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Filed electronically at: www.health.gov/dietaryguidelines/dga2015/comments/writeComments.aspx
RE: **Comments on for consideration by the 2015 DGAC regarding Added Sugars Working Group**

Dear Dr. Olson and Ms. Tagtow:

The Grocery Manufacturers Association (GMA)[†] respectfully submits comments to the U.S. Department of Health and Human Services (DHHS) and the U.S. Department of Agriculture (USDA) for consideration by the 2015 Dietary Guidelines Advisory Committee (DGAC).

Dietary guidance recommendations intended to inform policy development and public health interventions must be based on the totality of available scientific evidence. GMA recommends that the 2015 DGAC apply an evidence-based review process for evaluating research concerning nutrient intakes and their relationship to health outcomes, such as obesity. As part of this process, stances of authoritative bodies such as the Institute of Medicine (IOM), as well as the best available evidence must be considered in the development of the Dietary Guidelines.

The following comments address the proposed definition of added sugars, the reduction in calories from added sugars, evidence under review for added sugars and body weight as well as added sugars and dental caries, and finally the need for consumer education related to added sugars. We ask that these comments be considered in the deliberations of the Added Sugars Working Group.

GMA Member Companies have concerns with the proposed definition of added sugars

It was noted during the Added Sugars Working Group presentation that the proposed FDA definition of added sugars is being used when conducting work. GMA member companies have concluded the use of this definition is premature as it has only been used in a proposed rule thus far and as such has not been finalized and is subject to change. Instead GMA members recommend the Added Sugars Working Group consult additional scientific bodies such as the IOM and European Food Safety Authority (EFSA).

GMA Member Companies applaud the DGAC for acknowledging the reduction in calories from added sugar that has occurred and offers additional research that reinforces this point

As noted by the members of the DGAC, consumers have reduced their intake of calories from added sugars. This is reinforced by Welsh et al who found energy intake from added sugars decreased from 18.1% in 1999-2000 to 14.6% in 2007-2008 across all age groups.¹ This reduction was attributed mainly to the reduction of sugars consumed in sodas. In addition, a decrease in the amount of calories available from sources of added sugars has also been shown to have decreased during this same time period from 421 kcal/d in 1999 to 378 kcal/d in 2008.²

GMA Member Companies recommend the Added Sugars Working Group consider additional research when examining added sugars and body weight

Recently research using ecological modeling has been undertaken to elucidate the possible relationship between the availability of calories from a single food/dietary source and obesity rates. Many studies and reports including the 2010 Dietary Guidelines Advisory Committee Report have shown that with respect to weight loss, reducing total caloric intake is essential and the source of calorie reduction is of secondary importance because excess energy in any food form will promote body fat accumulation.^{3,4,5,6}

¹ Welsh JA, Sharma AJ, Grellinger L, Vos MB. Consumption of added sugars is decreasing in the United States. *American Journal of Clinical Nutrition* 2011;94:726-734.

² ERS. Food Availability Data. Available at: [http://www.ers.usda.gov/data-products/food-availability-\(per-capita\)-data-system/.aspx](http://www.ers.usda.gov/data-products/food-availability-(per-capita)-data-system/.aspx)

³ Bray GA, et al. Effect of dietary protein content on weight gain, energy expenditure, and body composition during overeating: a randomized controlled trial. *The Journal of the American Medical Association* 2012;307(1):47-55.

⁴ de Souza RJ, et al. Effects of 4 weight-loss diets differing in fat, protein, and carbohydrate on fat mass, lean mass, visceral adipose tissue, and hepatic fat: results from the POUNDS LOST trial. *American Journal of Clinical Nutrition* 2012;95(3):614-625.

⁵ Hess J et al. The confusing world of dietary sugars: definitions, intakes, food sources, and international dietary recommendations. *Food & Function* 2012;3(5):477-486.

⁶ Lowndes J, Kawiecki D, Pardo S, Nguyen V, Melanson KJ, Yu Z, Rippe JM. The effects of four hypocaloric diets containing different levels of sucrose or high fructose corn syrup on weight loss and related parameters. *Nutrition Journal* 2010;11:55.

In regards to the scientific evidence base used to evaluate the relationship between sugars and body weight for the WHO “free sugar” dietary guideline, the interpretation of the WHO-commissioned systematic review and meta-analysis⁷ raises a number of concerns from a scientific perspective:

- The review confirms that any role of sugars on body weight results from its energy contribution to the diet overall and is not specific to sugars or “free sugars”. Many of the studies involved an explicitly counseled or mandatory consumption of an added energy load as sugars that was compared to a lower-energy or energy-free load. Thus, it is not clear if the treatments are testing consumption of sugars specifically or supplemental energy in general. It cannot be inferred on the basis of these studies that an increase in body weight is associated specifically with sugar intake as opposed to distorted energy balance.
- The studies included in the systematic review utilized differing criteria for defining “free sugars”. Additionally, the effect of “free sugars” on body weight was assessed without taking into account the effect of “total sugars” on body weight.
- There was no effect of sugar on measures of weight found in children based on the reviews of RCTs (randomized controlled trials) and only a small effect was found in cohort studies.
- There was no evidence of a dose-response relationship provided.

