

Hot Topics

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STEVIA

Hot Topics are short, concise practice and science-based answers to current questions RDs and DTRs may receive. Hot Topics are not an ADA position or stance on a topic and does not reflect Association consensus on the issue. Rather, they provide expert opinion to an emerging area of food, nutrition and health. Hot Topics are meant to assist RDs and DTRs to answer questions from patients/clients and the media.

CLAIM OF TOPIC: Are stevia-based sweeteners a healthier alternative to other non-caloric sweeteners?

DISCUSSION OF TOPIC: Stevia (pronounced \•stē-vē-ə\), is a bush native to Central and South America. The Food and Drug Administration (FDA) has recently released a “no objection letter” to two companies that submitted FDA petitions to gain Generally Recognized as Safe (GRAS) status for 95 percent of higher purified Rebaudioside A (Reb A or rebiana) Extract. It is expected that other steviol glycosides will also submit petitions to FDA for GRAS status, expanding the non-nutritive sweetener market even further. Here are insights into the new stevia-based sweeteners and whether they could be considered a better option than the non-nutritive sweeteners currently available.

Safety: In December 2008, FDA granted GRAS status to highly purified Reb A. As part of the GRAS process, the FDA reviewed published and unpublished studies and concluded that, under the conditions of its intended use as a sweetener, it can be safely used as an ingredient in foods and beverages. Derived from the leaves of the Stevia rebaudiana Bertoni plant, Reb A is one of two main steviol glycosides. (The other is stevioside.) Both are 200-300 times sweeter than sugar and are calorie-free.

The safety of Rebaudioside A (and to a lesser extent, stevioside) for human consumption has been tested through peer-reviewed research, including metabolic and pharmacokinetic studies, general and multi-generational safety studies, including carcinogenicity studies; intake studies; and randomized, placebo-controlled human clinical trials. Studies with type 1 and 2 diabetics, as well as those with hypertension, have all shown no adverse effects with Reb A doses of approximately 4 to 15 mg/kg body weight per day. However, some consumer groups are calling for additional carcinogenicity and toxicology studies in a wider range of animal models other than rats and mice due to the possibility for potential DNA alterations and the metabolic and pharmacokinetic differences between humans and rodents. In June 2008, the World Health Organization’s Joint Expert Committee on Food Additives, a global panel of food ingredient safety experts, completed a multi-year review of the available scientific data on high purity stevia compounds and concluded that they are safe for use as general purpose sweeteners. **The Committee set a safe daily intake of 0-4 milligrams per kilogram of body weight as steviol glycosides.**

BOTTOM LINE: Studies have demonstrated, and FDA concurs, Reb A-based sweeteners are considered safe for consumption as a tabletop sweetener or an ingredient in foods and beverages. However, the studies supporting the highly purified compound Reb A should not be attributed to other stevia-derived sweeteners until approved by the FDA. At this time, no data exists that Reb A-based sweeteners offer a clinical advantage over any other non-nutritive sweeteners, although studies are ongoing to test whether there are natural plant compounds that offer some additional health benefits. While the sweeteners are marketed as “natural,” there is no official FDA definition of “natural.”

OPPORTUNITIES FOR THE REGISTERED DIETITIAN(RD)/DIETETIC TECHNICIAN REGISTERED (DTR): Stevia products are best used as replacements for calorie-containing sweeteners. RDs and DTRs can help educate consumers on the various issues related to new stevia-based sweeteners and products containing steviol glycosides so informed decisions can be made.

Resources/References:

-International Food Information Council. Stevia Sweeteners: Another Low-Calorie Option. *Food Insight*, May, 2009. www.ific.org/foodinsight/2009/may/steviafi509.cfm

-Kobylewski S, Eckhert C. Toxicology of Rebaudioside A: A Review. University of California, Los Angeles, 2008. -- http://www.cspinet.org/new/pdf/stevia-report_final-8-14-08.pdf

-U.S. Food and Drug Administration. Center for Food Safety and Applied Nutrition. Office of Food Additive Safety. Agency Response Letter GRAS Notice No. GRN 000253. December 17, 2008.

-World Health Organization. Safety evaluation of certain food additives/prepared by the sixty-ninth meeting of the Joint FAO/WHO Expert Committee on Food Additives (JECFA). World Health Organization, 2009.
http://whqlibdoc.who.int/publications/2009/9789241660600_eng.pdf

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