PENINGKATAN KESTABILAN EMULSI SUSU PASTEURISASI DENGAN PENAMBAHAN KARAGINAN (KAJIAN JENIS DAN KONSENTRASI KARAGINAN)

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ABSTRAK
Milk contains fat, protein, lactosa and many kind of salt and vitamin. Handling and processing milk have aim to produce a ready to use products, make acceptable taste, extending storage time and support handling and distribution. One way we can use is pasteurization. According to Idris (1992), pasteurization is heat treatment with temperature below sterilization milk and generally under boiling temperature. The temperature is 73oC for 30 minutes or more quickly at 92oC for 15 seconds. In order to produce emulsion products the problems may occurs is unstable of emulsion system which can make emulsion system broken when handling and storage, so we need to adding stabilizer. In order to solve that problem, in this research was tried with adding carragenan, because carragenan has functions as stabilizer (balance regulator), thickener, gelling agent, emulsifier and so on. This characteristic useful in food industry, medicines, cosmetics, textile, paints, toothpaste and other industries. Carragenan widely use on milk base products because can form complex with milk calcium and milk protein.

Purpose of this research is to know the type of carragenan and the appropriate concentration level of carragenan on pasteurization milk. This research is composed in factorial, which is design by Group Random Design (RAK) with 2 factors. The 1st factor is type of carragenan (kappa and Iota) and the 2nd factor is carragenan concentration (0%; 0.01%; 0.02%; 0.03%; 0.04%) (b/v).

The result of this research show that there no interaction between type and concentration of carragenan to all pasteurization milk parameter that observated. Type of carragenan has effect on fat content, pH and protein content. Concentration level of carragenan has effect on emulsion stability, viscosity and total of solidity. The best treatment is obtained from kappa carragenan with concentration at 0.04% with the characteristics having 98.667 minutes of emulsion stability; 3.327% fat content; 14.607% total of solidity; 23.808 mg/ml reduction of sugar; pH 6.96; 23.248 mg/ml protein content; 11 cP of viscosity and 21,000 bacteria/ml.