



Dairy Ingredients Step Up to Growing Demands from Infants and Beyond - June 2014



Nutrition and health have been driving market forces for dairy ingredients since time immemorial. Consumers constantly look for new foods that deliver solid nutrition in order to fend off disease, maximize your abilities, alleviate abnormalities or just make you look good. As the dairy industry continually explores its role in nutrition the focus now includes the interaction of milk components with other food components as well as other factors that influence health, notably the probiotic bacteria.

One of the greatest challenges to survival lies in the ability to fend off microbial incursions. Furthermore, not only must we be able to repulse these attacks we must identify and select those microbes that are beneficial and then encourage their colonization in our gastrointestinal tract. Milk, evolving under this stress, delivers the specialized carbohydrates that while not digestible by the human are usable by the friendly bacteria and abhorrent to the harmful bacteria.

Milk evolved to deliver specialized nutritional advantages to a rapidly growing and developing mammal, thus, highly specialized proteins and lipids are included among its nutrients. These nutrients will guide the neurological development of the growing infant as well as nearly every other developing physiological system. Diverging a moment, the concept that these nutrients can find commercial application in mature and older populations has not been lost. With so many of our health problems stemming from grossly imbalanced diets, the inclusion of tailored dairy ingredients could have immense benefits and the science is not bearing this out.

As science learns ever more about the role of dairy components to health the consumer listens, the market grows. With pressure to market tailored products with biological activity the processing of milk ingredients grows complex. Biological activity tends to be sensitive to rough treatment e.g. pasteurization, drying etc. Proteins denature and lipids become oxidized etc. Thus, as milk is processed for applications in infant formula or other specialized applications attention in processing focuses so as to retain the desired biological activity of the dairy components.

The discussions during Infant Nutritional Panel at the 2014 ADPI/ABI Annual Conference started with an understanding of milk formulae differing among the various stages of human development e.g. infant to toddler. That begs the question as to the size of each market segment. That takes us to geographical demographics. With a 2012 global population of infants (zero to 12 months) residing around 126 million we find half living in the Asia Pacific region with the Middle East and Africa next at 31%. In order for these populations to take advantage of prepared infant formulae they must have appropriate disposable income. Therefore, disposable income becomes the greater driver for the infant formula market over birth rate. To no one's surprise, China then becomes the land of the infant formula gold rush. Also to no one's surprise, China, in the wake of toxic scandals, has faced monumental challenges in meeting this growing market domestically. Industries that can market product of impeccable quality will win the day. But not only quality, performance in meeting the needs of the infant also reigns on high. This implies strong research data to guide the formulations.

Babies grow up to be toddlers, adults, elite athletes etc. and pursue endless adventures in life. All have specific nutritional requirements to which milk components can contribute. Largely, our success in meeting these markets will hinge on scientific understanding of attributes of milk components i.e. international consensus on the science, and the ability to process so as to retain these attributes. The result will be continued market diversity. This is joy to the hearts of product developers and the sales team. The company that excels will reap the commercial benefits as they deliver the health impact to the consumers.

A word on regulatory – regulations tend to follow disasters or failures of some sort. Each market, each company has its own history. Constructive, respectful liaison between the regulatory authorities and the manufacturers so that each understands the concerns of the other will ultimately contribute to the health of the consumer which is everyone's objective.

In summary, solid basic science leads to product targets. Solid Food Science leads to the product chemistry and engineering and microbiology that can achieve the targets. It all requires significant investment. Conducted properly, in coordination with international scientific bodies as well as proprietary units, the basic science and product development can generate opportunities for marketers to identify specific segments that can greatly benefit through consumption of specific products. In the end, the world is a healthier place and a more peaceful place.

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