ABSTRACT

The Fiber Effect in Level of Reducing Sugar in White, Yellow, and Purple Sweet Potatoes Before and After Steaming

(An effort for searching a low glycemic-index alternative food for people with diabetes mellitus)

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Glycemic Index is a measurement for carbohydrates effect in blood sugar level. Concerning to glycemic index in food, especially in low glycemic index food is very important for people with diabetes mellitus. One of the low glycemic index food is sweet potatoes which have glycemic index 48. A content that affects the glycemic index is fiber level which can slow the decomposition of carbohydrates into reducing sugar during the steaming process. This study investigated the influence of fiber level to decrease of reducing sugar level from three varieties of sweet potatoes which are white, yellow, and purple sweet potatoes. Based on nutrition information, white sweet potatoes have more fiber level than the others in order to reduce a large level of reducing sugar which is contained in them. According to research which has been done, it proved that the fiber level in those three sweet potatoes affects the reducing sugar level. The result shows that white sweet potatoes have more fiber level than yellow and purple sweet potatoes, which are the fiber level for white sweet potatoes is 1.64%, while yellow sweet potatoes is 0.75%, and purple sweet potatoes is 0.23%. The measurement of reducing sugar level which used Luff Schoorl method was done before and after steaming process. The decrease of reducing sugar level showed that white sweet potatoes is the most of all. The differences in reducing sugar level before and after steaming process are 10.80% for white sweet potatoes, 9.49% for yellow sweet potatoes, and 3.67% for purple sweet potatoes. Indeed, the fiber level in sweet potatoes affects to the reducing sugar level during steaming process.

Keywords: white, yellow, and purple sweet potatoes, fiber content, reducing sugar, Luff Schoorl