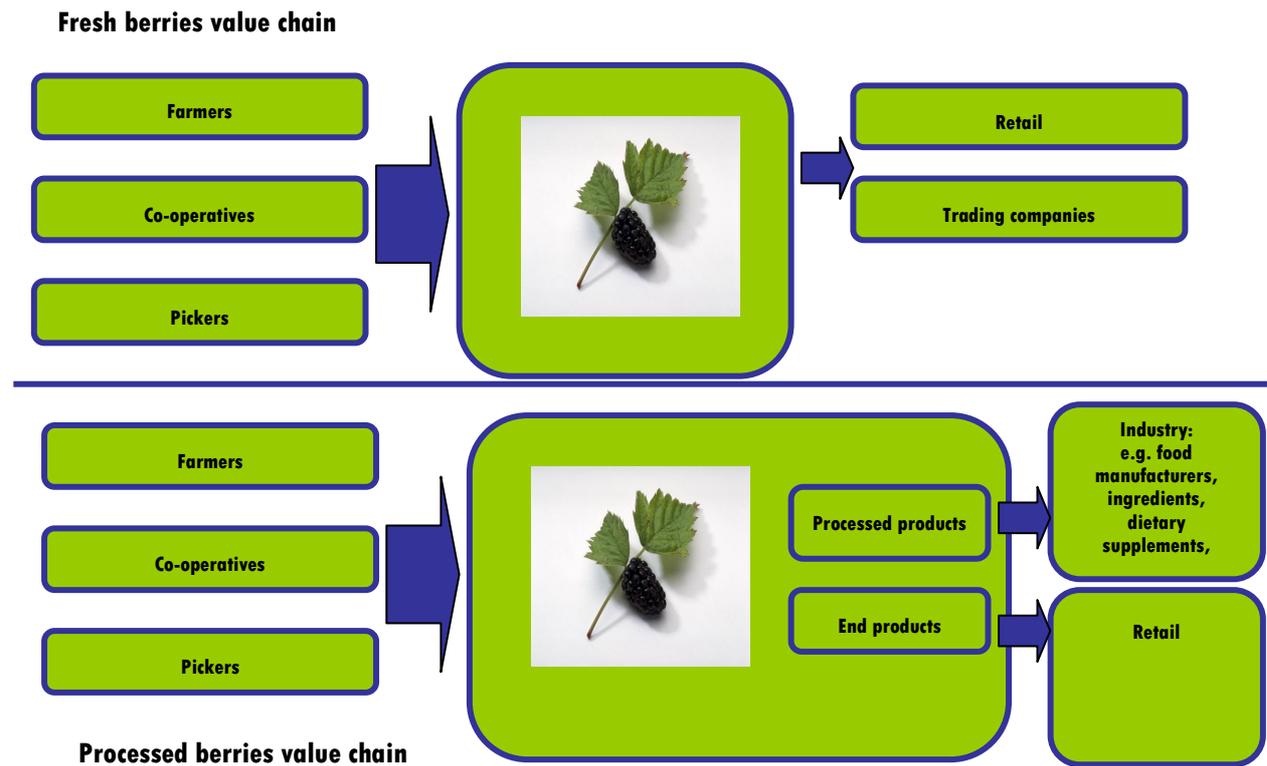


Figure 1 The value chains of fresh berries vs. processed berries

4 Berries on the global healthy nutrition markets

The berry category looks set to become one of the healthy eating trend's main beneficiaries. Consumers are becoming more aware of health campaigns like 5-a-day (Figure 2). Health, convenience and practicality of berries are key elements in the growing popularity. To be eaten fresh, berries are of perfect format and size. Other berries may have poorer sensory properties that are however easily surpassed in processing.



Figure 2 5-a-day communications with the aim of increasing consumption of vegetables and fruits

THE HEALTHY NUTRITION MARKETS

Consumer motivations differ in the various parts of the nutrition markets. An adaption of the life cycle model is the healthy nutrition market model, presented in Figure 3. The model can be used to facilitate understanding of brand positioning and the evolution of markets. Many products start out on the left, targeting consumers who have a need for a product that has effective technology and selling in low volumes at premium prices, and over time increase volumes and move down the price curve to the right, until they are mass-market products. Few functional foods have yet made this transition – many companies deliberately target the lifestyle area as a way of creating a defensible niche and maintaining premium prices.

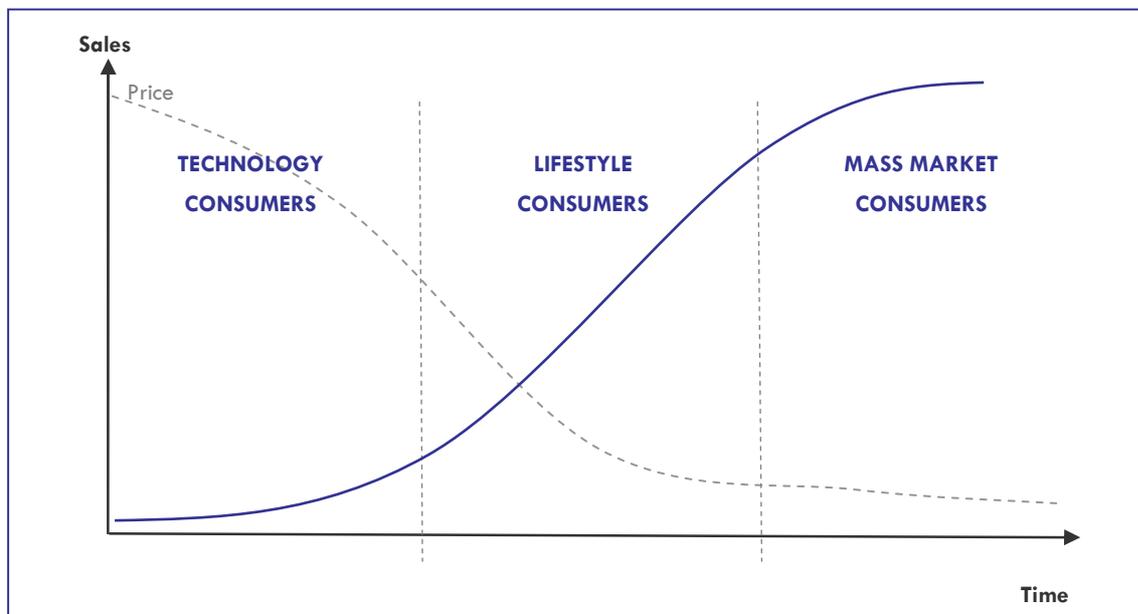


Figure 3 The healthy nutrition markets (Mellentin & Wennstrom, 2001)

This model highlights three major groups:

- **Technology consumers** are gatekeepers for the rest of the market. They are motivated by technology or a unique health benefit. This group puts functionality before food and will see the product in a medical context. In other words, they use the new product to solve a health problem. The technology consumers are also important because they help educate the lifestyle consumers.
- **Lifestyle consumers** are the people who will be first to try out new trendy benefits. This group will support the concept of health beneficial ingredient/product of all types, providing that the concept suits their lifestyles and supports their identity of being fore-runners and trendsetters.
- **The mass market consumers** will only be motivated when the new benefit becomes a standard. This group will be primarily motivated by food and they will see health benefits in food only as a secondary benefit.

In terms of health, most fruits and berries with growing sales are positioned in the lifestyle area. The "new", fast-growing superfruits

(discussed in the following chapter) are all here. Even established niche fruits are building a health and nutrition platform in this area. They are niche products that sell in low volumes but command premium prices and lifestyle consumers willingly embrace health message about these new fruits and berries. However, commodities like apples and bananas remain in the mass-market area.

Lifestyle consumers are a key target for superfruit products because they are:

- Willing to accept new and unknown brands
- Interested in "natural" health benefits
- Motivated by new health benefits, particularly relating to wellness
- Interested in stories of new fruit
- Willing to pay premium prices

Lifestyle consumers are the trendsetters, the ones whose behaviour today is a useful predictor of future mainstream consumer behaviour and trends. However, they are only loyal to a technology, a product or a brand as long as it supports their lifestyle.

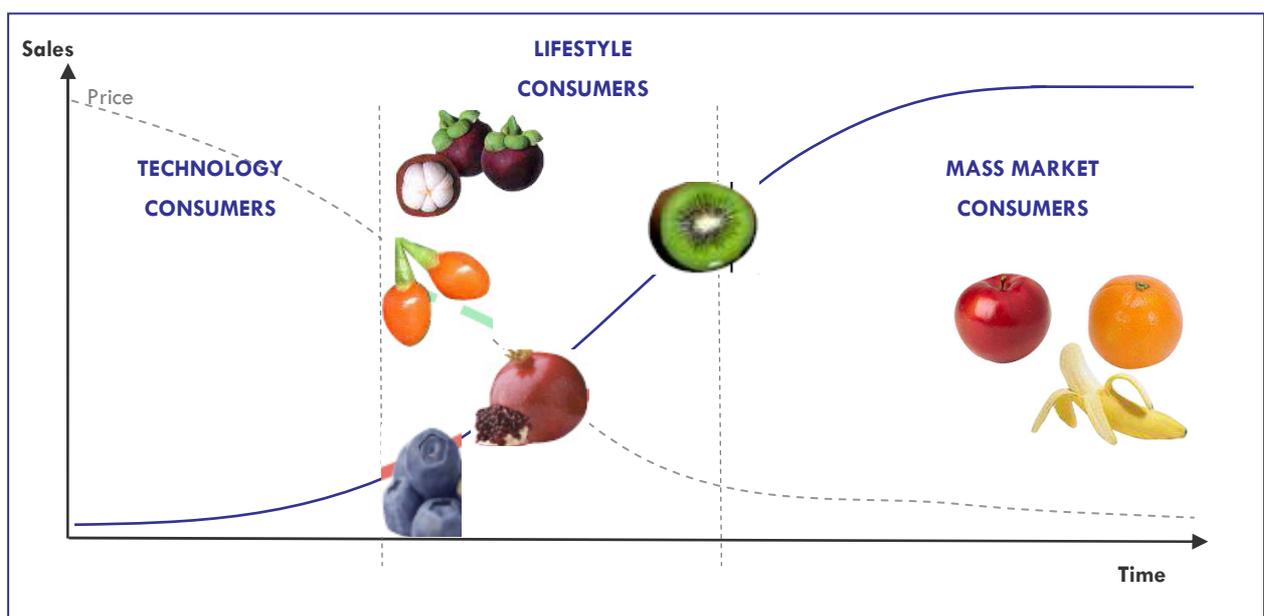


Figure 4 The positioning of fruits in the healthy nutrition markets

Fruits and berries are the perfect health food and the perfect health ingredient. They have a range of advantages that few other foodstuffs can match; advantages which are being constantly polished by science and communicated to a wider audience by the media and marketers.

More than any other food type, fruit and berries possess a health halo. And it's a halo that's getting brighter all the time as a steady flow of news about their benefits, such as fibre and antioxidants, is generated by the international media eager for simple and positive stories about healthy eating. Fruit and berries are seen by health-conscious consumers as one of the very few things they can eat as an indulgence without feeling any guilt. They are often sweet, delicious and easy to eat and as such a credible carrier of health messages.

Fruits' and berries' naturally healthy halo enables them to be marketed for their intrinsic healthfulness, which is today the biggest strategy in functional foods and healthy nutrition. Manufacturers and marketers of juice drinks have been particularly successful at combining convenience, taste and natural healthiness in consumers' minds. Furthermore, by marketing natural healthiness juice makers can reduce reliance on added (and expensive) ingredients, which either raise the selling price far above what consumers will pay or cut a fine margin even finer.

The reason for the consumer preference for fruit drinks over fresh fruits is simple. Fruit marketing expert Professor David Hughes, Emeritus Professor of Food Marketing at Imperial College London and director of KG Fruits, Europe's largest berry fruit company, sums up the situation perfectly:

"Fresh products are not in the formats that meet people's lifestyle needs. As a result, the value that the fresh fruit industry should be capturing is being stolen by consumer goods

*companies. What form do you think people under 35 will eat fruit and vegetables? More than half – maybe much more – will be in processed formats."*²

Berries (and specifically blueberries) are the exception to this rule – in some markets fresh berries are showing 20% to 30% per annum growth in sales – the reason is that in addition to their strong health image berries are convenient. These small fruit need no peeling and are easy to eat from the hand. If other fruits can achieve the same level of convenience then they too might enjoy more popularity with time-starved but health-conscious consumers.

² Centre for Food and Health Studies (2007): NNB 10 Key Trends in Food, Nutrition and Health, 2008.

5 Six elements of superfruit success – how to create a new “superberry”?

During the past few years the term superfruits has gained popularity. Superfruits are a name used for such fruits or berries that seem to possess particular potential in health. Wikipedia defines it as marketing term first used in the food and beverage industry in 2005, refers to a fruit having exceptional nutrient richness and antioxidant quality with appealing taste. Among the berries, e.g. goji, cranberry and blueberry are widely said to have “superfruit” status.

Crawford and Mellentin (2008) say superfruits are the product of a strategy, not produce you find growing on a tree. They are the result of a convergence of science and marketing in order to create a new, value-added niche in the nutrition market³.

Based on their understanding, they have developed a list of six elements that function as a checklist. It has two main applications:

- As a tool for strategy development. For assessment what is needed to do to create a superfruit business.
- As a means of defining superfruits, as a more formal definition is absent.

The Six Elements of Superfruit Success are the following:

1. Sensory Appeal
2. Novelty
3. Convenience
4. Control of Supply
5. Health Benefit
6. Marketing

Next, we summarise each of the elements and their role in superfruit success:

³ Crawford, Karl and Mellentin, Julian (2008): Successful Superfruit Strategy: How to Build a Superfruit Business. New Nutrition Business. London, UK.

