Determination of the glycaemic index of novel foods

Science, Biology

GLAECEMIC INDEX By Location Introduction Glycemic index is a number between 50 and 100 that describes a measurement of carbohydrate foods and the effects that they have on the level of sugar in the blood. This analysis negates from previous methods of determination of blood sugar determination that counted total carbohydrate content of foods in their unconsumed states.

Starter reference 1

Studies have shown that the level of postprandial plasma glucose content determines diabetic outcomes. During the early stages of diabetes type 2, insulin release is compromised resulting in the development of hyperglycemia conditions postprandial. In the long term, this speeds up the development of the disease (Giugliano, Ceriello and Esposito 2008, n. p.). The condition of postprandial glycemia also results in the cells developing a resistance to the insulin. The strong evidence that links vascular complications to postprandial glycemic levels on the upper side also necessitates the control.

Starter reference 2

GI ratings rank foods as being high, medium, low or very low GI foods (Foster-Powell, Holt and Brand-Miller 2002, p. 10). This system involves providing an estimate of the sugar that will be available for absorption once the food is consumed. Assigning a GI to a food will enable control of postprandial glycemia that aides to avoid complications associated with different glycemic levels.

Starter reference 3

Low GI diets result in low postprandial glycemia. Increased postprandial

glycemic levels are associated with increased insulin resistance and reduced release (Shobana et al. 2012, p. 179). The high GI diet will also result in lower HDL cholesterol and increased LDL cholesterol. As such, it is necessary for diabetics to have low GI diet that facilitate lower postprandial glycemia that will improve insulin production and reduce its resistance. The result will manifest in the loss of weight as well as its maintenance that will improve insulin sensitivity, all of which are necessary for the care of diabetes (Marsh et al. 2011, p. 126). The diet will also result in the development of good lipid profiles that will prevent cardiovascular diseases associated with diabetics.

Starter reference 4

Novel foods have sugar and fatty acid contents that differ from traditionally grown foods. For example, in the western diet, in the last century, there has been the introduction of novel foods that contain a higher sugar to fiber ratio, which has meant that they have a higher GI than their traditional counterparts (Cordain et al. 2005, n. p.). This means consumption of the former with the thought that they are similar to the latter may be potentially dangerous especially to diabetics. As such, it is important to determine the GI of these foods before they are introduced to the market.

Bibliography

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