ABSTRACT

CHALIMATUS SYAKDIYAH. Effect of Using Vegetable Oil in $W_{1}/O/W_{2}$ Emulsion to Characteristics of Low-Fat White Cheese. Under direction of BUDI SETIAWAN and ANDI NUR ALAM SYAH

Cheese is one of dairy products that contain very high nutrition, including vitamins A, B and D, as well as a variety of important minerals for the body, such as phosphor and calcium. One form of alternative can be chosen in the manufacture of low fat cheese is to use vegetable oil emulsions as a substitute for animal fat in milk in the manufacture of low fat cheese. Vegetable oils used in this study were corn oil and MCT (Medium Chain Triglycerides) oil of VCO (Virgin Coconut Oil). The general objective of this study was to effect of using vegetable oil in $W_{1}/O/W_{2}$ emulsion to characteristics of low-fat white cheese, which includes the physico-chemical (ren demen, hardness, and softness, moisture content, protein content, fat content, content of calcium, and content of phosphor) and accepten capacity power of low-fat white cheese.

The research was conducted in February 2011 until July 2011. Stages of research start from the analysis of milk quality that made the analysis of fat content, emulsion manufacture, and manufacture of low-fat white cheese. Analysis of the yield range of low-fat white cheese showed that the treatment effect is significant ($p < 0.05$) on the yield of cheese. Analysis of the various levels of fat, protein, phosphor levels, calcium levels, the level of hardness and softness at the level of low-fat white cheese product showed no apparent effect ($p > 0.05$).

The using of corn oil and MCT in $W_{1}/O/W_{2}$ emulsions, for raw material in manufacture of low fat soft cheese can replace function of fat, because fat in food is generally in form of emulsions. Characteristics of low-fat white cheese showed that the variation of the treatment significantly affect cheese yield, and no real impact on water content, protein content, fat content, levels of phosphor, and calcium levels. This is because, emulsion is physically process binding between oil and water to create good characteristic. Results of organoleptic assessment of several parameters of low-fat white cheese showed that the panelists preferred “ordinary” of color, aroma, texture, taste, hardness, elasticity, and general acceptance (overall) reduced-fat white cheese. Panelists tend to give "ordinary value" of cheese organoleptic parameters.

Keyword: Cheese, vegetable oil, $W_{1}/O/W_{2}$ emulsions, low fat