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Objective: This study was designed to examine the effect of HAM-RS2 resistant starch on insulin sensitivity in women.
Methods: Participants were 40 healthy pre- and postmenopausal women. The study was conducted using a randomized, placebo-controlled, double-blind cross-over design. HAM-RS2 (HI-MAIZE®260 corn starch, Ingredion Incorporated, Bridgewater, NJ) was formulated into snack foods and tested at two doses, 15 and 30 g resistant starch per day. An isocaloric snack formulated with a highly-digestible waxy corn starch served as a control. Each arm was 4 weeks, with a 4-week wash-out period between. The main outcome was insulin sensitivity (S_I) assessed at the end of each arm by Minimal Model. Data were analyzed by mixed-effects modeling, adjusting for covariates.
Results: Two Gaussian distributions for S_I were identified, an insulin-resistant (IR) group (S_I<7.8), and an insulin-sensitive (IS) group ($S_I \geq 7.8$). Among IR participants, S_I was on average 16% higher after the 30 g supplement when compared to the control (P=0.02). No effect of HAM-RS2 on insulin sensitivity was observed among IS participants.
Conclusions: Among insulin-resistant women, consumption of 30 g/d HAM-RS2 improved insulin sensitivity by 16%. Because insulin resistance is a risk factor for diabetes, HAM-RS2 may be an appropriate dietary ingredient to reduce risk for diabetes in insulin-resistant women.
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Oral Abstract 8 – Linking microbial consumption of resistant starch to functional outcomes (Maria Marco, USA)

Intestinal microorganisms have important beneficial roles in the regulation of energy homeostasis, lipid and glucose metabolism, and the immune system. Conversely, a dysbiotic gut microbiota is associated with obesity, type 2 diabetes mellitus, and metabolic syndrome. Therefore, dietary approaches to modulate the composition and activities of the gut microbiota might be sufficient to protect and alleviate the symptoms against these chronic diseases. This presentation will describe recent highlights in the progress to unravel how dietary fermentable carbohydrates such as type 2 resistant starch (RS) improve metabolic health. Specifically, findings from human and murine studies will presented with regard to the specific bacterial groups enriched with RS consumption and the impact of RS on the intestinal and serum metabolomes and gene expression in the intestine as well as distal sites in the body.