V. CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

First experiment was aimed to investigate the effects of flour type (pea flour, rice flour, mixture of rice flour and sticky rice flour at the ratio of 100:0, 97.5:2.5, 95:5, 92.5:7.5, 90:10) to the physicochemical properties of resulted cakes. Pea flour, rice flour, and sticky rice flour were different in the granular morphology and chemical composition involved moisture, ash, protein, crude fat, and amylose content, consequently different in the thermal and pasting properties. Mixing rice flour and sticky rice flour in such ratios markedly affected the apparent amylose content. Through ratios of rice flour and sticky rice flour, the higher sticky rice added, the lower the amylose content in the mixtures.

Pea cake, rice cake, and rice cake prepared from mixed rice flours showed significant difference in term of starch digestibility, textural and color properties. Pea cake possessed the highest amount of resistant starch. Through ratios or rice flour and sticky rice flour, increment of sticky rice portion lowered the resistant starch amount in the cakes. In term of main textural properties, highest value of hardness was obtained from pea cake, whereas highest value of adhesiveness was obtained from rice cake with the extreme addition of sticky rice flour (ratio of 90:10). As the portion of sticky rice flour increased in the cake, the hardness decreased, and conversely the adhesiveness increased. Pea cake and rice cake was significantly different in the color properties ($L^*, a^*, b^*$ values), however increasing addition of sticky rice flour to the rice flour in the cakes did not follow certain trend.

In the second experiment, effect of cold setting conditions (6h, room temperature; 6h, 4°C; 24h, 4°C) to the starch digestibility, textural and color properties of pea cake, rice cake, and rice cake (ratio of 90:10) were investigated. Results showed that longer storage at refrigeration temperature increased resistant starch amount in the rice cake and rice cake (ratio of 90:10), but not in pea cake. Both hardness and adhesiveness increased during cold setting for all samples. There was no certain trend of color properties through cold setting conditions, however it seemed, especially in pea cake, that $L^*$, $a^*$, $b^*$ values tended to decrease at longer storage due to retrogradation. Changes in the physicochemical properties and starch digestibility were mainly influenced by apparent amylose content.

5.2 RECOMMENDATIONS

Study on physicochemical properties and starch digestibility of starches are extremely numerous. However, little emphasis has been given to the specific-indigenous food product. Hence, such research should be carried out more intensive. Sensory evaluation should also be held considering the consumer acceptance. In addition, literatures stated that some relationships among starch properties remain unclear and are not well understood, thus further investigation on starch properties should be conducted more deeply.