

The influence of the subjects' training state on the glycemic index

Project: 345

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Objective:

To determine the glycemic index (GI) dependence on the training state of healthy adult males.

Subjects and design:

Young, adult males of normal body mass index and normal glucose tolerance were tested twice with a 50 g reference glucose solution and twice with a breakfast cereal containing 50 g of available carbohydrates in a randomized order. Ten subjects were sedentary (SE), 12 were moderately trained (MT) and 12 were endurance trained (ET). Blood glucose, insulin and glucagon were measured.

Results:

The GI differed significantly between SE and ET subjects ($P=0.02$, mean difference: 23 GI units, 95% CI=3–42 GI units). The GI of the MT subjects was intermediary, but did not differ significantly from the SE or ET subjects. The insulin index did not differ significantly between the groups ($P=0.65$).

Conclusion:

The GI of the commercially available breakfast cereal depended on the training state of the healthy males. The training state is the first reported factor influencing the GI that is subject specific rather than food specific.

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