

ABSTRACT

Glycemic Index Comparison of Instant Wheat (*Triticum Aestivum* L.) and Instant Oat (*Avena Sativa* L.) Cereals in Rabbit (*Oryctolagus cuniculus*)

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Data from IDF (International Diabetes Federation) said that Indonesia is the 4th largest in the prevalence of Diabetes Mellitus (DM) (Suharyanto, 2009). DM patient's blood sugar level can be controlled by making the organization and selection of the type of food, particularly low glycemic index dietary (Widowati, 2007). Glycemic Index value is influenced by some factors, including type of carbohydrate, food processing, particle size, and etc. This research aims to determine the alternative foods with low glycemic index. Nowadays, wheat and oat cereals are known as alternative foods with low glycemic index that safe for DM patient's, so that both of them became the samples of this research. Glycemic index of each foods was determined using rabbit (*Oryctolagus cuniculus*) and glucose with equal amount of 10 g in human as standard food. The carbohydrates content was measured as reducing sugar content. The result of reducing sugar determination using Luff-Schoorl method is 28,77% w/w for wheat cereal and 27,59% w/w for oat cereal. The fiber content determination were done using gravimetry, which result in higher fiber content in wheat cereal compared to oat cereal. Wheat cereal contains 2,44% w/w of fiber, whereas oat cereal contains 1,15% w/w of fiber. The amount of sample ingested in rabbits was based on the reducing sugar content. Plasma glucose concentration was determined using One Touch Ultra Glucometer every 0, 15, 30, 60, 90, and 120 minutes after sample intake. Wheat cereal has the glycemic index value of 51,87, while oat cereal 43,83. Both foods have low glycemic index, therefore, can be recommended as alternative foods for patients with DM.

Keywords : wheat, oat, reducing sugar content, Luff-Schoorl method, glycemic index