



Phillip Tong

Opportunities Beyond Yogurt

Probiotics are defined as “live microorganisms which, when administered in adequate amounts, confer a beneficial health effect to the host.”

A joint working group of the Food and Agriculture Organization of the United Nations and the World Health Organization have established the following guidelines for the evaluation of probiotics:

- Probiotic must be identified at the genus, species and strain level, using appropriate molecular and physiological techniques.
- The strain should be deposited in an internationally recognized culture collection so that scientists are able to replicate published research on the strain.
- Appropriate in vitro and animal assessments must be conducted to better understand the physiological attributes of the strain. However, the choice of what assessments are used should be based on assessments that are relevant to the probiotic function in the target host. Care must be taken to not overextend conclusions from in vitro and animal tests that have not been validated and shown to have relevance in the target host.
- Before use, the safety of the microbe must be fully considered.
- Properly controlled studies must be conducted which document a health benefit in the target host.
- Ability to keep the probiotic alive at required levels in the final product through the end of shelf life.

The mention of probiotics immediately brings to mind for many of us yogurt because almost all yogurts are made with and usually contain viable yogurt starter microorganisms *L. bulgaricus* and *S. thermophilus* (unless the yogurt is thermally processed after fermentation).

While there is some debate as to whether these conventional yogurt starter microorganisms are probiotic,

they do improve lactose digestion. Additionally, many yogurt manufacturers have added *L. acidophilus* or other known probiotic strains during yogurt manufacture. Hence, individual cups of yogurt can be formulated to deliver the requisite probiotic strains in the requisite amount for health benefits.

Consumers understand that probiotics need good conditions to survive and that they don't live forever. When companies have tried to roll out non-dairy foods like corn flakes and other shelf-stable foods with probiotics, most of them have not lasted in the marketplace.

The dairy system for many reasons may be the ideal delivery system for probiotics (Marco and Sanders, 2010). Additional work going on throughout the world to better support such a statement is underway and will further compel consumers to seek out dairy as their probiotic delivery system of choice.

So, it is up to the dairy industry to fill the marketplace need with probiotic dairy foods. While I enjoy my yogurt, I'm like every other consumer – I seek variety and I have different eating occasion needs and wants. A six-pack of portion-delivered probiotics in six flavors of yogurt is great for breakfast or lunch a few times a week, but what about the rest of the week, dinner and snack time?

Dairy beverages, dairy desserts and other dairy foods may hold the answer. There is clearly growing interest in dairy-based smoothies containing probiotics. However, the only mainstream fluid milk product containing probiotics is sweet acidophilus milk and it is “marketed” in fairly nondescript quart and half-gallon containers. I'm really surprised that we have not seen fluid milk processors take advantage of growing interest in probiotics and the available technologies used (as in sweet acidophilus milk) to produce and market new lines of portion-controlled probiotic fluid milk products.

The frozen dairy foods industry (what some call the ice cream industry) has realized that novelties may provide them the appropriate product line to meet consumer needs for probiotics in this dairy category. In this industry, we have means by which fat and sugar levels have been successfully reduced without compromising on taste. We now can produce nutritious frozen dairy novelties that are a good fit to deliver probiotics.

So, how about our other healthy dairy foods and probiotics? Why not make cottage cheese, sour cream dips, buttermilk and other totally new dairy foods in portion-controlled containers with the requisite probiotics? Why not try marketing a “probiotic variety pack” of six different dairy foods for different eating occasions?

Through such innovative marketing approaches and product research, we can be sure that dairy will always own the probiotic franchise and rightly so.

To learn more...

Plan to attend the 2010 Joint Annual Meeting (ADSA, ASAS, PSA, CSAS, AMPA) to be held July 11-15 in Denver (<http://adsa.psa.ampa.csas.asas.org/meetings/2010>), where several symposia will help you to learn the latest on state of probiotics in dairy foods, human and animal health, and food safety.

To gain additional insight on market opportunities for dairy foods and probiotics, visit: <http://www.innovatewithdairy.com/SiteCollectionDocuments/G3ToolsforInnovIss2Vol2.pdf>

To get a great overview of all the issues, opportunities and considerations in using probiotics in foods products, visit www.usprobiotics.org. ■

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