

## **Iron and Zinc Fortification of dairy products**

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Globally, iron, iodine, folate, vitamin A and zinc are the most deficient micronutrients in the diet. Most susceptible populations for micronutrient deficiencies are children and pregnant women. Two of the most widely used approaches to fighting malnutrition, are food fortification and micronutrient supplementation. Currently, food fortification is the most promising and cost-effective strategy to reduce malnutrition on a global scale. Due to their popularity, dairy products can be the perfect vehicles for iron and zinc fortification programs. Milk and cheese are nutrient dense foods. Cheese is often the recommended meat alternative in school lunch programs and in vegetarian diets. However, milk, cheese and other dairy products are naturally low in iron and zinc. Iron and zinc are challenging micronutrients to add to dairy foods due to their potential to negatively affect their composition and organoleptic properties. Iron and zinc can further be challenging nutrients to add to milk and dairy foods due to their potential to displace other divalent cations in the milk systems. The goal of fortification is to increase nutritional content in a food product, without compromising other nutrients, and desirable sensory attributes. This project is focused on iron and zinc fortification of dairy foods; investigating the effect of microencapsulation technologies on product composition and quality, and sensory attributes. Selection of the fortificant chemical composition, particle size, levels used, and the point addition during processing are all important considerations when fortifying dairy foods, and will be investigated. Iron and zinc fortification may be a suitable way to enrich foods that are deficient in these nutrients.