ABSTRACT

The purpose of this research is to make the synthesis of chitin from chitosan through shrimp shell waste as well as analyze the degree deasetilasinya. And to study the effect of chitosan with deacetylation degree of the greatest degree of adsorption of cholesterol in beef tallow. Shells of shrimp heads contain 20-30% compound chitin, 21% protein and 40-50% mineral. The benefits of chitosan is able to absorb the existing fat in cows that consumed more secure and free from the dangers of obesity.

Chitin-making process there are several processes, including the preparation stage, the stage of product manufacture, and product analysis phase. Preparation stage, ie wash shrimp shells. At the stage of product manufacture, ie, shrimp shells crushed and so has shrimp powder at 40 and 80 mesh. Chitin-making process is conducted at a temperature of 60-70 °C using NaOH. Then the mixture is filtered to retrieve separated by sediments. Later stages of sediment washing using distilled water until pH neutral. Afterwards is the removal of minerals by using HCl solution. Then filtered for sediment taken. Chitin deacetylation to chitosan. Chitin with 40 and 80 mesh size were produced in the above process included in the solution of NaOH with a concentration of 20% (by weight) at a temperature of 90-100 °C while stirring at a constant rate during 60 minutes and analizing degree of deacetylation using spectrofotometr FTIR.
Pharmacy laboratorium in Surabaya University. Cholesterol absorption phase was carried out by as much as 1 kg of fat / lard which comes from beef heated at fixed temperature 60oC to become as much liquid fat approximately 250 ml. Cholesterol absorption is then performed using chitosan. In this absorption of chitosan extracted by entering 1 dan 3 grams into a glass beaker containing liquid fat cow, kept stirred operating temperature 60 °C, absorption time was varied respectively 10 and 25 minutes, then made the screening process. The last stage of the analysis phase of the product. Filtrate of the extracted liquid beef tallow is taken for cholesterol content was analyzed by spectrophotometer.

From the experimental results that have been done derjat didaptikan deacetylation of chitosan on the addition of NaOH 20% with a size of 40 mesh and 80 mesh for 66.04% and 76.9%. The water content of 9.44 and 38.96. The process of fat absorption during the 10-minute optimum occurred at 80 mesh, the mesh size of 0.031 ml / ml. But overall fat absorption occurs at the optimum mesh size of 80 during 25 minutes of 0.072 ml / ml.

**Keyword : Chitosan, Beef Tallow, and Adsorption**