SENSORY APPEAL

When marketing whole fresh fruit as potential superfruits to consumers, their sensory qualities – appearance, aroma, texture and taste – are very important. However, for a superfruit beverage these sensory qualities apply to the finished product and are influenced by the skills of a beverage formulator. Poor sensory qualities of whole fresh fruit can be changed and improved through processing.

NOVELTY

Novelty has been a significant element in the success of many superfruits since consumers are always looking for something new, but its importance as a success factor is usually over-emphasised and if the company relies too heavily on it in, the strategy invites failure. The idea of novelty – or, to express it another way, “newness to the consumer” - can have multiple interpretations. The forms that novelty can take include:

- ✓ New fruit
- ✓ New colours, tastes, aroma for existing fruit
- ✓ New way of consuming existing fruit

Novelty is one point of difference, but by itself it will create no sustainable value unless the strategy is designed to encompass the requirements of all the six elements.

BERRY FACTS

From their humble origins among the treetops of the Amazon rainforest, açai berries are now globally recognised as an antioxidant-rich superfruit. Today they are the featured ingredient in an ever-increasing number of beverages and foods across the United States and regularly appear at the top of “hot flavours” lists.

Sales of açai-based beverages reached about €10.4 million overall in the US natural foods channel in 2006 about triple the level of €2.9 million in 2005.

Açai has the advantage of giving both texture and taste benefits as well as a health benefit. Plus it's exotic with its origin in Brazil. Lynn Dornblaser, Mintel's director of consulting in the

US has commented: "It has a strong exotic appeal, bolstered by its Amazonian origin. We really see the fruit as the one to watch for ingredient sourcing in the future."

Açaí, or *Euterpe badiocarpa*, is a palm berry native to the Brazilian Amazon rainforest. Its taste – described variously as comparable to boysenberry. Amazonians have consumed it as a dietary staple for centuries, harvesting the fruits by hand in clusters that grow up to 80 feet high on the tree. They process the berries immediately to avoid spoilage and optimise the levels of nutrients; the fruit must be pasteurised for export.



The craze is about the fact that what is known in Brazil as "the fruit of life" contains antioxidants in extremely high concentrations, including anthocyanins, which give grapes and red wine their many health benefits and rich purple colour. Açai also contains a strong profile of amino acids, as well as important trace minerals that are essential for proper muscle function, ranging from vitamin E to calcium.

Sambazon, one of two leading names in branded açai products, accentuates the Amazon origins of the açai berry with its packaging.

CONVENIENCE

Convenience is crucial to superfruit success. Superfruit beverages are fruits at their most convenient and, unsurprisingly, they account for the lion's share of volume and value of sales of superfruit. Moreover, consumers are willing to pay premiums for convenience. There is a wealth of benefits for everyone in the supply chain by focusing on processed fruit rather than fresh: hence growth in superfruits and the real value-added will always be overwhelmingly in juices.

BERRY FACTS

Example of conveniently packed frozen berries: Launched in 2008 by Berry King Frozen Fruit (Serbia). The company describe the product as: World famous fresh frozen hand-picked Serbian berries from carefully selected fruit groves. Fruit is grown in traditional methods, picked when fully ripe and frozen through a fast process so that all their natural ingredients are retained. The product is sold in the EU.



years after launch.

Cranberries are widely known for their sour taste and inconvenience in fresh consumption. To overcome the barriers, the major supplier Ocean Spray has made convenience its key focus.

One example is Craisins, a sweetened and dried cranberry snack product, which has soared to over €46 million in retail sales in the US alone in 2007, just five

CONTROL OF SUPPLY

One important way to maintain a point of difference is to have control over the supply of the fruit. If anyone can access the same fruit, then every competing company can launch a me-too product and the point of difference (the type of fruit) is lost. Control of supply can include things such as: securing ownership of Plant Variety Rights (PVR), meaning that the company alone has access to a particular cultivar of a fruit; securing some other forms of exclusive access such as those that arise from the fruit marketer, or the beverage marketer; owning the fruit production or being the dominant supplier; and choosing a fruit that is in limited supply and for which there is a high cost-of-entry for new suppliers.

BERRY FACTS:

A system for the protection of plant variety rights has been established by Community legislation in EU. The system allows intellectual property rights, valid throughout the Community, to be granted for plant varieties. The Community Plant Variety Office (CPVO) implements and applies this scheme. The CPVO has been operating since 27 April 1995 and operates from Angers in France. For more detailed information see <http://www.cpvo.europa.eu/>.

THE MAIN STEPS IN APPLYING FOR COMMUNITY PLANT VARIETY PROTECTION

Step 1: Filing an application

The applicant files an application for protection either directly through the CPVO or through one of the national offices who subsequently transfers it to the CPVO.

Step 2: Checking an application

The services of the CPVO check that it is complete and eligible. If no obstacle prevents a grant of Community protection, the CPVO takes the necessary measures for organising the carrying out of a technical examination of the candidate variety.

Step 3: Technical examination

The aim of this is to verify that the variety is distinct from others, uniform in its characteristics and stable in the long run (DUS). The duration of the examination varies from one year for most ornamental species to six years for certain fruit tree varieties.

Step 4: Variety Denomination

Apart from the previous exigencies, the candidate variety must be designated by a variety denomination which is also subject to testing by the CPVO.

Step 5: Grant of title

Once the CPVO considers that the examination results are satisfactory and that all the other requirements have been fulfilled, it grants a Community Plant Variety Right for a period of 25 years, and up to 30 years for vines, potatoes and trees.

EXAMPLE: Hargreaves Plants is a wholesale supplier based in the UK who possesses a number of PVR protected blueberry varieties



Ozarkblue is a late season blueberry variety. It has a cold hardiness but still performs well in warmer areas with very hot summers and 800 chilling hours. The berries are large, light blue, with outstanding blueberry flavour. Quite similar to Bluecrop in fruit quality and bush habit. It was bred by Prof John Clark of University of Arkansas where Hargreaves Plants have a close working relationship. Ozarkblue is recommended for those who wish to extend the blueberry season an extra month. This variety is protected by Plant Variety Rights within the EU, and the licence allows Hargreaves to market it throughout Europe.

HEALTH BENEFIT

The primary purpose of science in relation to creating and marketing a superfruit is to generate health-benefit substantiation so that the company can make convincing claims. This is the key to developing a believable and sustainable health position in the mind of the consumer. There is a positive relationship between the number of scientific studies that have been published about a fruit's health benefits and its superfruit status. Cranberry, blueberry and pomegranate all have a large number of studies behind them, particularly in proportion to the percentage of the world's fresh fruit production they account for. These three are probably the most widely recognised and successful superfruits – and there is considerably more science to substantiate health benefits for these fruit than for everyday, mass-market fruits such as apples, oranges, bananas and pears.

Comparison of total number of studies (invitro, animal and human) between superfruits, wouldbe superfruits and some everyday fruits

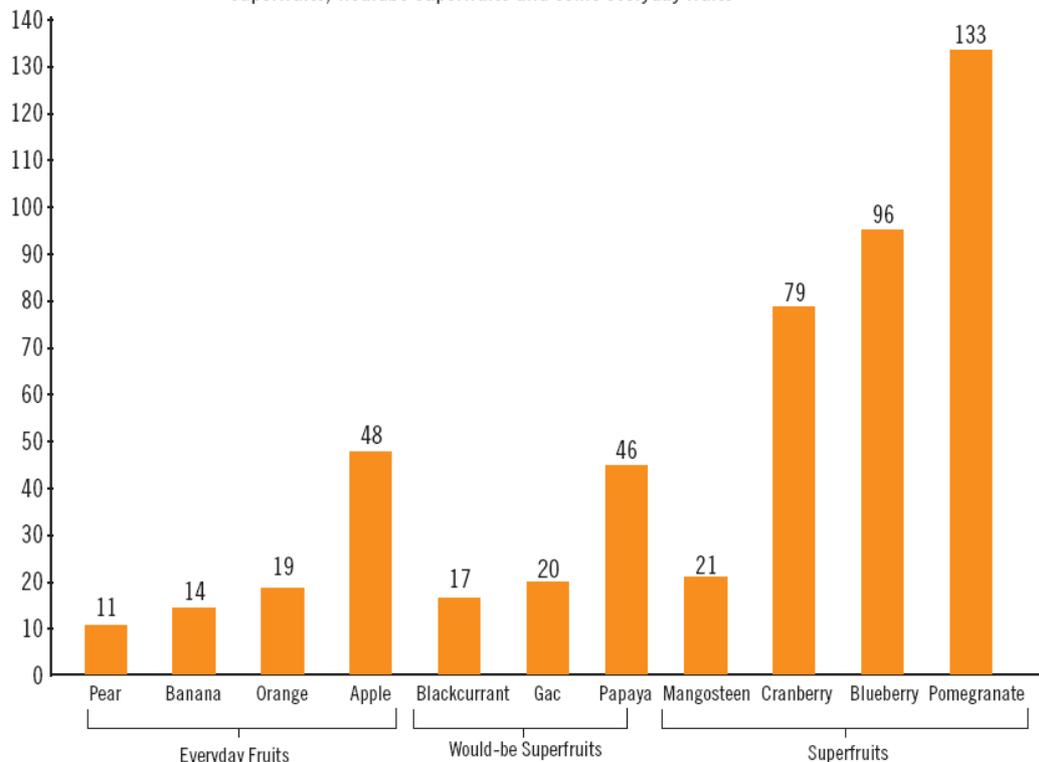


Figure 5 Number of health related studies of fruits (Source: Crawford & Mellentin, 2008⁴)

⁴ Crawford, Karl and Mellentin, Julian (2008): Successful Superfruit Strategy: How to Build a Superfruit Business. New Nutrition Business. London, UK.

MARKETING

No matter how strong the basis for the benefit, the science will be of no value whatsoever unless the marketing strategy is able to communicate the benefit in a credible way to an

appropriately targeted group of consumers. The centrality to success of effective market positioning and marketing communications can be seen again and again in the superfruit market.

6 Fresh berry strategies

The fresh berry market has three main drivers: Quality, availability and costs.

Berries are expected to have excellent visual appearance, good flavour, aroma and texture. They should be attractive and glossy. Attributes such as firm skin and even fruit size are also essential for a pleasant eating experience, according to the producers.

6.1 AVAILABILITY AND SOURCING KEY ISSUES

Factors related to availability are product life, season extension and packaging. Both the shelf-life and home-life of the berries need to be as long as possible. It is important that the cool chain is well managed through out the process so that the life of the products is optimised. Another major goal of the berry companies is to achieve 52 weeks availability in the shops. To achieve it they source berries from all over the world. This development is ambivalent, because at the same

time the berry companies realised that they have contributed to confusion on the market where the consumers and customers don't know when the berries are at their best and when the real seasons take place. Consumer research has shown that consumers actually appreciate the seasonality of some berries.

Apart from sourcing from various locations, another measure to increase availability is through production techniques and varietal development. See for instance the example of Royalfresh's strawberry production in Huelva in Spain (Figure 6). Through the use of five varieties the company manages to keep the season running from November to June.

Cost of production is managed through the increased use of high yielding varieties, methods for easier picking, more efficient use of water and fertilisers, and improved logistical infrastructure. The control of the supply chain is one of the most important factors of fresh fruit.

Production Calendar										
	October	November	December	January	February	March	April	May	June	July
Strawberry	1 18 30	1 18 30	1 18 30	1 18 30	1 18 30	1 18 30	1 18 30	1 18 30	1 18 30	1 18 30
Ventana										
Camarosa										
Candonga										
Festival										
Gariguette										

Figure 6 Example of Royalfresh's strawberry production in Huelva in Spain

6.2 BREEDING PROGRAMS

Breeding programs are quite central to fresh berry production. By focusing on flavour/texture, appearance, yield and disease resistance, new varieties are developed and released. Breeders want to increase consumer choice and innovate to meet consumers' demands for more convenient, healthier and tastier berries.

New SCRI Blackcurrant Varieties



Figure 7 Examples of Mylnefield Research Services' blackcurrant varieties

Berry breeding is focused on anticipating customers' wishes at least 10 years ahead, setting the right breeding objectives and implementing the right technologies. The aim is to deliver the best variety at the right time. For a berry breeder the two main stakeholders to keep in mind are the consumer and the grower.

6.3 WORKING WITH SUPERMARKETS

Retail is in a central role for fresh fruit suppliers. They are central when developing new market opportunities and an important player when berry companies want to raise frequency of purchase and product penetration.

To illustrate the relationship with retail, we take the Italian cooperative Sant Orsola (Figure 8). It is specialised in the production and marketing of strawberries, various types of other berries and late-fruiting cherries. The cooperative involves

1300 farmers and has a turnover of 56m EUR (2007).

When working with supermarkets and retail the company focuses on the following major activities:

- Category management
- Promotional merchandising
- Point-of-purchase (POP) material
- Promotional material, and
- Cross-merchandising

With category management the objective is to improve the buyer-supplier relationship. The main tools are to analyse data and share as much information as possible. The company tries to offer different forms of services to the retailers.



Figure 8 Promotional merchandising of Sant Orsola

Through promotional merchandising the company tries to maintain its leadership in the market. Its main objective is to enhance in-store product visibility, optimize display profitability and consequently increase product turnover (see Figure 8). This is supported through POP material. Through leaflets, special stands (see Figure 8) and other materials the berries are made more visible. These measures are shown to increase sales and achieve better positioning and display on the point of purchase.

Outside the supermarkets other promotional materials are available to increase brand awareness. These may be recipe leaflets,

promotional material for children, informative material on health benefits, etc. Here the main aim is to provide more information to the consumer.

