be leased, or can the product be co-packed elsewhere? Food safety and stability are also critical and must be addressed.

At the Viability stage, the question becomes: Should we make this? Can ingredients, packaging and the process be adjusted so the product’s viable cost meets the price point? In addition, can the product get from production to distribution to the consumer at the desired shelflife?

For example, in assessing the DFV Framework of a product such as Wella Chilled Organic Protein Bars (see sidebar “Eight Sweeteners, One Anti-Sweetener”), there are challenges in all aspects, including the target market, product texture and market competition. Is the product meeting consumer needs? Can the product be placed where they want or expect to find it? The refrigerated protein bars claim of “wild flower honey” listed on the front of the package may appeal to consumers who prefer high-end honey products.

Applying Framework balance is key. Take smart, early steps; “fail fast,” then adjust, suggests Mayer. Leverage partners to fill skill or resource gaps. The DFV Framework allows the product developer to look at things more objectively. Are the pieces balanced or is more emphasis placed in one direction more than another? Ultimately, consumers will decide what is desirable, but the product has to be feasible and the business must be viable to achieve success.

“An Innovative Approach to Sugar Reduction,” Susan Mayer, MS, CFS, Innovation Advisor with RTI International, Research Triangle, NC, susanmayer@rti.org

Polyols Properties, Trends and How to Label

“ Sugars can be classified as monosaccharides, disaccharides or mixtures, such as corn syrup. The key to using polyols for sugar reduction is to select a polyol with similar structure and functional properties as the sugar that you are replacing,” said Peter Jamieson, MSc, Principal and Food Scientist, Atlas Point Technical Services, in his presentation “On Trend Ingredients: Polyols Properties, Labeling & Emerging Ares of Interest.”

Sucrose is the gold standard, because it is the sweetener to which other sugars are most often compared. Sucrose has unique properties, including its sweetness profile, solubility, melting point characteristics and crystallization characteristics. “Trying to replace sucrose is challenging, but polyols or sugar alcohols work well,” said Jamieson.

Polyols are metabolized differently than traditional sugars and carbohydrates. They have a lower glycemic response, lower calories and are also non-cariogenic. Polyols also provide excellent bulk, whereas high-potency sweeteners do not, so polyols can typically be used as a one-for-one replacement for other sweeteners in traditional foods.

Glucose has a reactive aldehyde group. The polyol sorbitol is similar in structure, but the aldehyde has been replaced by a hydroxyl group. This change makes sorbitol no longer recognized as a sugar for nutrition labeling. Replacing traditional sweeteners with polyols can enable products to make nutritional claims, including “no sugar added,” “reduced sugar” or “sugar free.”

Monomers with a single carbohydrate unit (e.g., glucose and fructose) include sorbitol, mannitol, xylitol and erythritol. Dimers with two carbohydrate units (e.g., sucrose and maltose) include maltitol, lactitol and isomalt. Mixtures include maltitol syrup and polyglycitol syrups. Polyols with more than 50% maltitol are called “maltitol syrup” and function similar to low-DE corn syrups. Those with less than 50% maltitol are called “polyglycitol syrups” and function more like high-DE corn syrups.

Polyols are caloric sweeteners. For example, maltitol has 2.1 calories per gram. They are “carbohydrates,” but they are not rec-