National Yogurt Association

Position Statement on Probiotics

September 6, 2006

Background: Fermented foods, especially many that contain lactic acid bacteria, have historically been perceived as exerting beneficial effects on people who consume them. This belief continues to exist today, and the notion that foods containing "probiotics" can be healthful has gained increasing public attention. While scientists continue to study and debate the potential and demonstrated effects of probiotics, there is a renewed interest by regulators and industry members about the exact meaning of the term "probiotics."

Due to the increased attention regarding probiotics, NYA would like to establish a unified position regarding probiotics and the relationship between probiotics and yogurt. In addition, NYA anticipates receiving questions from the media and from industry members regarding the Association's position on probiotics and seeks to prepare to answer these questions. Therefore, this document sets forth NYA's current position regarding probiotics.

NYA Position:

1. What are "probiotics"? "Probiotics" are living microorganisms, which upon ingestion in sufficient numbers, exert health benefits beyond basic nutrition. This definition is based on several slightly different definitions of probiotics available from scientific consensus documents. For example, a probiotic has been defined as "a live microbial food ingredient that, when ingested in sufficient quantities, exerts health benefits."[1] Similarly, the Joint Food and Agriculture Organization/World Health Organization Working Group on drafting "Guidelines for the Evaluation of Probiotics in Food" has recommended that probiotics be defined as "live microorganisms which, when administered in adequate amounts, confer a health benefit on the host."[2]

2. Does yogurt contain "probiotics"? Yes, it has been demonstrated that the starter cultures (namely cultures *Lactobacillus delbrueckii* subspecies *bulgaricus* and *Streptococcus thermophilus*) found in live and active Yogurt at minimum provide a benefit for individuals who have a difficulty digesting lactose. The consensus on this point is exemplified by the recent inclusion of the following statement in the Dietary Guidelines for Americans - 2005 (page 28):

   > *"If a person wants to consider milk alternatives because of lactose intolerance, the most reliable and easiest ways to derive the health benefits associated with milk and milk product consumption is to choose alternatives within the milk food*

group, such as yogurt or lactose free milk, or to consume the enzyme lactase prior to the consumption of milk products."

In addition, some Yogurts contain, in addition to the starter cultures prescribed by the Standard of Identity, additional cultures that may also, on a case by case basis, qualify as "probiotics."

Additionally, a recent peer reviewed publication in the British Journal of Nutrition[3] included the following conclusion:

"The concept of 'probiotic' has evolved to a simple and straightforward notion: probiotics are 'live micro-organisms which when administered in adequate amounts confer a health benefit on the host'. Consumption of yoghurt has been shown to induce measurable health benefits linked to the presence of live bacteria, as compared with products with heat-killed bacteria. Thus, yoghurt starter cultures clearly fulfill the current concept of probiotics at least for its beneficial effect on lactose digestion in vivo."

Therefore, Live and Active Yogurt that contains the starter cultures *Lactobacillus delbrueckii* subspecies *bulgaricus* and *Streptococcus thermophilus* are "probiotic foods" as they provide a beneficial effect related to lactose digestion.

3. How specific are the effects of probiotics?

   Other than the previously mentioned benefit for lactose intolerant individuals, evidence suggests other benefits of probiotics are strain specific. This point was included in the following statement in the Joint FAO/WHO Working Group Report on Drafting Guidelines for the Evaluation of Probiotics in Food:

   "The current state of evidence suggests that probiotic effects are strain specific. Strain identity is important to link a strain to a specific health effect as well as to enable accurate surveillance and epidemiological studies. A possible exception is the ability in general of S. themophilus and L. delbrueckii ssp. bulgaricus to enhance lactose digestion in lactose intolerant individuals."

Explanation: NYA's probiotics definition has three important components. First, probiotics are living microorganisms. Examples of probiotics typically include bacterial cultures, such as *Lactobacilli* and bifidobacteria.

Second, probiotics exert an effect when ingested in sufficient numbers. Probiotics are often incorporated into fermented dairy food products. Probiotic cultures must be live, must be present in sufficient quantities in the food, must demonstrate non-pathogenic behavior, and must exhibit resistance to technological processes.

Finally, the effect of probiotics, when ingested in sufficient number, is to exert health benefits beyond basic nutrition. The benefits associated with probiotics must be established through adequate clinical trials reflective of the dose of probiotics present in the food at the time of consumption. Survival of probiotic bacteria through the digestive tract may be, in certain cases, important for regulating specific intestinal functions. Scientific research into the exact effects of various probiotics has been conducted and continues in many areas, including probiotics' improvement in lactose metabolism, potential effects on gastrointestinal ailments, anti-diarrheal effects, modulation of the immune system, helping with slow intestinal transit, antimicrobial properties, reduction in serum cholesterol, anti-mutagenic properties and anti-carcinogenic properties.

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[1] Ashwell M. Concepts of Functional Foods (ILSI Europe Concise Monograph Series Ed Walker, R) 2002. Available at: http://www.ilsina.org/file/ILSIFuncFoods.pdf.

[2] Joint FAO/WHO Working Group Report on Drafting Guidelines for the Evaluation of Probiotics in Food, London, Ontario, Canada, April 30 and May 1, 2002. Available at: ftp://ftp.fao.org/es/esn/food/wgreport2.pdf.

[3] Guarner F, Perdigon G, Corthier G, Salminen S, Koletzko B, Morelli L. "Should yoghurt cultures be considered probiotic?", Br J Nutr. 2005 Jun;93(6):783-6.