The final measure of Sant Orsola is cross merchandising. The idea is to drive consumers purchasing choices and make them buy related processed food products (jam, juices, syrup fruits, etc). With this measure, the company drives the development of the complete category on the shelves.

6.4 CONSUMER COMMUNICATION AND PROMOTION

Communication campaigns to consumers are widely used to increase the consumption of berries. The larger berry companies and their interest organisations frequently run PR and promotion campaigns. They want to deliver the messages that berries are e.g.

- an everyday essential
- available year round
- consistently good
- healthy & nutritious
- taste great
- convenient
- great value

They try to change consumer perceptions and influence on buying behaviour. Apart from attracting new consumers, another objective is to convert sometimes buyers to loyalists (always buys them). PR is generally seen as a powerful and inexpensive marketing tool. E.g. British Summer Fruits (www.britishsummerfruits.co.uk) frequently runs such campaigns with the intention of increasing press coverage. The most recent promotional campaign is www.seasonalberries.co.uk, a 360° marketing campaign.

In the consumer communication and promotion campaigns, the different berries are presented, more detailed nutritional information about them

is made available, information about their storage and usage is given, in addition to other useful facts, pieces of information, interviews and events.

6.5 RESPONDING TO CONSUMER DEMANDS AND EXPLORING MARKET OPPORTUNITIES

ETHICAL CONSUMERISM

During the past few years, ethical consumerism has risen to become a key element in many supermarket strategies. Justin Sarget, Managing Director of Nielsen UK, commented in 2008:

“From plastic bags and local sourcing to chicken farming and low energy light bulbs, the consumer has shown that they are increasingly concerned with the welfare of our planet, food provenance and the ethical credentials of the food they eat.”

He continues:

“We have seen the implementation of ethical and environmentally friendly strategies and foresee a future where such initiatives are utterly intrinsic to the operations of our retailers and grocery manufacturers.”

Organically produced berries have not shown much increase in sales during the past years, despite the increased interest for wellbeing, health and environmental issues. The growth has, however, come from the rising number of ethical consumers who are more aware of where fruit comes from and how it is being produced.

Berry producers are however stepping up to the challenges the ethical consumerism presents. E.g. Freshroyal in Spain is working together with Dutch retail chain Albert Heijn and WWF in a campaign for the wetlands of Doñana. The wetlands is close to where the Freshroyal strawberries are produced in Huelva, which is also the most important growing area for strawberries in the world. Through the

collaboration with WWF, the company focuses on rational use of water, improving biodiversity through replanting, and communication to educate the consumers. As shown in the picture, the packaging carries the WWF logo in order to assist the consumers to make a more ethical choice (Figure 9).



Figure 9 WWF logo on strawberry pack

Other producers are focusing on the use of pesticides and fertilisers, in order to add value to the brand and respond to consumer demands. An example of such activities is the concept of Angus Soft Fruits in Scotland. It markets its AVA strawberries as pesticide-free and decorates its packaging with the logo presented in Figure 10.



Figure 10 AVA strawberries from Angus Soft Fruits

Angus Soft Fruits product concept also addresses the market for children. As media and government are putting attention on fruit and berry intake, the producers respond by providing more child-oriented packaging and communication.

PACKAGING

In packaging, the producers are also responding to supermarket demands for recyclable or biodegradable materials. However, at the same time, the trend towards more individual packaging is strong. In order to strengthen the position of berries as snack products, producers and supermarkets are constantly looking for more convenient packaging (Figure 11).



Figure 11 Convenient snacks from Sant Orsola

When fruit is packed it offers opportunities to signal selling messages to consumers and to better differentiate the product. The packaging commonly used for e.g. blueberries – clear plastic boxes of 125g-150g – protects the fruit and just as importantly, makes the berries stand out on the shelf. Presenting fruit in small quantities helps signal that they are suitable for a snack.

Table 2 summarizes the key elements in commercialization of fresh berries. In addition to these, it is important for the growers, marketers and retailers to have good relationships to each other. They also need to jointly promote and market their berries. Through gaining better consumer understanding and using it in their strategies, the companies can differentiate their products and add value.

Table 2 Key elements in commercialization of fresh berries

The grower	Marketer/ Retailer
<ul style="list-style-type: none"> ✓ Produce great tasting berries 52 weeks a year ✓ Environmentally friendly production & packaging ✓ Continuing variety improvement (R&D) ✓ Quality assured – Paddock to DC ✓ Critical mass & brand awareness – confidence ✓ Strong relationships – marketer and retailer ✓ Best practise cool chain management (increased selling time) 	<ul style="list-style-type: none"> ✓ Product on the shelf ✓ Consistent quality 52 weeks a year ✓ Presentation / merchandising ✓ Understand market demographics ✓ Relationships – regular communication that optimises sales opportunities ✓ Best practise cool chain management ✓ Maximisation of shelf life

7 Berry beverage strategies

The most successful strategies for berries have been those involving beverages.

It is generally said that the future for healthy nutrition and functional foods will, it seems, be dominated by beverage concepts. Consumers are increasingly looking to beverages of all kinds to deliver health benefits. The reasons are many: beverages offer superior convenience; there is more scope for packaging innovation with beverages; they can be single-serve (a common success factor); and beverage formulators are particularly skilled at making most things taste good.

In terms of categories, dairy still dominates, at least in Europe and Asia. Dairy products have captured the probiotic/digestive health market and are now expanding into other benefit areas, such as weight management, beauty foods and more.

The category that can provide some challenge to the dominant dairy sector in beverages, is fruits and berries. Fuelled by the interest for naturally healthy ingredients and products, fruits and berries have good market potential.

7.1 KEY SUCCESS FACTORS IN BERRY BEVERAGES

Why are beverages such a successful strategy? Advantages of beverages include factors such as:

- Convenience – for consumers, manufacturers and retailers too. Beverages are berries and fruits in their most convenient form, one which most closely matches the needs of modern lifestyles
- Delivery of a consistent consumer experience (more easily than a fresh fruit or berry)

- Delivery of “added health” by using otherwise inedible parts of the fruit or berry in the beverage blend – such as the skin and seeds which may have healthy compounds.
- All-year-round availability – beverages are not restricted (as fresh fruit are) by seasonal availability
- A perception on the part of consumers that they are high quality and are equivalent to fresh fruit or berries in terms of both naturalness and health benefits
- Scope for formulations which can reinforce health benefits and/or lower costs (blends of berries juice and commodity juice, for example, can enhance taste, sweetness and lower the cost of the finished product)
- The possibility of making almost anything taste good. Beverages can be formulated to make palatable, fruit or berries which are not palatable in their whole fresh form
- A longer shelf-life for berries (a year in the case of a shelf-stable drink)
- The possibility of using packaging design to help maximise the differentiation of the berry
- Super-premium retail prices and high profit margins. It is very difficult to achieve these margins for whole fresh fruit or berries⁵.

Successful beverage strategies are often about creating new niches on the market. The aim is to achieve high profitability at low volumes. The niche will grow over time, but few will become mass market. As a result the market will become increasingly fragmented, which means that it is possible for smaller players to be quite successful

⁵ Adapted from Crawford, Karl and Mellentin, Julian (2008): Successful Superfruit Strategy: How to Build a Superfruit Business. New Nutrition Business. London, UK.

in their own chosen domains. More and more types of beverages will be available on the supermarket shelves.

Currently, in berry beverages, many products are marketed as “high in antioxidants”. This marketing communication has rather become a nutrition content message than a health benefit. A key advantage of this message is that it enables consumers to make their own connections to whichever of the many potential benefits of antioxidants they have heard of – alternatively, they can simply accept antioxidants as a general all natural, wellness ingredient without thinking too much about specific benefits.

Packaging is a crucial element in the beverage strategy. Packaging design captures the consumer’s attention. In an increasingly competitive environment, it easily becomes the factor that decides whether the consumer will buy the product or not. From a marketing perspective, the most important mission is to differentiate the product on the shelf. It will help the brand achieve better marketing positioning and thus achieve premium prices. Figure 12 presents a selection of successful berry beverages.



Figure 12 A selection of successful berry beverages

In the marketing of beverages, the importance of marketing cannot be overstated: a working marketing plan is essential from day one. The marketing plan needs to be built on the proven platform of targeting the lifestyle and/or technology niches rather than the mass market. These consumers are best reached through PR –

positive media attention has been a key element in the rise of most successful berries. Public relations is the most cost-effective communications technique available.

Sampling is the other effective technique – ideally in a place where the consumer can then easily buy the product. Sampling also enables you to engage in a face-to-face dialogue with consumers and is a more effective way than advertising to convey your health benefit message.

Advertising is less cost-effective than PR and while it has a role to play in marketing communications that depends a lot on your brand, how you want to position it and what stage your product has reached in the market. For most berries coming to the market a heavy investment in TV or print advertising will probably be a waste of money.

7.2 EXAMPLE OF A COMPANY STRATEGY RELATED TO BEVERAGES

In 2007 L.A.-based importer of natural organic products, BrandStorm Inc. achieved nationwide distribution for its product Gojilania. It is the first organic, fresh-pressed (i.e. not-from-concentrate) goji juice to reach the US retail market.



Figure 13 Gojilania – a goji juice

Gojilania is much thicker in consistency than almost every other goji juice being retailed in the US, with a smoothie-like texture. With the new concept the company challenges the market leader FreeLife International's position on the goji juice market. According to a recent estimate by Nutrition Business Journal, the multilevel marketing (MLM) company is currently raking in around €43 million in worldwide sales of its Himalayan Goji Juice.

Gojilania comes in Natural and USDA-certified Organic varieties and both are now available in natural and organic foods markets throughout North America. Natural is available in 500ml plastic bottles at a retail price of €6.37, Organic in a 750ml plastic bottle for a recommended €10.62.

BrandStorm is positioning Gojilania at the aggressive end of the pricing scale. At \$50 (€35) for a 1-litre bottle, Himalayan Goji Juice's price has certainly not proved prohibitive and it is, after all, more processed and less "natural" than Gojilania – it's 90% reconstituted goji juice

concentrate and contains reconstituted grape, pear and apple concentrates as well.

Gojilania contains no added sweeteners, no other juices, no artificial ingredients and is said to be rich in vitamin C, beta carotene, B vitamins, amino acids, potassium, protein, and polysaccharides. The juice is fresh-pressed, not reconstituted from powder or concentrate, nor diluted with other fruit juices, meaning Gojilania is 65% goji berry juice.

A huge challenge with the new product is its taste. The product is difficult on the palate. Most likely the concept isn't going to work because the consumers do not get any immediate health benefit out of the product. That said, BrandStorm deserves credit for breaking new ground in the American natural products channel. With Gojilania American consumers can enjoy not-from-concentrate goji juice – which of course costs more to produce than concentrate-based goji juices – at a lower price point than the vast majority of goji juices currently available.

8 Berry ingredient strategies

8.1 VERSATILE BERRY INGREDIENTS DRIVE THE BERRY MARKET

Ingredients (purees, pieces, powders, extracts, etc) are seen as important drivers for the berry market development. An explanation is that in processed forms, berries are made available for consumers in more convenient forms.

The main applications are:

- Purees: for use in smoothies and as ingredients in sauces, dressings and desserts
- Juices: both in concentrate form and fresh, to be blended with other juices to make juice drinks
- Pieces and whole berries: dried or frozen – for use in bakery applications (such as are used in blueberry muffins), snack foods, bars, breakfast cereals and many other food forms
- Extracts: which enable the active compound in the berry – the part that confers the health benefit – to be used in a concentrated form, usually as a powder, in dietary supplements.

Ingredient suppliers have been active on the market, promoting their products and concepts in order to command higher shares of the value added market. Also, many new players have increased efforts, especially in extracts. Looking at the news from 2007-2008 a number of players have announced new launches. Here are some examples:

- 06-Nov-2007 - Kaden Biochemicals has introduced an aronia extract which it says is an outstanding and economical alternative to other antioxidants on the market.
- 19-Jul-2007 - Charles Bowman and Company has launched three berry extracts, produced by Ferlux-Mediolanum, for use in dietary supplements. While the North American distributor is targeting the nutritional supplement market to start with,

it will plans to expand the new ingredient into functional foods and beverages.

- 23-Nov-2007 - Danish Chr Hansen recently launched a cranberry ingredient for functional foods that could further increase the role of the berry beyond juice and dietary supplements.
- 02-May-2008 - Diana Naturals is introducing a new cranberry extract under its Phytonutriance CranPure brand with exceptionally high percentage of proanthocyanidins (PACs), the flavonoids to which the berry's health benefits have been attributed.

BENEFITS OF INGREDIENTS

The advantages of an ingredient strategy is that a range of applications helps build awareness of your berry, as well as creating more opportunities for people to trial products containing it.

Another very practical advantage for fresh fruit growers is that an ingredient business allows you to get value for fresh fruit that fail to meet the cosmetic and quality requirements of food retailers. It also enables you to process and store products for long periods.

Thirdly, consumers are always looking for something new, good-tasting and interesting in their diet and if their awareness of a particular berry grows, they will be more prone to try new applications with the berry.

8.2 EXAMPLES OF STRATEGIES RELATED TO INGREDIENTS

US Highbush Blueberry Council Promotes the Versatility of the Berry

In the world of berries, US blueberry associations have shown excellence in their ability to make their berry available in several formats. The following extract in Figure 14 is from a brochure

of the US Highbush Blueberry Council. It shows all the different applications, uses and formats available that can be used by manufacturers. The council generally promotes the produce of all its members and creates increased awareness about the versatility of the berry.

