

Improving Child Nutrition

... All Day Long

Child nutrition is in the global spotlight with concerns about kids' health and eating habits taking center stage. Part of the problem is providing children with food and beverages that are both convenient and nutritious. Children need specific nutrients to support healthy growth, and they need them in items that appeal to their tastes.

Protein is an essential nutrient children need every day. Depending on a child's activity level, protein should account for between 10 and 30 percent of daily caloric intake for boys and girls between the ages of 4 and 18.¹

Many foods can contain protein, but the amount and quality varies. Whey protein is a complete protein – it has all of the amino acids that humans need to stay healthy. Whey protein is a lean protein, so it's a high quality, low fat source of protein to help with better body composition.

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And whey protein contributes to satiety. Children can consume too many calories from foods and beverages with little nutritional benefit because they are trying to satisfy hunger. Foods that contain whey protein can help curb the hungry feeling that leads to overeating.

Sustained Source of Energy

Whey protein has a low glycemic load. Its lower glycemic response means whey protein does not cause a spike in blood sugar levels. This effect also mitigates the impact of carbohydrate on blood sugar. Consuming whey protein with a carbohydrate causes lower blood sugar than consuming a carbohydrate alone. For children, this means whey protein provides a more sustained source of energy. Research also suggests that components in whey protein stimulate the secretion of insulin, lowering blood sugar and helping to prevent symptoms of diabetes.²

Nutrition and Functionality

Whey protein offers much more than great nutrition. It is multifunctional and can reduce the need for emulsifiers, stabilizers or structure-forming ingredients. Whey protein can improve the appearance, flavor, texture and aroma of foods. In beverages, whey protein can be used to fortify juices and other drinks without causing sedimentation.

Clear beverages can fortify with whey protein isolate and maintain clarity.

Hilmar Ingredients' food scientists have developed formulations for a range of foods and beverages popular with children. We invite you to bring us your thoughts and challenges. Together we can improve child nutrition by providing healthy foods and beverages kids will enjoy at breakfast, lunch, dinner and snack time.

References:

1. <http://www.mayoclinic.com/health/nutrition-for-kids/nu00606> Dietary guidelines for Americans, 2005. U.S. Department of Health and Human Services. <http://www.health.gov/DietaryGuidelines/dga2005/document/default.htm>.
2. Frid, Anders H, et al. "Effect of Whey on Blood Glucose and Insulin Responses to Composite Breakfast and Lunch Meals in Type 2 Diabetic Subjects." *American Journal of Clinical Nutrition* 2005; 82:69-75



In addition to high-quality protein nutrition, whey proteins deliver critical functionality to popular foods and beverages.

- Acid beverages: *stable over pH range, clarity*
- Bakery products: *moistness, egg replacement*
- Confectionery: *emulsification, improve texture*
- Cultured dairy: *thickening, control syneresis*
- Ice cream: *freeze/thaw stable, gelation*
- Pizza and pasta: *reduce carbs, increase yield*
- Nutrition bars: *extend shelf-life, extrudeability*
- Ready meals: *emulsification, satiety*
- RTD beverages: *stable in all processing methods*
- Soups and sauces: *thickening, starch/gum alternative*
- Dressings and mayonnaise: *emulsification, egg replacement*



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