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Soy foods have low glycemic and insulin response indices in normal weight subjects

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Abstract

Background

Foods with a low glycemic index (GI) may provide a variety of health benefits. The objective of the present study was to measure the GI and insulin index (II) of select soy foods.

Methods

The study was conducted in two parts with low-carbohydrate products being tested separately. In Experiment 1, subjects averaged 23.2 years of age with BMI = 22.0 kg/m^2, while subjects in Experiment 2 averaged 23.9 years of age with BMI = 21.6 kg/m^2. The reference (glucose) and test foods were served in portions containing 10 g of carbohydrates in Experiment 1 (two test foods) and 25 g of carbohydrates in Experiment 2 (four test foods). Subjects consumed the reference food twice and each test food once. For each test, subjects were instructed to consume a fixed portion of the reference food or test food together with 250 g of water within 12 min. Blood samples were collected before each test and at 15, 30, 45, 60, 90, and 120 min after consumption of reference or test foods to quantify glucose and insulin. Two-hour blood glucose and plasma insulin curves were constructed and areas under the curves were calculated. GI and II values for each subject and test food were calculated.

Results

In Experiment 1, both low-carbohydrate soy foods were shown to have significantly ($P < 0.05$) lower GI and II values than the reference food. In Experiment 2, three of the four test foods had significantly ($P < 0.05$) lower GI and II values than the reference food.

Conclusion

All but one of the soy foods tested had a low GI, suggesting that soy foods may be an appropriate part of diets intended to improve control of blood glucose and insulin levels.

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