THE DECAS CRANBERRY INGREDIENTS

The Decas Cranberry products, who sells and markets cranberry as ingredients to food processors, bakeries, bottlers and other companies in the food industry, lists the following product groups:

Concentrate

The concentrate is used primarily by juice manufacturers for a wide variety of cranberry and cranberry blended products.

Frozen Whole

Available year round, IQF whole cranberries are perfect for the foodservice and in-store/retail baking industries. Because they're individually quick frozen, these whole berries are free flowing, easy to use, and well-suited for all kinds of baking applications.

Premium Sweetened Dried Cranberries

Also available year round, sweetened dried cranberries contain no artificial color, flavor or preservatives and are available in a wide array of sizes, moistures and specifications, designed to meet customers' needs. They're used in a growing number of products in both food processing and baking and are perfect for snacking.

90% Powder

Available in 25 Kg units, this high-quality, free-flowing powder is used as a dietary supplement or as a food and beverage ingredient. Unlike some powders on the market, this product is manufactured exclusively from pure cranberry concentrate with no added press cake or fruit fiber. Very high in phenolics.

The Decas company also has a subsidiary, specialised in berry ingredients for dietary supplements. For further information see <http://www.decasbotanical.com/company.htm>.



Blueberry Formats to Meet Manufacturer Needs

PRODUCT	PROCESS	PACKAGING	CHARACTERISTICS	STORAGE
FRESH				
FRESH	Fresh blueberries ▶ packaged.	Consumer packs: plastic clam shells, cello packs. Cartons: 2-1/2 lb., 5 lb. (2.3 kg.), 10 lb. (4.5 kg.), 20 lb.	Available almost year round. Fresh or glazed topping for cakes.	32° to 34°F (-0.6° to 1°C) 90-95% relative humidity
FROZEN				
IQF (INDIVIDUALLY QUICK FROZEN)	*Fresh blueberries ▶ individually quick frozen ▶ packaged.	Consumer packs: poly bags. Bulk: poly-lined corrugated cartons 10 -1500 lb. (4.5 - 681 kg.). Poly-lined metal drums: 270 lb. (122.5 kg.).	Individual fresh fruit identity. Any formulation where fruit identity is important.	0° to -10°F (-18° to -23°C)
STRAIGHT PACK OR BLOCK FROZEN	*Fresh blueberries ▶ packaged ▶ flash frozen.	Poly-lined corrugated cartons: 30-50 lb. (13.6 - 22.7 kg.) Poly-lined metal drums: 350 lb. (158.8 kg.).	High amount of fruit in a box; base ingredient for making toppings, syrups, fillings and soups.	0° to -10°F (-18° to -23°C)
DRIED				
DEHYDRATED	* Fresh or frozen blueberries ▶ air dehydrated to around 11-18 % moisture ▶ further processed to dried fruit specs: i.e. oil coated, diced etc.	Poly-lined corrugated boxes: 5, 10, 25 lb.	Moisture: 11-18 % Water Activity: 0.5-0.6	Shelf stable in a cool, dry place.
DEHYDRATED INFUSED	* Fresh or frozen blueberries are infused with a syrup ▶ dehydrated to 11-18% moisture ▶ further processed to dried fruit specs: i.e., oil coated, diced, etc.	Poly-lined corrugated boxes: 5, 10, 25 lb.	Moisture: 11-18 % Water Activity: 0.5-0.6	Shelf stable in a cool, dry place.
FREEZE DRIED	* Fresh or frozen blueberries ▶ flash frozen ▶ moisture removed in vacuum chamber ▶ sealed in moisture proof bags.	Poly-lined corrugated boxes (10 lb.) and other custom sizes.	Moisture Level: Unsweetened: 0-2 % Sweetened: 9-14%	Stable at room temperature for 3 months, after that store at 40°F (4°C).
OSMOTICALLY PRESERVED	Fresh or frozen blueberries ▶ vacuum chamber ▶ natural infusion process with syrup solution and stabilizers ▶ dried to preserve color and flavor.	Poly-lined corrugated boxes, plastic pails (20, 25 lb.) and other custom sizes.	Water Activity: 0.5 – 0.87 Moisture: 40% maximum	Shelf stable in a cool, dry place. Best used within 10 months.
DRUM DRIED/POWDERS	* Fresh or frozen blueberries or purée ▶ drum dried ▶ ground into powder or flakes to specifications.	Poly-lined corrugated boxes, (10 lb.) and other custom sizes.	Moisture: 3-5% Available in various screen sizes and granule consistency. Use in confections, drink mixes, bakery mixes.	Store in cool, dry place 70°F (21°C) or less, away from direct sunlight.
LIQUID				
SINGLE STRENGTH PURÉE	*Fresh blueberries ▶ crushed ▶ finished ▶ pasteurized or cold filled in containers ▶ frozen.	Plastic pails: 5 gal. (18.9 l), 28, 30, 55 lb. (12.7, 13.6, 25 kg.) Poly-lined corrugated cartons: 28, 30, lb. (12.7, 13.6, kg.) Poly-lined metal drums: 55 gal. (208 l.) 400 lb. (181 kg.)	Brix: 8.0 -13.0 pH: 2.8 -3.5 >Used in, sauces, flavorings and fillings.	0° to -10°F (-18° to -23°C)
PURÉE CONCENTRATE	*Fresh blueberries ▶ crushed ▶ heat/enzyme treated ▶ vacuum concentrated ▶ pasteurized ▶ packaged ▶ frozen.	Plastic pails: 4, 6 gal. (15.1, 22.7 l), 28, 30, 60 lb. (12.7, 13.6, 27.2 kg.) Poly-lined metal drums filled to desired Brix levels.	Brix Ranges: 20, 37, 40, 45 pH: 2.8 - 3.5 >Juices, sauces, blends.	0° to -10°F (-18° to -23°C)
SINGLE STRENGTH JUICE	Fresh berries ▶ crushed ▶ pressed ▶ filtered ▶ pasteurized ▶ packaged ▶ frozen.	Plastic pails: 5, 6 gal. (18.9, 22.7 l), 28, 30, 60 lb. (12.7, 13.6, 27.2 kg.) Poly-lined metal drums filled to desired Brix levels.	Brix: 8.0 - 13.0 pH: 2.8 - 3.4 > All natural fruit juices.	0° to -10°F (-18° to -23°C)
JUICE CONCENTRATE	Fresh blueberries ▶ crushed ▶ heat/enzyme treated ▶ vacuum concentrated ▶ packaged ▶ frozen.	Plastic pails: 5, 6 gal. (18.9, 22.7 l), 50, 66 lb. (22.7, 29.9 kg.) Poly-lined metal drums filled to desired Brix levels.	Brix: 45.0, 65.0 pH: 2.1 - 2.7 > Used in fruit juices and also as sauce flavor.	0° to -10°F (-18° to -23°C)
OTHER FORMATS				
CANNED (PACKED IN SYRUP) (PACKED IN WATER)	Fresh or frozen blueberries ▶ placed in cans ▶ light or heavy syrup added ▶ sealed ▶ heated. Fresh or frozen blueberries ▶ placed in can ▶ water added ▶ sealed ▶ heated.	Cans: #300, #2, #2-1/2 #10, other sizes	Various levels of fruit content depending on supplier and application.	Shelf stable in a cool, dry place.
BAKERY FRUIT FILLINGS	Fresh or frozen blueberries and/or other forms ▶ sweetener and starch /gum based slurry added ▶ heated ▶ packaged to specifications.	Plastic and foil pouches, 5 gal. plastic pails (18.9 l.) and 55 gal. drums, (208.2 l.)	Various levels of fruit content. > Used in Danish, fruit fillings and toppings.	Shelf stable in a cool, dry place.
ESSENCE	Volatile flavor components distilled off from juice and concentrate process ▶ packaged.	Plastic pails: 5, 6 gal. (18.9, 22.7 l.) and other sizes.	Intensive blueberry flavor found in no artificial flavoring. > Used to boost blueberry flavor in tandem with berries. Also brewing flavor.	Tightly closed container at 32°F (0°C) or lower
OTHER	Real fruit bits and chips are formulated out of a blend of purée and other ingredients. * Sweetening optional	10 lb. boxes and other custom sizes.	Fruit Content: 30-40 % > Used in baking and snack applications.	Shelf stable in a cool, dry place. Contact your blueberry supplier for product specifications.

US Highbush Blueberry Council • PO Box 1036 • Folsom CA 95763-1036 • Email: info@ushbc.org • HTTP://www.ushbc.org

Figure 14 The US highbush blueberry council

9 Berry supplement strategies

The combined value of the total dietary supplements market in the US, Japan and Europe exceeds €26 billion and, as population's age and health-consciousness grows, all supplement markets are experiencing growth.

As with beverages, fruits and berries have a natural advantage – the health benefits of fruits are becoming increasingly well understood by consumers thanks to media attention and fruit supplements are perceived as a “more natural” way to get a health benefit. Within the total supplement market, products based on fruit extracts form a niche but a fast-growing one. Dietary supplements are interesting for ingredient suppliers because they often have high margins compared to other applications.

The Japanese ingredients market for fruit and berry extracts for use in supplements was in 2007 worth over €86 million and had grown by more than 10% over the previous year. We estimate that the retail value of these products excess €658 million. The US and European markets for fruit and berry-based supplements

are thought to be slightly smaller but also growing fast.

9.1 FRUIT AND BERRY-BASED SUPPLEMENTS IN JAPAN

Japan is the most important market for fruit and berry-based dietary supplements. The market is characterised by the following:

- Japan has, with the US, the world's highest per-capita spend on dietary supplements.
- Direct selling (Multi Level Marketing - MLM) is key, accounting for 54% of the market; with pharmacies 18%, health food stores 18% and supermarkets 10%.
- Weight loss, digestive health, immunity and skincare/beauty are all large and important sectors of the market.
- A highly competitive and innovative market and companies are always open to new ingredients, particularly those that have some strong “all-natural” positioning, are in some sense unique or exclusive, or have benefits supported by science.

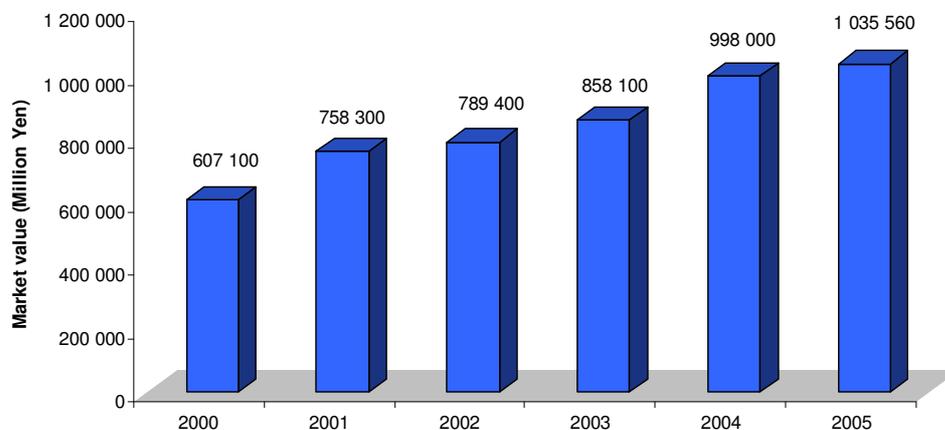
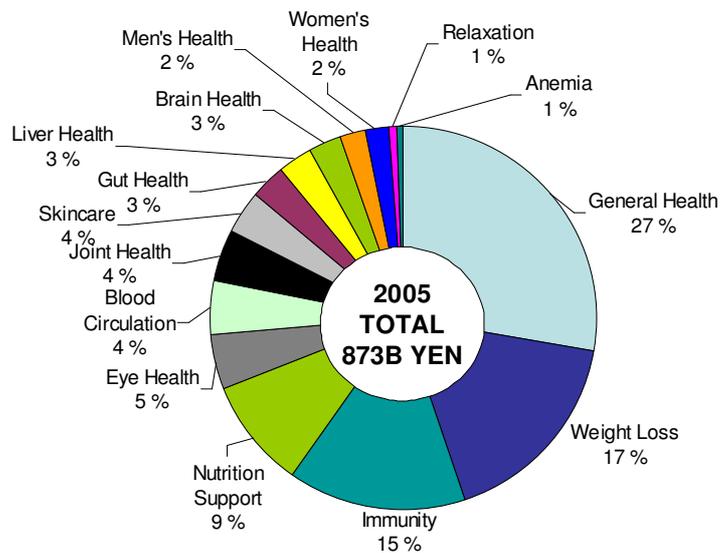


Figure 15 Evolution of Japanese dietary supplement consumer market in 2000 - 2005 (CAGR 11.3%) (Source: GNG Analysis)



Market size of the top-15 health platforms in the supplement market JPY873 billion = €5.39 billion

Source: Fuji Keizai, GNG Analysis

Figure 16 The main health platforms (retail values) on the Japanese supplement market

The total supplement market has grown steadily during the 21st century as is depicted in Figure 15. Today its value exceeds 6.38 billion EUR and it is predicted to continue growing. The main health platforms following general health are weight loss, immunity and nutrition support (see Figure 16).

9.2 BERRIES AS DIETARY SUPPLEMENT INGREDIENTS

Overall, the berries mostly used in dietary supplements as key ingredients are bilberry and cranberry. In Japan, the use of blackcurrant is also increasing as a response to the fluctuations

in the availability and price of bilberry. Table 3 presents some international examples of supplements based on berries.

Japan is the most developed market for berry-based dietary supplements. Bilberry is mostly used for eye health and skincare, whereas cranberry is used for the urinary tract. Blackcurrant (cassis) products are increasing, benefiting from similar health benefits as bilberry.

