

ABSTRACT

Coconut milk is one of the ten important exported organic agricultural products of Thailand (Press release THAIFEX-World of Food Asia, 2009). However, problems still arise among canned coconut milk products due to the instability of its emulsion. To delay creaming instability, the addition of mixing of xanthan:guar (0:100, 15:85, 50:50, 85:15, 100:0) at (0.05, 0.10 and 0.15wt%) has been used and investigated their effect onto stability of coconut milk emulsions. Fresh coconut milk ($32 \pm 1.59\%$ fat content) was purchased from local market and immediately preheated at 80°C before use. Stabilized coconut milks prepared by homogenized at 15,500 rpm for 2 min using rotor/stator homogenizer before adding xanthan gum/guar gum (Bronson and Jacobs International Co., Ltd.) and gently stirred for 15 min using magnetic stirrer. The rheological properties, coarse oil droplet size, particle size determination, and creaming index were determined for non-sterilized and sterilized coconut milk emulsions. From the results, increasing concentrations of xanthan gum/guar gum gave high viscosity, decreasing coarse oil droplet diameter (μm) which induced higher stability by delaying creaming index of coconut milk emulsions. It was also found in this experiment that creaming index (%) of mixing gum of 50:50 and 85:15 at 0.10% and 0.15% gave lowest creaming index at day 7. As well, for amplitude sweep and frequency sweep of mixing gum showed the solid-like property ($G' > G''$). After sterilization, the creaming index was unexpectedly lower than non-sterilized samples after stored for 7 days even if coarse oil droplet size of the sterilized samples were bigger than those of non-sterilized. The reason might be due to the bridging flocculation by xanthan gum/guar gum has been occurred and induced the stability in coconut milk emulsions.