

## **Effects of high-amylose maize starch on the glycemic index of Chinese steamed buns (CSB)**

### **ABSTRACT**

The incorporation of resistant starch (RS) in food has gained importance to be a good replacement for digestible carbohydrate. This study examined the effect of compositing RS (high-amylose maize starch (HM)) as wheat flour substitute (30%) in Chinese steamed bun (CSB) formulation on postprandial glycemic response in healthy human subject. In this single-blind and cross-over experimental trial, a total of 15 female participants (mean age =  $31.5 \pm 3.9$ ) were randomly assigned to receive CSB containing 30% HM (HM30) or control CSB (without HM) with their blood glucose were recorded throughout the test. The blood glucose concentrations recorded for HM30 were significantly lower than control CSB at 15 min (6.03 vs. 7.04 mmol/L,  $p = 0.041$ ), 30 min (6.93 vs. 7.76 mmol/L,  $p = 0.021$ ), 45 min (6.21 vs. 7.55 mmol/L,  $p = 0.032$ ), 60 min (5.68 vs. 6.26 mmol/L,  $p = 0.038$ ), and 90 min (5.08 vs. 5.73 mmol/L,  $p = 0.022$ ). The 2-h postprandial glucose was significantly lower in HM30 (iAUC = 105.2 mmol x min/L) than the control (186.1 mmol x min/L). The low GI property of HM30 (GI =  $39.11 \pm 5.6$ ) did not cause sudden rapid increase in blood glucose concentration as observed in medium-GI control CSB (GI =  $69.18 \pm 9.8$ ). This study suggests that adding 30g of HM decreased the glycemic index of CSB in healthy female adult.