In the following tables (Table 4 and Table 5) examples of available blackcurrant and bilberry products are presented.

Table 3 International examples of supplements based on berries

Berry ingredient	Picture	Brand	Manufacturer	Benefit	Description & Properties
Bilberry		Strix	Ferrosan	Eye health – tired and aging eyes	Available as tablets and eye drops. Major brand in the Nordic countries
Cranberry		Cranberola	Arkopharm	Urinary tract and other infections, female health	Available on the major markets in Europe. For prevention of urinary tract infections. 60 capsules approx. 9-10 EUR
Cranberry		Cran-Max is a widely known dietary supplement ingredient that is marketed under many different end product brands	Cran-Max	Clinically proven product used for Urinary Tract Infections	Made from 100% cranberry fruit solids. Cran-Max® incorporates a patented Bio-Shield® Technology that protects the cranberry from destruction by gastric acid, delivering the nutrients to the lower gastrointestinal tract where they can be absorbed through a time-released mechanism.
Fruit and berry mixes		EXO	Agel	Anti-aging, free radical scavenger, prevent cellular damages	Exotic fruits and plant extracts, rich in antioxidants. Contains berries such as blueberry, bilberry, sea buckthorn, aronia, cranberry, acai, etc. Convenient gel product.
Blackcurrant		Black Currant Oil	NSI Nutraceutical Sciences Institute	Various areas of health	Blackcurrant oil is a good source of the omega-3 essential fatty acid (EFA) alpha linolenic acid (ALA), and it's also one of nature's richest sources of omega-6 gamma linoleic acid (GLA).

Table 4 Blackcurrant supplements in Japan

Product	Cassis E X	Cassis Polyphenol Tsubu	Blueberry Cassis Lutein	Cassisα
				
Company	Maiji Seika	Wellness Japan	Mannan Foods	Wakasa Seikatsu
Price	JPY3,675 (NZ\$43) per 29.4g (about 60 tablets)	JPY4800 (NZ\$56) /240 tablets	JPY5040 (NZ\$60) /270 tablets	JPY1680 (NZ\$19) /31 capsules
Channel	SM, Drugstore, CVS	Drugstore	Drugstore	Mail Order
Health Platform	Eye Health	Eye Health	Eye Health	Eye Health
Fruit ingredient	Cassis anthocyanin 50mg, lutein 10mg/3 tablets (1.47g)	Cassis extract powder 300mg, cassis anthocyanin 21mg/8 tablets (2g)	Bilberry extract 260mg/3 tablets (0.75g)	cassis80mg /capsule(350mg)

Table 5 Bilberry (blueberry) supplements in Japan

Product	Blueberry Eye	Blueberry Extract	Blueberry	Blueberry
				
Company	Wakasa Seikatsu	DHC	FANCL	Suntory
Price	\1680/31 capsules	\903/60 capsules	\990/60 tablets	\5040/90 capsules
Channel	Mail Order	SM, CVS, Mail Order	Mail Order, CVS	Mail Order
Health Platform	Eye Health	Eye Health	Eye Health	Eye Health
Fruit Ingredient	bilberry extract 160mg /capsule β-carotene	blueberry extract 170mg /2 capsules	bilberry extract 160mg, cassis extract 20mg /2 tablets	blueberry extract 120mg, astaxanthin 2mg /3 capsules

It's worth noting that 40% of the Japanese fruit and supplement ingredient market is accounted for by bilberry extract – arguably the fruit that gave birth to the category.

In 1998 the dietary supplement brand “Blueberry Eye” was launched on the Japanese market. Despite the name it is based on bilberry extract. The company marketing the supplement

used the term blueberry because Japanese people didn't know what a bilberry was. Marketed on a platform that it can relieve eyestrain – a significant health concern in Japan – the success of Blueberry Eye led to a surge of launches of other products. The estimated size of the bilberry supplement market, according to Tokyo-based Global Nutrition Group, is around €260 million at retail prices. Blueberry Eye is still

one of the leading brands, all of which refer to their active ingredient as blueberries rather than bilberries.

The Japanese supplement companies have invested significantly in developing the science around bilberry's health benefits. They've also spent significantly on marketing the health benefits of supplements based on bilberry extract to consumers. The result was that by 2005 the average market price of extract powder was between €342,000 and €510,000 per tonne, depending on the quality/specification, making bilberries one of the highest-value crops in the world.

9.3 EXAMPLE OF COMPANY STRATEGIES RELATED TO BERRIES

MEIJI BLACKCURRANT PRODUCTS

A good example of a company that has capitalized on the health benefits of a berry in the dietary supplement sector is Meiji in Japan (it is also discussed in The Berry Cases).

Meiji markets products under "Cassis-i" brand with blackcurrants from New Zealand (exclusive

relationship) targeting beauty and eye health. E.g. in 2005 it launched "Cassis-i", a mini drink targeting women in their 20's to 30's. Sales in 2006 were already 15.4 million EUR at retail.

There is a polyphenol unique to blackcurrants (called by French name "cassis" in Japan), found in highest concentrations in NZ blackcurrants. Meiji has funded research with Japanese universities to explore the health benefits further. For example, study at Hirosaki University confirmed cassis efficacy to improve blood flow at optical nerves. The company also invests heavily in raising the awareness of blackcurrant and it's functionality via the Cassis Institute and all its communications effort.



Figure 17 Meiji blackcurrant products

10 Berry beauty strategies

10.1 GENERAL TRENDS IN COSMETICS

BACK-TO-NATURE THINKING SUPPORTS NATURAL & ORGANIC INGREDIENTS

The trend of naturalness is crossing over many industries, including personal care. Consumers are increasingly searching for cosmetic products that are innovated and sourced from nature. Consequently, the natural and organic personal care market continues to grow at double digit rates. Large mainstream players enter the marketplace and manufacturers, specializing in the category, introduce efficacious new product lines and extensions into a variety of channels.

According to Kline & Co., the natural and organic personal care segment grew by 14.6 percent in 2005, while the overall U.S. cosmetics and toiletries market grew by only 3.5 percent, illustrating the demand for these specialty products. In 2006, the market for natural and organic products was in US US\$1.5bn and US\$3.8bn in Europe, which counts for 2 % of all cosmetic markets. The largest single market is Germany, which forms 50 % of all organic and natural cosmetic market.

COSMECEUTICAL SKIN CARE IS BOOMING

The market for cosmeceuticals (cosmetics and toiletries containing at least one bio-active ingredient) is also predicted to grow significantly over the next five years. It is driven by an aging population, the increasing desire among consumers to look good and minimize the effects of aging. Skin care is the largest segment, dominated by anti-aging brands.

According to Datamonitor the total European and U.S. market for cosmeceuticals currently stands at US\$8.2 billion (growth rate 5-7%). The European market for cosmeceuticals has reached US\$4.0 billion in 2006. France represents the largest individual European market at US\$900 million,

where per capita income spent on cosmeceuticals was also the highest, US\$14.9 (Datamonitor).

PREMIUMISATION

Consumers are more willing to pay significant price premiums for products that connect to multiple trends and are well-packaged and well-marketed. Premiumisation has several drivers, all known from before, but only recently, have brought the trend to its tipping point. At the macro level, a key driver is the change in grocery expenditure within family budgets. Premiumisation helps companies earn worthwhile profits for their efforts in creating and marketing healthful products. It also opens possibilities for new special cosmetic ingredients for personal care e.g. berry based ingredients.

10.2 BERRIES AS BEAUTY INGREDIENTS

EATING BEAUTY – FOOD INGREDIENTS IN COSMETIC PRODUCTS

Food-based ingredients are not new to beauty products, but are increasingly used in cosmetics, e.g. blueberry, arctic cloudberry, sea buckthorn, cranberry and açai. Berries are used as ingredients in cosmetics as oils, extracts or sometimes seeds (exfoliants). E.g. b blueberry contribute to overall skin health and scavenging free radicals. The number of products on the market is growing (Figure 18) due to the fact superfruit ingredients are consistent with the general trends on the cosmetic market.

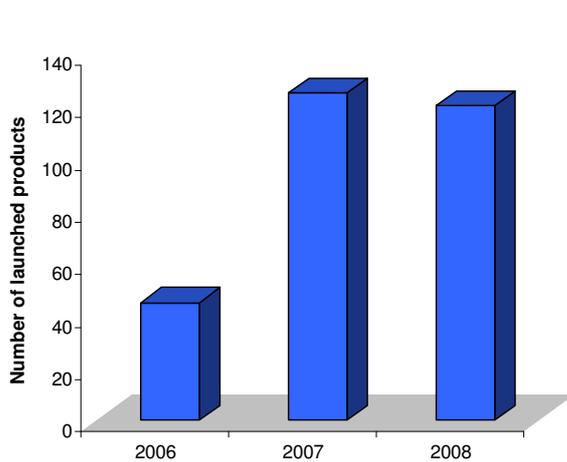


Figure 18 Product launches with skin care containing blueberry or pomegranate (Source: Mintel GNPD)

Berries like Arctic Cloudberry, Sea Buckthorn and Cranberry are used in cosmetic products basically as antioxidants. Berry solids i.e. seeds are also used as exfoliants – especially in natural/organic products. Main packaging claims associated e.g. with sea buckthorn products are plant-based, organic, no additives and anti-aging (Figure 19). Companies providing these ingredients for cosmetics include e.g. Mibelle Biochemistry (see Figure 20).

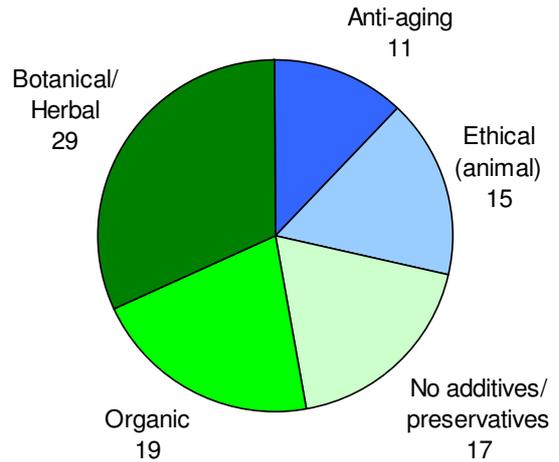


Figure 19 Top five packaging claims, all cosmetic products with sea buckthorn (Source: Mintel)

mibellebiochemistry



NanoVit
Bioactive omega 3, 6, 9 and 7 for the skin

NanoVit is a nano-emulsion loaded with sea buckthorn pulp oil. Sea buckthorn is a hardy plant growing on the sea coast that can resist low and high temperatures, dryness, sand and salt.

NanoVit with sea buckthorn pulp oil has a unique fatty acid composition: It contains more than 50% of unsaturated fatty acids and is exceptionally rich in omega-7 which is rarely found in plant kingdom. The encapsulation of sea buckthorn pulp oil in a nano-emulsion increases its penetration and

Figure 20 Mibelle Biochemistry’s omega ingredient for skin care is based on sea buckthorn.

Table 6 Some examples of berry ingredients in cosmetics

Berry ingredient	INCI Name examples	Example of Trade Names & Suppliers	Active or Functional Properties	End Application Examples	Description & Properties
Black currant seed oil	Ribes Nigrum (Black Currant) Seed Oil	NanoLipid Restore CLR™ (CLR Chemisches Laboratorium Dr Kurt Richter GmbH)	Problem skin Skin regeneration Sensitive skin	Skin care	Restores very dry and rough skin through barrier repair. Designed for regenerative care of very scaly and aged skin. Combines the regenerating property of black currant seed oil and the benefits of the nanostructured carrier, resulting in prolonged bioavailability and protection against oxidation. Contains no preservatives in the sense of EU Cosmetic Directive 76/768 EEC.
Sea buckthorn	Lecithin, Hippophae Rhamnoides Oil	NanoVit nc/oA (Mibelle AG Biochemistry)	Anti-aging, antioxidant, regeneration, protection, for healthy skin	Face care, after-sun care, body care, make up	Contains more than 50% of unsaturated fatty acids and is rich in omega-7 and also omega-3, 6 and 9. Recommended use level 1 – 5 %, superfruit status of sea buckthorn is promoted by Mibelle
Bilberry extract	Vaccinium myrtillus (Water & Vaccinium angustifolium (Blueberry) Fruit Extract & Theobroma cacao (Cocoa) Extract)	Mitroselect® (Indena) Blueberries & Dark Chocolate Extracts (Arch Chemicals)	antioxidant/ antipollution	- skin care (facial care, facial cleansing, body care, baby care) - decorative cosmetics/make-up - toiletries (shower & bath, oral care, hand washing, antiperspirants, depilatory products, shaving, foot care) - hair care (shampoos, conditioners & styling) - perfumes & fragrances - sun care (sun protection, after-sun & self-tanning)	

10.3 EXAMPLES OF BERRY STRATEGIES RELATED TO COSMETICS

PREMIUM BRAND UNDERLINES ACTIVITY (HELENA RUBINSTEIN)

Premium brands such as Helena Rubinstein do not promote any individual ingredient. The brand image is strong and emphasizes the cosmeceutical benefits. Berry ingredients might be used but it is not the main benefit.

DR. HAUSCHKA – NUMBER ONE NATURAL PERSONAL CARE BRAND

The market for natural and organic products counts for 2 % of all cosmetic markets. The market leader, Dr. Hauschka, uses only natural ingredients including berries. For example, blackthorn fruit extract, rose hip fruit extract, sea buckthorn fruit extract and sea buckthorn oil. However, berry ingredients form only a small fraction of all natural ingredients they use.

