

Report from the Satiety Project – December 2007

The satiety project took the form of a PhD project and a hard copy of the final thesis is held by AHDB in Stoneleigh. A paper was submitted by the author of the PhD to the British Journal of Nutrition which gives more details of one part of the project.

The PhD project is constituted of two main arms. The first one relies on studies based on traditional nutritional techniques whereas the later sought a more physiological approach. The study presented here belongs to the second arm. It looked at the consequences of three different diets on the glucose response and control.

Maintenance of blood glucose within normal limits is at the centre of primordial and complex homeostatic mechanisms. Abnormalities in blood glucose in the long-term lead to the development of diabetes. The concurrent epidemics of obesity and diabetes represent a major public health issue. The increasing trends in the prevalence of diabetes and related states mean that alternative and sustainable solutions need to be found. Treatments of both conditions are based on lifestyle and dietary changes and weight loss may be necessary to see an improvement in a patient's condition. Which weight loss strategy is the most appropriate?

This study compared a low-GI, a high-GI, and a high-protein diet followed for 24hrs by healthy male volunteers. The results showed that the glycaemic responses to the treatments differed. In some respects, the high-protein and low-GI diets were similar: they both exhibited smaller postprandial glycaemic responses and allowed a better glycaemic control. Moreover, under the high-protein conditions, the blood glucose levels were significantly decreased. The use of low-GI and high-protein or a combination may be recommended in prevention and treatment of pre-diabetes and diabetes. Further investigation is however needed to confirm these findings.

In conclusion, the study showed that the high-protein diet represented a potent alternative to the low-glycaemic index diet in the control of blood glucose.