GMA Member Companies recommend the Added Sugars Working Group consider additional research when examining added sugars and dental caries

The development of dental caries is complex and multifactorial. It is dependent on the concurrent presence of oral bacteria and fermentable carbohydrates (sugars and some starches). It also is influenced by the susceptibility of the tooth, the bacterial profile, the quantity and quality of the saliva, and the time during which fermentable carbohydrates are in contact with bacteria.^{8,9} The available evidence suggests that the frequency of sugar consumption, the stickiness of the food, and the length of time between sugar intake and tooth brushing plays a bigger role in the development of tooth decay than the quantity of sugar.^{9,10}

⁷ Te Morenga L., Mallard S., Mann J. “Dietary sugars and body weight: Systematic review and meta-analyses of randomised controlled trials and cohort studies”. *British Journal of Medicine* 2013;346:e7492.

⁸ Institute of Medicine. *Dietary reference intakes for energy, carbohydrate, fiber, fat, fatty acids, cholesterol, protein, and amino acids*. Washington, DC: National Academy Press, 2002.

⁹ European Food Safety Authority (EFSA). *Scientific Opinion on Dietary Reference Values for carbohydrates and dietary fibre*. *EFSA Journal* March 2010;8(3):1462

¹⁰ Rugg-Gunn AJ. *Dental caries: Strategies to control this preventable disease*. *Acta Medica Academica* 2013;42(2):117-130

Given the scientific concerns noted below related to the WHO-commission systematic review and meta-analysis of the relationship between sugars and dental caries, as well as the inability of the IOM and the European Food Safety Authority (EFSA) to determine an upper limit recommendation of free sugar consumption related to dental caries, we reiterate our support of WHO's position on the need for scientific substantiation and continued stakeholder consultation before recommending a 5% limit for free sugar consumption.

- The authors of the WHO review noted that the relationship observed between free sugar intake and dental caries was based on evidence that was judged to be of very low quality.¹¹
- Aspects known to influence dental caries, in particular the frequency of consumption of fermentable carbohydrates, were not taken into account by the WHO review.
- Frequency of consuming sugar-containing foods (rather than total amount of sugar) is the primary dietary factor by which sugars contribute to risk of dental caries^{9,12} and sugar intake is strongly correlated with frequency of intake,¹⁰ thereby explaining what may be an apparent association between sugars and dental health upon which the threshold levels were based.
- The dental caries review cites only three studies from post-war Japan on children with low fluoride exposure as the basis for reductions to below 5% of total energy. The results from these studies did not show that caries dropped to zero. It is equally important to note that during this era, there was no fluoridated water, fluoride toothpaste, fluoride varnishes, or dental sealants. Thus, these comparisons are not appropriate for today's dental health environment, even with global considerations.¹³
- The outcomes of the studies included in the meta-analysis were indiscriminately extrapolated to adults exposed to fluoride. The development of dental caries is complex and multifactorial throughout life. As noted by the WHO, the average 12 year old has a low risk of caries; however, by the time they are in the 30's, they have a high level of caries in most of the world.¹⁴ This relationship is inverse to sugar consumption as children have reportedly higher sugar consumption than adults.¹⁵
- The IOM concluded that "dental caries is a disorder of multi-factorial causation" and that "because of the various factors that can contribute to dental caries, it is not possible to determine an intake level of sugar at which increased risk of dental caries can occur,"⁸

¹¹ Moynihan PJ, Kelly SA. Effect on caries of restricting sugars intake: Systematic review to inform WHO guidelines. *J. Dent. Res.* 2014;93(1):8-18

¹² Gustafsson BE, Quensel CE, Swender Lanke L, et al. The effect of different levels of carbohydrate intake on caries activity in 436 individuals observed for five years. *Acta Odontologica Scandinavica*, 1953;11(3-4):232-364.

¹³ Touger-Decker R, Van Loveren C. Sugars and dental caries. *American Journal of Clinical Nutrition* 2003;78(suppl):881S-892S.

