

# A Global Perspective on Dairy and Fortification

**E**ditor's Note: This Ingredient Technology Focus takes the form of an interview with Lekh Raj Juneja, v.p., Taiyo Kagaku, a leading Japanese food and nutraceutical company. His work focuses on nutritional and functional food materials that have various physiological and technological functions. He is based in Japan. The company's U.S. business, Taiyo International Inc., is based in Edina, Minn.

**Q:** How does the U.S. dairy industry differ from other developed countries?

**A:** Typically in Europe, Japan and other Asian countries, dairy product manufacturers include "dairy" or "milk" in their corporate name, clearly identifying themselves with dairy products. These companies, while generally producing only dairy products, tend to focus on all categories of dairy, including infant formulas and foods, yogurt, milk, cheese, ice cream and dairy beverages. Such focus often leads to a greater competitive atmosphere, and an eagerness to innovate and take greater risks, especially when it comes to health and fortification.

This is not the case in the United States. For example, pharmaceutical companies often handle the dairy-based infant formulas, while fluid processors handle milk and yogurt. Other manufacturers produce either ice cream or cheese exclusively.

**Q:** What are the greatest obstacles that the U.S. dairy industry faces regarding efforts to formulate and market functional foods?

**A:** The use of functional ingredients in the development of everyday foods is a relatively new trend in the United States, where people are more familiar with consuming functional ingredients in supplements such as tablets and capsules. Labeling regulations are another obstacle, because they restrict the use of functional ingredients and the claims that can be made. This limits the general familiarity by the consumer of such health benefits. Hopefully this will change in the next few years with FDA's recently announced changes in claim making.



**Q:** How can Taiyo assist with functional food product development?

**A:** The Fortification of foods with functional and nutritional ingredients is not an easy task. For example, when some vitamins, minerals and functional oils are added

■ Lekh Raj Juneja

■ Meiji Love milk is fortified, boosting iron levels from 0.2mg to 3.0mg iron and calcium from 227mg to 350mg per 200ml serving.



to foods they can exert a negative effect on the food's taste, color and stability. Sometimes the ingredients can precipitate out of solution, or have a negative effect on the gastrointestinal system.

Taiyo has developed a unique technology called "Super-Dispersion," which helps overcome some of these problems. One such ingredient, SunActive Fe, is a unique iron formulation that can disperse iron into liquid formulations without affecting the taste, color or stability of the product. Additionally, SunActive Fe was found to be three times more bioavailable as compared to its raw material ferric pyrophosphate in human bioavailability studies.

**Q:** As a global ingredient supplier, how do U.S. dairy manufacturers benefit from Taiyo's presence and activity in other countries?

**A:** To be frank, the U.S. dairy industry has been slower than most to utilize the complete benefits of our technology, possibly due to a more conservative approach to dairy products; however, we are starting to see a growing interest in innovative fortified products. With more than 150 scientists in Taiyo's R&D Center working on both product development and customer support, Taiyo is well poised to assist in the development and introduction of innovative nutritional and functional foods. I believe that the U.S dairy industry will dramatically change with its adoption of nutrient fortification in the coming years. There is an increase in sales of cultured dairy products such as yogurt and yogurt drinks in many countries including the United States due to consumers' focus on health promotion.

**Q:** Why are dairy products the ideal delivery vehicle for ingredients such as your SunActive Fe?

**A:** Milk and other dairy products are a part of the daily diet in almost all countries. Dairy products are also easily targeted for specific consumer audiences, such as females and infants, allowing for the delivery of category specific functional ingredients. Within the general food category, we feel that it is one of the best delivery vehicles. ■