COLLAGENIST NIGHT with pro-Xfill (50ml, \$110.00) (HELENA RUBINSTEIN)
densifying fortifying care, anti-wrinkle - firmness



Collagenist Night, a formulation at the state-of-the-art of the Collagens' expertise, formed to fortify and protect during the sleep the skin's Collagens capital, which is particularly mistreated during the day. A comfortable texture both melting and moisturizing that instantly enwraps the skin in gentle nutrition. All skin types

In the morning, the skin seems well-rested, tonic, smoother and fuller. Day after day, the skin recovers its firmness and density: it seems fortified itself. The wrinkles seem resorbed. Repulped, firmer, the skin recovers rebound and texture.

Ingredients: pro-Xfill collastim malt extract vitamin E blueberry extract

pro-Xfill innovation : seven years of Helena Rubinstein laboratories expertise have helped to reach a unique replumping "collagen effect": the pro-Xfill - exclusive complex enriched with pro-xylane™ - is associated to collastim to trigger at the heart of the skin an intense production of five primary density collagens. An exclusive combination of malt extract and vitamin E has been designed as a protective "shield" to combat enzyme damage to the collagen fibers while a blueberry extract has been selected to fight the aging of the collagen fibers

Apply every evening to the entire face and neck, after make-up removal.

Shampoo with Apricot and Sea Buckthorn (\$13.00) (DR.HAUSCHKA)

for dry or damaged hair



Restore body and shine to dry, brittle or damaged hair with oils and extracts of select botanicals.

- Gentle cleaning for dry, damaged hair
- Neem and burdock extracts restore brittle hair
- Apricot kernel, rose hip and seabuckthorn oils moisturize and shine
- Activates the scalp's natural functions
- Milk and wheat proteins provide resilience and manageability

Full Ingredient List for Shampoo with Apricot and Sea Buckthorn

Water/Aqua, Decyl Glucoside, Betaine, Sorbitol, Sodium Coco-Glucoside Tartrate, Equisetum Arvense (Horsetail) Extract, Melia Azadirachta (Neem) Leaf Extract, Glyceryl Caprylate, Sodium Citrate, Sodium Myristoyl Glutamate, Trigonella Foenum Graecum (Fenugreek) Extract, Alcohol, Sodium Cocoyl Glutamate, Prunus Armeniaca (Apricot) Kernel Oil, Hippophae Rhamnoides (Seabuckthorn) Oil, Arctium Lappa (Burdock) Extract, Rosa Canina (Rose Hip) Fruit Extract, Hydrolyzed Wheat Protein, Hydrolyzed Milk Protein, Fragrance/Parfum (Essential Oil), Limonene, Linalool, Chondrus Crispus (Carrageenan) Extract, Cyamopsis Tetragonoloba (Guar) Gum, Xanthan Gum, Simmondsia Chinensis (Jojoba) Seed Oil, Melia Azadirachta (Neem) Seed Oil, Capsicum Annum (Red Pepper) Extract, Arachis Hypogaea (Peanut) Oil

COMPANIES UNDERLINING BERRIES ON THE PACKAGING

The US brand Fresh (www.fresh.com) is an example of an açai berry product. Another

similar product concept is the Finnish company Lumene, which focuses on Northern berries and plants, emphasizing these ingredients strongly on the packaging.

Sugar Açai Age-Delay Body Cream \$65.00 200ml



Sugar Açai Age-Delay Body Cream is an innovative moisturizer clinically proven to improve firmness and tone after just 4 weeks. The breakthrough formula is fortified with age-defying technologies so it not only offers deep hydration but also improves the skin's overall appearance from neck to toe. The cream taps into the ultra-nourishing and skin-restoring properties of açai, an antioxidant-rich "super fruit".

Key Ingredients:

- Açai oil provides powerful free-radical protection, maintains elasticity, and prevents water loss. It is obtained from the purple berry of the Açai palm native to the Brazilian Amazon rainforest. The berry is known as a "super fruit" because it is rich in antioxidants, vitamins, and essential fatty acids.
- Sugar is a natural humectant and skin soother that helps to reduce moisture loss, smoothes, and revitalizes.
- Time-release hydro-patches prevent dehydration and deliver a consistent stream of moisture.
- Citrus fruit and sugar acids gently remove dull, dry skin, promote cellular turnover, enhance suppleness, and clarify skin.
- Sugar apple extract and sweet almond protein firm and tone.
- Cupuacu seed butter, native to the Amazon rainforest, moisturizes and nourishes.
- Contains also VACCINIUM MYRTILLUS FRUIT EXTRACT

11 Berry case studies

In this chapter, blueberries, cranberries and blackcurrants are analyzed in more detail.

11.1 BLUEBERRY

Blueberries' image of healthfulness – based on their high content of antioxidants – together with their sweetness and convenience, has given them a status of superfruit.

In Europe, the US and Japan blueberry sales and prices are constantly increasing, resulting in a rationing of supply to food processors. As new products containing blueberries proliferate worldwide and availability increases, prices are remaining high as more and more consumers – encouraged by the ever-rising buzz about the nutritional efficacy of blueberries – keep pushing demand higher.

Before the superfruit craze, the blueberry industry was a sleepy backwater like most agricultural commodities. Today, producers are getting good prices, they're increasing production; and demand just keeps building. It's a phenomenon that is not confined to the US. The UK fresh blueberry retail sales value increased 50% in 2006 – and that followed 100% growth in 2005. That growth takes the value of the UK market to in excess of €103 million, giving the UK what may be the world's highest per capita consumption of fresh blueberries after Japan.

Consumption increases among a certain type of consumer, those driven by finer foods, which

represents some 16% of the shoppers. They have higher income and include many older, richer people and they are 2.5 times more likely to be buying blueberries than any other group. Another group buying blueberries are those interested in convenience. They are beginning to see the value of blueberries as a snacking product.

Sales in France and Italy are also increasing rapidly. Japan is well ahead of the other countries, sales began surging in 1998, triggered by the launch of a market for dietary supplements for eye health based on bilberry extract. Because the Japanese didn't know what a bilberry was, these supplements all referred to "blueberry" instead, and the leading supplement brand is in fact called "Blueberry Eye".

The bilberry supplement companies invested massively in PR and advertising, creating a market still worth over €223 million at retail and at the same time exposing Japanese consumers to the idea that blueberries have health benefits.

Both highbush and wild blueberries are mostly native to North America. Highbush berries are larger and sweeter and are grown in temperate regions such as the Pacific Northwest, California and the South. Chile is a fast-developing supplier of fresh highbush blueberries, so too are Poland and France. About half of the wild variety, smaller and more tart, are grown in Maine and the other half in Canada. Other varieties of blueberries are grown in China.

'BLUE GOLD' FIRST STRUCK IN JAPAN

Japan, the home of functional foods, was the prime mover behind the worldwide 'blue goldrush'. As Chart 1 shows, sales of blueberries began surging in 1998, triggered by the launch of a market for dietary supplements for eye health based on bilberry extract.

The driver of imports of frozen blueberries (see Chart 2) was demand from food processors, trying to cash in on the bilberry boom by launching yoghurts, muffins, drinks and other products with blueberries.



Chart 1: Japanese imports of fresh blueberries (1996-2005)

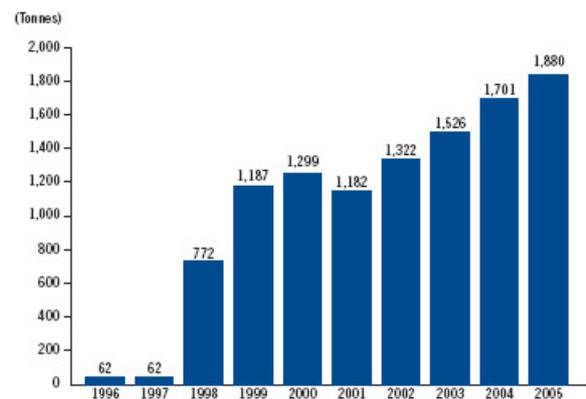


Chart 2: Japanese imports of frozen blueberries (1996-2005)

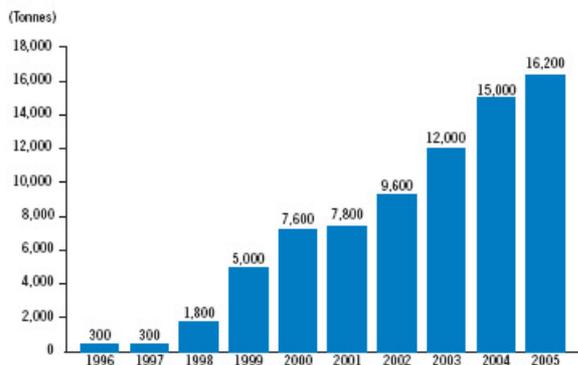
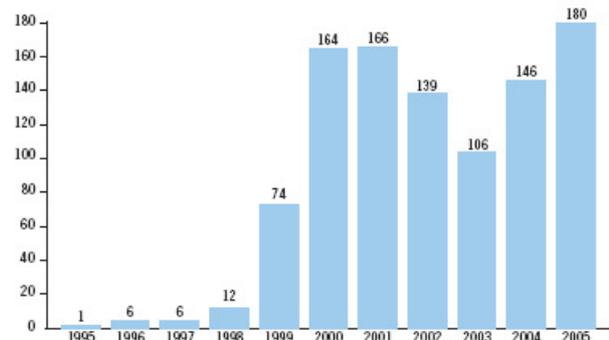


Chart 3: New food and beverage products using blueberries as an ingredient launched in Japan (1995-2005)



Sources: Industry interviews, Global Nutrition Group

Figure 21 Blueberries in Japan

In short, positive media mentions of blueberries now run into the tens of thousands and it is this media attention that has propelled consumer interest.

For highbush blueberries, there's been a substantial shift in how they're consumed. Until a few years ago, as much as 60% of the overall crop was sold to various food processors. But since then, fresh demand has risen strongly and steadily, and record percentages are now going into the fresh market. Of 2006's North American crop, 167 million pounds, or about 52%, ended up in the fresh markets and 156 million pounds

went to processors, according to the US Highbush Blueberry Council.

The price rises of recent years are expected to come to an end as the massive increase in planting now taking place worldwide feeds through into better supply, after which the industry will settle down to a more normal supply and demand situation. Volumes, though, will most likely continue to grow, driven by health and convenience and growing consumer interest in new markets where blueberries and blueberry products are still little-known.

Table 7 Superfruit analysis of blueberry⁶

Element	Explanation
1. Sensory	Blueberries are sweet, good-tasting and easy to eat in their whole fresh form. They score very highly on sensory properties
2. Novelty	Blueberries are not novel in growth markets such as the US and UK, but media attention to their health benefits, coupled with their strong convenience, made customers react to them as if they were a new fruit.
3. Convenience	Blueberries – and the same applies to most berries – have a major advantage over most other fresh fruit. Blueberries are one of nature's instant snack-foods. They are easy to eat, require no peeling and the consumer is left with no core, peel or waste. They are easy to add to other foods (as a topping for breakfast cereal, for example) and as result a high level of blueberry consumption now is out-of-hand snacking. Moreover blueberries have long been available as frozen and other forms and their use as an ingredient by the food and beverage industry – in snack bars, muffins, yoghurts and desserts – has been a key driver of growth for blueberries over the last ten years, reflecting the extent to which an ingredient strategy is often more important to developing a superfruit than a “whole fresh” strategy.
4. Control of Supply	Unlike pomegranate and cranberry there is no dominant grower group and no dominant single variety. Luckily for the growers, demand has outstripped supply for over five years and new plantings cannot yet keep pace with consumer demand. That piece of good fortune for the growers means that the pull of demand gives them a degree of influence on pricing similar to if they actually controlled the supply. This particular advantage is very likely, however, to be eroded over time as new planting rises to meet demand. It might be possible to create a new niche within the blueberry market (itself a niche) by developing blueberry cultivars with a specific health benefit and/or cultivars designed to provide a specific health benefit that would be available only in the form of concentrated extracts used in foods and supplements (an ingredient strategy that has already been successful for bilberries).
5. Health benefit	Blueberry is one of the most-researched fruit, with over 96 published studies. The high-antioxidant health benefit was originally based on US Department of Agriculture work on ORAC (the scale which measures fruits' antioxidant potential). A number of purported benefits have been extrapolated from blueberries' high antioxidant status – ranging from eye health, to brain health and heart – but we are not aware of any substantiating published human clinical studies. It was the discovery of their potent antioxidant activity that put blueberries in the headlines in the late 1990s.
6. Marketing the benefit	The blueberry industry cannot take any credit for the promotion of blueberries' health benefits. The development in the West came as a result of journalists picking up on the news emerging from the science and this attention has maintained a momentum all of its own from a media eager for positive stories about appealing, naturally nutritious foods. At last the blueberry-growing and -marketing industry is now trying to step up its game to capitalize even more on blueberries' growing popularity.

⁶ Crawford, Karl and Mellentin, Julian (2008): Successful Superfruit Strategy: How to Build a Superfruit Business. New Nutrition Business. London, UK.

11.2 BLACKCURRANT

For long blackcurrants were one of the most under-appreciated of berries. In the West, marketers have for decades focused only on this fruit's high vitamin C content. But blackcurrant drinks are by-and-large a mature, even stagnant area, and product innovation has been close to zero. It's only in Japan where blackcurrants' superfruit potential is being realised.

In Japan blackcurrants are marketed under their French nomenclature, cassis. Their beneficial effect on eye health has gained awareness during the 21st century. Eye health is a major health concern in Japan. Consequently, the market for eye-health supplements and foods in Japan is large – worth approximately €609 million at retail prices. Some 90% of the eye-health market is governed by lutein-and bilberry-based foods, beverages and supplements, accounting for €558 million in retail sales (with bilberry holding the lion's share).

