

A Review of Food Reformulation of Sweetened Baked Goods to Reduce Added Sugar Intake

Authors : Xiao Luo, Jayashree Arcot, Timothy P. Gill, Jimmy C. Louie, Anna M. Rangan

Abstract : Excessive consumption of added sugar is negatively associated with many health outcomes such as lower diet quality, dental diseases and other non-communicable diseases. Sugar-sweetened baked goods are popular discretionary foods that contribute significant amounts of added sugar to people's diets worldwide. Food reformulation is of the most effective methods to reduce consumption of added sugar without significantly altering individual's diet pattern. However, sucrose, as the major sugar in baked goods, plays several vital functional roles such as providing sweetness and bulking, and suitable substitutes must be able to address these. The review examines the literature on sugar-reduced baked goods to summarise the feasible reformulations of low/no added sugar baked goods, and indicates the future directions for healthier baked goods reformulation. Based on this review, polyols and non-nutritive sweeteners (NNS) are suitable for alternative sweeteners to partially or fully replace sucrose in baked goods. Low-calorie carbohydrates such as oligofructose, polydextrose, maltodextrins are the mostly used bulking agents to compensate the loss of bulk due to the removal of sucrose. This review found that maltitol seems the most suitable sole sucrose substitution at present, while diverse mixtures of NNS(stevia, sucralose, acesulfame-K), other polyols and inulins can also deliver the functionalities of sucrose in baked products.

Keywords : alternative sweeteners, baked goods, reformulation, sugar reduction

Conference Title : ICFSN 2018 : International Conference on Food Science and Nutrition

Conference Location : London, United Kingdom

Conference Dates : June 28-29, 2018