

S5 – Persistence of plantain NSP within the gut

Heat sterilised fermentor medium¹ that contained no other carbohydrate source (pH 6.5) was dispensed in 7.5 ml volumes aseptically into CO₂ gassed Hungate tubes containing sterile amounts of pre-weighed soluble non-starch polysaccharide from plantain (0.0143±0.0003 g per tube). The tubes were inoculated with a 20 % fecal slurry prepared in anaerobic PBS buffer to a final concentration of 0.2 % feces. The fecal sample was provided by a 44 year old female consuming a westernized diet that had not consumed antibiotics or other drugs known to influence the composition of the intestinal microbiota in the previous six months. Following inoculation, replicate tubes were processed following 0 h and also 24 h incubations (at 37 °C) for short chain fatty acid (SCFA) concentrations. SCFA content of the samples was determined by capillary gas chromatography following conversion to *t*-butyldimethylsilyl derivatives². The lower limit for detection of each product was set at 0.2 mM. The proportion of substrate fermented by the mixed microbial community was determined by estimating carbon balances.

1. Macfarlane GT, Hay S, Gibson GR. Influence of mucin on glycosidase, protease and arylamidase activities of human gut bacteria grown in a 3-stage continuous culture system. *J Appl Bacteriol* 1989; 66: 407-417.
2. Richardson AJ, Calder AG, Stewart CS, Smith A. Simultaneous determination of volatile and non-volatile acidic fermentation products of anaerobes by capillary gas chromatography. *Letts Appl Microbiol* 1989; 9: 5-8.