But when bilberry prices started escalating in 2006, supplement and food companies began to inquire more intently about cassis as an ingredient for eye health. In that year, retail sales of functional foods, beverages and supplements containing cassis reached €21 million – 40% growth over 2005. The value of the cassis market is now about one tenth of the bilberry market – but given that the bilberry market took 10 years to reach more than €245 million in sales, cassis's performance so far is quite impressive.

Interest by Japanese manufacturers in cassis was in part spurred by extremely high bilberry prices, but two other factors have really set the cassis market rolling. One is the establishment of the Japan Cassis Association – an organisation which educates Japanese consumers about the potency of cassis as a fruit that is good for the eyes – and the other is the entry of major food company Meiji Seika into the cassis market.

The Japan Cassis Association was founded in 2005 to coincide with Japan's "eye protection day". Through the Association cassis producers, researchers, importers and manufacturers promote the benefits of cassis as an ingredient in supplements and foods targeted at eye health. With missions such as "enlightening people about prevention of eye disease through consumption of cassis" and "establishing a cassis industry and culture", the Association via its website www.j-cassis.jp explains the history of the fruit, describes its properties and origins, and reports on blackcurrant research. Japanese consumers also learn about uses for the fruit and, in particular, its potential benefits for prevention of focus disorder, eye-strain and improvement of blood circulation. Most significantly, the Association was responsible for the very rapid rise in the popularity of cassis as a functional ingredient (Figure 22).

A producing country that has been able to capitalize on the Japanese interest is New Zealand. Currently, €2.7 million worth of NZ blackcurrants are exported to Japan as ingredients for supplements, snacks and functional food products and in an instant quick-frozen (IQF) form for products such as jams.

But new and more diverse end-uses for blackcurrants owe much to the combined R&D and marketing know-how of two corporate members of the Japan Cassis Association – the New Zealand Berryfruit Group (NZBG) and food, pharmaceutical and healthcare company Meiji Seika Kaisha Ltd. They have developed an extensive range of blackcurrant-based supplements, functional foods and extracts.

Meiji has also developed a range of supplements, foods and beverages targeting eye and skin health and blood circulation. Marketed under the Meiji brand, three categories of cassis-based products are available: Cassis Anthocyanin; Cassis Polyphenol and general Cassis Products. Cassis-i Shot, the centrepiece of

Meiji's Cassis Polyphenol product range, is a mini-drink targeted at women in their 20s and 30s. The daily-dose 100ml bottle, in shining purple, contains 130mg of blackcurrant phenolics – the level of phenolics that are required, so consumers are told, to produce a visible improvement in sagging eyes.

New Zealand is currently the second biggest supplier of blackcurrants – accounting for around 3-5% of the world's total blackcurrant supply. At present NZ blackcurrants – even varieties with higher levels of anthocyanins – face significant price pressure from low-priced Polish blackcurrants. Polish yields are well above those of New Zealand's. In 2002-2004, for example, Poland produced a whopping 132,000 tonnes of blackcurrants on average (that's 70% of EU-25 production – according to the European

Commission Agriculture and Rural Development) making the need for New Zealand producers' strong differentiation on health even clearer.

The result of a focus on health is that the market for NZ blackcurrants remains strong because where they are being introduced – Japan and South East Asia – they're becoming known as a higher value product.

Whether the Japanese cassis market will eventually reach higher sales, and whether cassis will "take off" as an alternative to expensive bilberry and blueberry extracts and finished products, depends to a large degree on how many strong and competent players join Meiji Seika in the development, manufacture and marketing of blackcurrant products.

The screenshot shows the homepage of the Japan Cassis Association. At the top is a navigation menu with links for HOME, NEWS, カシスについて (About Cassis), 活動報告 (Activity Report), みんなで質問! (Ask us anything!), and 日本カシス協会とは (About the Association). The main banner features the text 'I Love Cassis' and '日本カシス協会' (Japan Cassis Association) with a cartoon character. Below the banner, there are several sections: a 'NEWS' section with a list of recent news items, a 'カシスについて' (About Cassis) section with four sub-sections: 'カシスの栄養素' (Cassis nutrients), '目に良いカシス' (Cassis good for eyes), 'カシスの豆知識' (Cassis trivia), and '生産地情報' (Production information). Each sub-section includes a small image and a '詳しくはこちら' (More details here) link.

Figure 22 The website of Japan Cassis Association

Table 8 Superfruit analysis of New Zealand blackcurrants⁷

Element	Explanation
1. Sensory	Blackcurrants have a distinctive taste which means that in whole fresh form they are not acceptable to many consumers. However they can be processed in beverages with a very appealing colour, taste and texture.
2. Novelty	Blackcurrants were not widely-consumed in the target market (Japan) but neither were they novel. "Novelty" was not an advantage in this case. Rather, marketers of blackcurrant drinks and supplements have managed to build a story around the health benefits of the specific New Zealand variety and their origin.
3. Convenience	With a focus on an ingredient strategy, NZ blackcurrants have been made available in a range of highly convenient forms from powdered ingredients to juice concentrate, enabling them to be included at effective levels in convenient consumer products.
4. Control of Supply	The blackcurrant varieties used to provide the ingredients (and the health benefit) are only grown in New Zealand by growers who operate within a tightly integrated industry which actively collaborates and has one collective marketing strategy through a marketing group which acts to benefit the whole industry.
5. Health benefit	Subject to 17 published studies, blackcurrants' health benefits are based on their naturally high content of anthocyanins. This has become the basis for marketing an "eye health" benefit in the Japanese market, where this benefit is already well-established and popular with Japanese consumers.
6. Marketing the benefit	Products based on New Zealand blackcurrants have benefited from a significant, well-coordinated and well-funded marketing and consumer education effort in Japan, led by Meiji Seika. Meiji, together with nine other corporate members, has formed the Japan Cassis Association. One of its missions is to create a culture around cassis and its use, and to this end it carries out PR for cassis and promotes July 23 as Cassis Day.

⁷ Crawford, Karl and Mellentin, Julian (2008): Successful Superfruit Strategy: How to Build a Superfruit Business. New Nutrition Business. London, UK.

11.3 CRANBERRY

Ocean Spray has been synonymous with cranberry juice for decades. But despite cranberries long being recognised as a “superfruit”, until recently Ocean Spray hadn’t made the most of its better-for-you branding opportunity. Now all that is changing. Smart marketing, snack innovation and a distribution alliance with PepsiCo are breathing new life into their business.

Ocean Spray has built a business that is both thriving and capitalising on the nutritional heritage of the fruit. Cranberries have had a place on the American dinner table and in cultural lore since Native Americans presented them as gifts to European colonists in Massachusetts. They also showed the newcomers how to turn the tart berries into sweetened, edible preserves and sauces. Growers began cultivating the berries in the 1800s in Massachusetts, and now Wisconsin and a few other states are major growing areas as well.

The modern history of the cranberry has revolved around two major developments. The first is that Ocean Spray turned them into a value-added product instead of just selling them fresh. The cooperative – now owned by more than 800 cranberry growers – was founded in 1930 by just three growers. After a food-safety scare in 1959 that affected other brands of cranberry sauce, the co-op’s leadership decided to diversify its line and build a brand by focusing on year-round products. After nearly four years of development, in 1963 they introduced Cranberry Juice Cocktail – which popularised the cranberry and single-handedly built the co-op’s business and the brand. The company also began to sell cranberries and its components as ingredients in a wide variety of foods, including breakfast cereals, nutrition bars, dairy products, beverages and dietary supplements.

The other major development was that cranberry

growers, health professionals and American consumers finally began to appreciate the innate healthful properties of cranberries and cranberry juice. Consuming cranberry juice had long been established in American popular folklore as an effective way to fight urinary-tract infections (UTIs), which affect upwards of 30% of women at some point in their lives. Doctors had even taken to recommending that their patients regularly drink cranberry juice and eat crushed cranberries to decrease the risk and help alleviate the symptoms of these infections.

What was missing was scientific proof of the efficacy of cranberries in this area and an understanding of what made them work, even though Ocean Spray itself had invested resources over the years in understanding the scientific basis of cranberry nutrition and the berries’ medicinal value. But in 1994, the Journal of the American Medical Association published the results of a large-scale clinical trial conducted at Harvard Medical School, which indicated that regular consumption of Ocean Spray Cranberry Juice Cocktail reduced the incidence of bacteria in the urine of elderly women. The researchers speculated that the effect was due to something specific in cranberry that prevented bacteria from adhering to the urinary tract.

The study attracted widespread media attention, and sales of cranberry juice rose by 150% in the year after its publication. This development underscored the fact that scientific confirmation of the intrinsic health benefits of a natural product, and media amplification of the finding, can strike a chord with consumers. At the time, however, the mechanism for cranberries’ efficacy was not yet understood. But in 1998, researchers at Rutgers University identified proanthocyanidins (PACs) as the active components in cranberries responsible for maintaining urinary-tract health. The PACs prevent bacteria from adhering to the wall of the bladder or urinary tract and causing infection

– the bacteria are instead harmlessly flushed from the body.

Ocean Spray has made some strategic miscalculations during the past decades: First, for long, the brand continued to focus on taste and refreshment, with health very much a secondary selling proposition despite the great interest. That relatively passive approach to leveraging the widely accepted health benefits of cranberries proved to be a mistake, however, and there was something else that Ocean Spray missed around the same time. In the juice business, 100%-juice products were coming to the fore in the mid-90s as a better-for-you alternative to products like Ocean Spray's Cocktail, which included only a small portion of juice and were filled out with high-fructose corn syrup and water. Introducing 100% cranberry-juice products would have been a natural way for Ocean Spray to both tap into that trend and to continue to assert its virtual monopoly over everything cranberry.

At some point, if a brand is not nurtured, it can lose relevancy. Ocean Spray decided to refresh the brand by bringing in new management and by exploiting the healthfulness of cranberries. Ocean Spray began celebrating the fact that the PACs in cranberries seemed uniquely effective in their bacteria-cleansing properties. These unique properties were also used in marketing and transformed into a message that says 'cranberry juice cleanses and purifies'.

The other aspect of Ocean Spray's marketing fix was to infuse the brand with some excitement and fun, in addition to the health messaging – and layered over the fact that most consumers already gave the brand credit for being high-quality and tasteful. They built a marketing strategy on the magic of the cranberry bog and harvest. The brand also launched a new advertising campaign called "Straight from the Bog," featuring two actors standing up to their knees in the water.

And the co-op has continued to introduce new products to fill out its portfolio, as it has done with new flavours over the years. An example of a successful launch is Craisins, which is a snack product containing dried cranberries. Its sales is presented in Figure 23. The numbers say that this new overall strategy, combining a health appeal with more personable marketing, is beginning to gain awareness among American consumers.

Yet another accelerator that will begin working in Ocean Spray's favour is its new deal with PepsiCo. PepsiCo will distribute single-serve cranberry-juice products in the US and Canada, beginning in 2007. Ocean Spray's rejuvenation in North America has been accompanied by even greater sales momentum for its products, and those of other cranberry producers, in some international markets. As a result, Ocean Spray's international compound growth rate has averaged 15% a year for more than a decade. The UK is its largest international market.



Figure 23 Sales of Ocean Spray Craisins 2002-2007

Table 9 Superfruit analysis of cranberry⁸

Element	Explanation
1. Sensory	Cranberries are a very unappealing fruit in their whole fresh form but when processed into a juice or as a processed ingredient in other foods they have good sensory properties. Ocean Spray, the world's largest cranberry producer, has made it its strategy since the early 1960s to focus on producing beverages and other processed products. The core focus of its brand is "taste and refreshment" and as well as cranberry beverages the company introduces new blends and new flavour combinations with other fruit.
2. Novelty	Cranberry and cranberry drinks have long been established in the US and in this market "novelty" is not a driver. Cranberry is novel in markets other than the US – such as the UK, France and Australia – but Ocean Spray has not made novelty a plank of its marketing, unlike other superfruit companies, relying instead on the other Elements.
3. Convenience	Convenience is the key focus of Ocean Spray's strategy. It has always focused on processed convenient products, selling its drink since 1959. It has accelerated this focus in recent years, with great success. Examples are: 1. Craisins, a sweetened and dried cranberry snack product, which has soared to over \$69 million (€44.8million) in retail sales in 2007, just five years after launch. 2. Ocean Spray Ingredient Technology Group – a dedicated ingredients division which has developed cranberries as an ingredient in multiple forms including beverages, bars, breakfast cereals and dietary supplements. A highly successful business with over \$100million in sales, it grew sales of cranberry ingredients in France alone from zero to €12 million in the period 2004-2007.
4. Control of Supply	Ocean Spray is a cooperative controlling 80% of the North American market and 65% of the global supply of cranberries. It has a distribution partnership for its beverages with PepsiCo which also gives it a form of control of supply in the beverage market. It has exploited its dominant position increasingly well and it is unlikely to lose its dominance any time soon. Not all areas are suitable for growing cranberries. Setting up new cranberry bogs is highly capital intensive and requires significant expertise. Moreover, commercial yields are not achieved for seven years after planting.

⁸ Crawford, Karl and Mellentin, Julian (2008): Successful Superfruit Strategy: How to Build a Superfruit Business. New Nutrition Business. London, UK.