¹⁴ WHO Oral Health Country/Area Profile Program. 2003. Available at: http://www.who.int/oral_health/media/en/orh_report03_en.pdf

¹⁵ National Health and Nutrition Examination Survey 2005-2008. Available at: http://www.cdc.gov/nchs/nhanes/nhanes_questionnaires.htm

- EFSA concluded that “...available data do not allow the setting of an UL for sugars on the basis of a risk reduction for dental caries, as caries development related to consumption of sucrose and other cariogenic carbohydrates does not depend only on the amount of sugar consumed, but it is also influenced by oral hygiene, exposure to fluoride, frequency of consumption, and various other factors. Evidence on the relationship of frequency of consumption of sugar-containing foods and dental caries should be considered when developing food-based dietary guidelines.”⁹

As the Added Sugars Working Group addresses the topic of low calorie sweeteners, GMA Member Companies ask that they consider the following information relative to this area of work

Low calorie and no calorie sweeteners have been recognized by scientific organizations such as the American Diabetes Association, American Heart Association and Academy of Nutrition and Dietetics as safe alternatives to other caloric sweeteners when consumed in recommended amounts. Additionally, low calorie and no calorie sweeteners have been identified as a potential aid in the decrease of total energy intake and for weight loss/weight control.^{16,17,18} Emerging research, reporting on the effect of low calorie sweeteners on gastrointestinal health, suggests a wide variety of results.^{19,20}

GMA member companies urge the Added Sugars Working Group to be cognizant of the need for consumer education on added sugars when developing their recommendations

As noted by the IFIC Foundation “consumer research is a critical first step in determining Americans’ understanding of nutrition information and examining how consumer knowledge, perceptions and attitudes may impact behavior”. Preliminary findings from the IFIC Foundation’s Consumer Research entitled “Consumer Investigations Into Nutrition Facts Panels and Sugars Labeling” found limited consumer understanding of what added sugars are as well as lack of clear understanding of the relationship between added sugars and calories.²¹ More consumer education is needed on the topic of

¹⁶ Gardner C, Wylie-Rosett J, Gidding SS, Steffen LM, Johnson RK, Reader D, Lichtenstein AH. Nonnutritive sweeteners: current use and health perspectives. A scientific statement from the American Heart Association and the American Diabetes Association. *Diabetes Care* 2012;35:1798-1808.

¹⁷ Academy of Nutrition and Dietetics. Position of the Academy of Nutrition and Dietetics: use of nutritive and nonnutritive sweeteners. *Journal of Academy of Nutrition and Dietetics* 2012;112:739-758.

¹⁸ Miller PE, Perez V. Low-calorie sweeteners and body weight composition: a meta-analysis of randomized controlled trials and prospective cohort studies. *American Journal of Clinical Nutrition* 2014;100:765-777.

¹⁹ Daly K, Darby AC, Hall N, Nau A, Bravo D, Shirazi-Beechey SP. Dietary supplementation with lactose or artificial sweetener enhances swine gut *Lactobacillus* population abundance. *British Journal of Nutrition* 2014;111:S30-S35.

²⁰ Suez J, Korem T, Zeevi D, Zilberman-Schapira G, Thaiss CA, Maza O, Israeli D, Zmora N, Gilad S, Weinberger A, Kuperman Y, Harmelin A, Kolodkin-Gal I, Sharpiro H, Halpern Z, Segal E, Elinav E. Artificial sweeteners induce glucose intolerance by altering the gut microbiota. *Nature* 2014;514:181-186.

²¹ IFIC Foundation. Consumer Investigation Into Nutrition Facts Panels and Sugars Labeling. Published July 29, 2014. Available at:

<http://www.foodinsight.org/sites/default/files/IFIC%20Foundation%20Preliminary%20NFP%20Survey%20Report%20072914.pdf>

added sugars. We ask the Added Sugars Working Group to be mindful of this need as they continue on in their work.

Thank you for the opportunity to provide comments. GMA looks forward to regularly participating in the 2015 DGA development process through written comments.

Sincerely,

A handwritten signature in black ink, appearing to read 'Leon Bruner', with a stylized flourish at the end.

Leon Bruner, DVM, PhD
Executive Vice President
for Scientific and Regulatory Affairs
and Chief Science Officer
Grocery Manufacturers Association

[†] Based in Washington, D.C., GMA is the voice of more than 300 leading food, beverage and consumer product companies that sustain and enhance the quality of life for hundreds of millions of people in the United States and around the globe. Founded in 1908, GMA is an active, vocal advocate for its member companies, and a trusted source of information about the industry and the products consumers rely on and enjoy every day. The association and its member companies are committed to meeting the needs of consumers through product innovation, responsible business practices and effective public policy solutions developed through a genuine partnership with policymakers and other stakeholders. In keeping with its founding principles, GMA helps its members produce safe products through a strong and ongoing commitment to scientific research, testing and evaluation and to providing consumers with the products, tools and information they need to achieve a healthy diet and an active lifestyle. The food, beverage and consumer packaged goods industry in the United States generates sales of \$2.1 trillion annually, employs 14 million workers and contributes \$1 trillion in added value to the economy every year.