

Suttida Sonthisawate 2014: Development of Khaomak Yogurt Ice Cream. Master of Science (Agro-Industrial Product Development), Major Field: Agro-Industrial Product Development, Department of Product Development. Thesis Advisor: Assistant Professor Walairut Chantarapanont, Ph.D. 144 pages.

The objective of this research was to develop Khaomak yogurt ice cream. According to the survey, the consumer preferred Khaomak yogurt ice cream which had less in alcohol's odor with smooth texture, sweet taste without fruit addition. From basic formular screening, Trt2 which consisted of 22.65% whipping cream, 20.95% sugar, 0.5% gelatin, 28.65% yogurt and 27.25% milk, had the highest liking score in color, odor, sweetness, flavor, smoothness and overall liking. Mixture design was used in Khaomak yogurt ice cream development with yogurt ice cream mix (60-80%), water (0-20%) and blended Khaomak (5-15%). There were 5 treatments of Khaomak yogurt ice cream. The results showed that the increasing of yogurt ice cream mix would increase the total soluble solid, the viscosity and %overrun ($p \leq 0.05$) but decrease melting rate. Treatments with high amount of blended Khaomak caused decreasing in L^* and increasing in a^* and b^* ($p \leq 0.05$). The increasing of yogurt ice cream affected the increasing of total acid and decreasing in pH ($p \leq 0.05$). For sensory evaluation by using 9-point hedonic scale with Just About Right test, the ratio of yogurt ice cream mix, water and blended Khaomak at ratio of 80:15:5 (tr1) obtained the highest liking score in all attributes including overall liking (7.1) with %just right were just right. After that, sizes and amount of Khaomak sap encapsulation bead, which produced from mixing Khaomak sap and water in 1:1 (v/v) with 1% of sodium alginate and dropped into 0.1M CaCl_2 solution, were studied at diameter 2.6 and 3.2 mm with amount of 1% and 2 %, consecutively. Results found that diameter 3.2 mm of bead with 2% amount received the highest score of overall liking (7.4) but the quantity of Khaomak encapsulation bead were less in JAR test, then the beads amount at 3% and 4% were then studied. It was found that the amount of bead with 4% had the highest score of overall liking (7.4) and % just right was higher than 80%. The consumer acceptance test of developed Khaomak yogurt ice cream obtained liking score at moderately like (7.3) and consumers rated with 87% acceptance and intention to buy 79%.

Student's signature

Thesis Advisor's signature