<p>5. Health benefit</p>	<p>Consuming cranberry juice had long been established in American popular folklore as an effective way to fight urinary-tract infections (UTIs), which affect upwards of 30% of women at some point in their lives. What was missing was scientific proof of the efficacy of cranberries in this regard and an understanding of what made it work and this began to come together from 1994, when the Journal of the American Medical Association published the results of a large-scale clinical trial conducted at Harvard Medical School. In 1998, researchers at Rutgers University identified proanthocyanidins (PACs) as the active components in cranberries responsible for maintaining urinary-tract health. Ocean Spray invests heavily in research into cranberries' health benefits, focusing on the specific variety grown by Ocean Spray (<i>Vaccinium macrocarpum</i>) and as this is the only variety which can claim health benefits this works with the company's control of supply to reinforce the strength of its position. Cranberries have a health claim approved in France – one of the most demanding regulatory regimes in the world – and this claim is expected to be approved EU-wide by 2010</p>
<p>6. Marketing the benefit</p>	<p>Originally focused only on PR and word of mouth for UTI benefit, the point of difference stood out less as health messages became more common in marketing, leading to a loss of sales for Ocean Spray. The company learnt from this that it had to invest heavily in marketing the health benefit if it was to clearly differentiate Ocean Spray cranberry as “the expert brand” in urinary tract health and grow its sales. “We’re going on strategic essence now: We taste good, and we’re good for you – and we’ll shout it from the rooftops,” according to Ken Romanzi, domestic chief operating officer for Ocean Spray. “We think we’ve hit on a message that works really well. And we’re not going to take our pedal off the metal.” Romanzi adds: “In marketing, you’ve got to have something that no one else has. So we took that truth and transformed it into a message that says ‘cranberry juice cleanses and purifies’. People don’t like to talk about disease. But everybody wants to cleanse and purify themselves, and that certainly fits in with the urinary-tract benefits.”</p>

12 Market potential for arctic berries

Put briefly, all market drivers are working in favour of arctic berries. Their success is up to the organizations involved, and how well they can capitalize on the market trends.

Why are arctic berries special? The most important factors are the following:

- Compared to other berries commercially available, the arctic berries grow uncultivated and wild. This is a point of DIFFERENTIATION that should be treasured.
- Their image on the market is related to trends of “all natural” and intrinsically healthy, which are the PROMINENT TRENDS on the nutrition market.
- The elements of “arctic” also bring to mind images of purity, wilderness; and cold, clean and special nature. In its own way, it represents to many the last wilderness of Europe. This proposes another point of DIFFERENTIATION.
- Arctic berries possess a wide range of potential HEALTH BENEFITS.
- They are restricted to certain growing areas (PROVENANCE is important) and the companies involved have possibilities to some extent CONTROL THE SUPPLY (challenges in organising the picking, vast geographical areas, seasonality, etc).
- Arctic berries are VERSATILE and can be applied in many different products.

Arctic berries are easily connected to the main trends on the market of nutrition and health globally. In addition they have many available points of differentiation. Thirdly, they are versatile, which means they are suitable for a wide range of product applications (which translates into many potential customers).

Just as other berries, arctic berries have many market opportunities. In the following, we group some of the major ones we have found during this market research. These opportunities are

- 5-a-day and other campaigns
- Superfruits
- Organic market
- Foodservice

5-A-DAY AND OTHER CAMPAIGNS

During the past years, particularly media and governmental agencies have worked on creating increased demand for fruit and berries through various 5-a-day communication campaigns. Five servings of fruits and vegetables a day is recommended to maintain a healthy diet. The berry industry has slowly picked up on this trend, converting the servings to amount of berries. Figure 24 presents an example of Angus Soft Fruits AVA marketing communication, where seven strawberries are claimed to equal one portion of the five-a-day.

Also arctic berry producers could capitalise more on the awareness these campaigns have created, particularly in EU countries. Berries are as known valuable sources of nutrition. The companies need to communicate the role of berries in health and also indicate the amount of berries needed in order to achieve the one a day fruit serving.

Connected to the above are the kids nutrition market and the roles of berries. Children should be encouraged to eat more berries. The channel to them is often through their mothers. They request solutions that are healthy, guilt-free and convenient. At the same time, the products need to be appealing to the children. The snacks market for children is constantly growing.

The screenshot shows the AVA website interface. At the top, there are navigation links: Home, Why AVA?, Nick Nairn, Where to buy, and AVA strawberry news. The main heading is 'AVA the strawberry with a heart'. Below this, there are sections for 'Recipes', 'Contact', and 'Playing the Game'. The 'Why AVA?' section is highlighted, featuring a 'Health' sub-section with the text: '7 x [strawberry icon] = 1 of your 5-a-day'. It explains that seven medium-sized strawberries (80g/3oz) are equivalent to one portion of '5-a-Day' fruit. A circular image of strawberries is shown to the right. At the bottom, there are buttons for 'Playing the Game' and 'Nutrition' with a 'play' button and a 'more' link.

Figure 24 Berries and '5-a-day'

SUPERFRUITS

As has been discussed earlier, superfruits is a promising concept also for arctic berries. The success factors are known, the challenge for the arctic berry suppliers is now to try to fulfil as many of the factors as possible. Table 10 summarizes the superfruit analysis of arctic berries.

Table 10 Superfruit analysis of arctic berries

ARCTIC BERRIES	
Sensory Appeal	Promising new product concepts have been launched, but further R&D input is needed to achieve products with good sensory appeal
Novelty	Arctic berries are a novelty to many international markets – however, PR and marketing input is needed in order to create awareness
Convenience	Some convenient applications are available, convenience should however be given further emphasise in the product development
Control of Supply	Controlled to some extent – are there other possibilities?
Health Benefit	Needs further scientific proof
Marketing	Marketing has been weak: needs to be consistent and focused

ORGANIC MARKET

Because arctic berries grow uncultivated, they can easily achieve organic certification. It seems that organic berries have not quite achieved momentum on the market, particularly in fresh produce. The reason is most likely that the large berry companies do not see organic berries as an attractive market – it is more a niche market. Even though organic berries as fresh do not propose a huge market opportunity – it does so in the processed markets. As shown in Figure 25, the market for organic produce is growing rapidly. Particularly on markets like the UK, the interest is massive. Some of the Asian markets are also showing expanded interest for organically produced berry products.

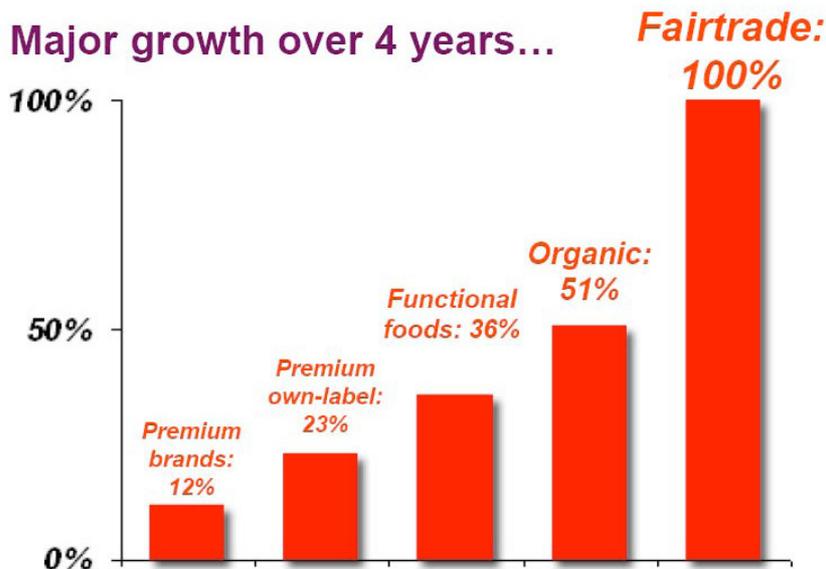


Figure 25 Market growth in the UK

FOODSERVICE

A market that is often overlooked by the industry is the foodservice sector. The berry sector is no exception. Much could be done in order to properly take advantage of the ongoing growth in the hotel, restaurant and catering sector.

The foodservice is a big business sector in Europe. It comprises 65 billion meals a year, 2,920,000 outlets (6 outlets per 1,000 people) and food and drink sales of 431 billion EUR at consumer prices. When looking at EU15, the food service expenditure per person is 815 EUR (all Europe is approximately 474 EUR). The top 5 European markets (Germany, France, UK, Italy and Spain) represents 77% of the total European market.

The drivers of growth on the market are the following:

- Growing consumer affluence
- Eating out has become entrenched within the modern lifestyle
- Choice of eating places continues to grow
- The sector has delivered value for money

The brakes on growth are related to the property market in some countries, labour

availability and poor management skills in the businesses.

This market is complex to its nature, but at the same time it provides a lot of opportunities and good margin potential.

Nigel Harris, manager of Fresh Produce, a large foodservice chain in Europe, comments on the situation of berries as follows: "Many people in the foodservice market would use more berries, but they need guidance and support in how they should be best used." His solution to the problem is to create marketing campaigns, which are visible to/targeted at the foodservice sector. The customers require education about the berries, their types, flavours, availability etc. In general, a more active approach from berry companies would most likely create more business in the foodservice sector.

The foodservice also has its own individual requirements that differ from retail. E.g. they require bulk – not individual packaging. The packaging should however enhance shelf life and be safe throughout the distribution. The products also need to be ready washed and prepared – ready for grab and go style convenience.

13 Key Lessons and Conclusions

The berry market rides the crest of a wave. Berries meet the many requirements of the market, like those related to health, taste, and convenience. There are good opportunities for further growth. Issues that seem to be increasingly important for consumers are packaging, provenance and health benefits.

A huge challenge for the berry companies is to better utilise the tools of marketing. Opportunities for market segmentation can be significant and should not be ignored or assumed. The more limited the marketing resources are, the more important it is to target them. Not to forget, consumer insight is an essential ingredient for successful product and market development.

This market research has presented an overall picture of the international berry markets. We have discussed the markets for healthy nutrition and their trends, as well as the position of berries on the markets. Through benchmark examples from the world, we have illustrated and analysed commercialisation and marketing strategies and highlighted market areas that can be exploited further.

Summarising the key learnings, the importance of allocating enough resources should be emphasised. Even though many berry companies are working in niche markets, they need to allocate enough resources for R&D, distribution and particularly marketing. A way forward is to collaborate with others, and jointly try to address some of the issues, like e.g. creating increased awareness and public interest for the chosen berries.

In marketing communications, the key to good messages is that they are consistent within markets and across borders, simple, easy to understand and relevant to consumers. Bilberry is

e.g. facing a great challenge of explaining the difference between blueberries and bilberries. Consumers are confused and suppliers use various names, which further contributes to the confusion. A good example is Japan, where blueberry has become the standard for eye health dietary supplements even though the ingredient used is bilberry. As a result, the sales of blueberries surge all over the world, while bilberry producers have not been able to protect their domain, nor capitalise fully on the opportunities.

Marketing communication is the tool for giving products an identity and differentiating it from competitors' brands.

Arctic berries have great potential to be positioned as superfruits. However, achieving a superfruit status does not happen automatically. It is a commercial strategy that requires planning, execution and a considerable amount of work and collaboration from the parties involved.

Positive media attention has been a key element in the rise of superfruits. Blueberries, for example, owe their success almost entirely to the fact that the media have reported the positive benefits of consuming blueberries again and again. The blueberry growing industry contributed nothing to this success, rather it was a reflection of the fact that the media is always looking for stories about food and health and it is culturally particularly receptive to stories about natural health benefits from natural foods. For would-be superfruit, this is a great advantage compared to many other food and beverage categories. Public relations (PR) is the most cost-effective communications technique available and intelligent use of PR has been important to the rise of some superfruit brands.

Positive media can create a “buzz” around a berry, which makes it more “cool” and desirable and creates a better halo for berry products to work within.

Sampling is another cost-effective technique for building a berry brand. As a senior executive of Danone said, speaking of his company’s functional mega-brand Actimel, “Advertising creates awareness, sampling creates purchase”. The best way to overcome consumers’ natural uncertainties is to let them taste the product. If it tastes good such sampling will convert into purchases.

Getting sufficient retail distribution – and distribution of the right kind – is important for the success of any consumer product. No-matter how good your product tastes, no-matter how attractive the packaging or the pricing, unless you can persuade a retailer to stock your product – and to give it shelf-space where consumers are likely to find it – your chances of success are close to zero.

However, getting mainstream supermarket retailers to give your brand shelfspace is becoming more and more difficult, especially for new companies. Existing brands and companies with existing retail relationships whose brands are making the retailers good volumes and margins – and ideally both – will at least get a hearing from the supermarket buyer. But persuading supermarket retailers to give hard fought-over shelf-space to a new brand is becoming ever more difficult.

Many, many successful health-oriented brands have begun life not in the supermarket but in the alternative distribution, like health food or

convenience stores where they have developed a loyal following. From health food stores these brands have graduated to a wider market through supermarket distribution.

If you are selling low volumes of a product with a high value – and particularly if the product does not need refrigerated distribution – direct-to-consumer becomes an option. One type of direct distribution is multi-level marketing (MLM). It is a very common distribution practice in the dietary supplement industry and it is very common in Asia and the US, less so in Europe. Billions of dollars of business is done through MLM. Direct selling has already become an important channel for superfruit drinks and no-one with ambitions in superfruit can afford to dismiss its potential as a route to market. By far the best example is XanGo mangosteen juice.

Companies working with berry-based ingredients and extracts face to some extent the challenges mentioned above. In a similar way, they need awareness and media attention in order to create buzz around their chosen berries. Their products need to be actively marketed as they are facing diverse and fierce competition from other solutions. In addition, the companies need to be able to show their customers the quality and technical properties of their products, their availability and secured supply. For many manufacturing customers, a main priority is that the raw material does not suffer from great fluctuations in terms of availability or price.

Through the help of well-formulated commercialisation and marketing strategies, berry companies have all the possibilities to tap into the great potential of the markets of all natural and intrinsically healthy.