

## Abstract

Color enhances the visual and supports humans' taste perception towards the food. Red color is strongly correlated with sweet taste and spicy sensation. From this experiment, the effect of different concentration to perceived sweetness and spicy sensation through indirect method were observed. Previous studies showed red intensity is directly proportional to the sweetness where the redder the color, the sweeter and the spicier it is. In this experiment, three concentrations (1.25%, 2.50%, and 5.00%) from three colorants (Merah Cabe, Merah Rose, and Merah Tua) were diluted in 40 ml water. In the questionnaire, 377 untrained panelists gave scores in a 9-point scale (1 = not sweet/spicy, 9 = very sweet/spicy) and rank (1 = the most intense, nine = the least intense) each of the solutions.  $L^*$ ,  $a^*$ , and  $b^*$  value of each samples were collected using a colorimeter. Result shows  $L^*$  decreases as the concentration increases and MR and MC,  $a^*$  decreases as the concentration increases. The highest perceived sweetness and spiciness is in MT 5.00%. The lowest perceived sweetness and spiciness is in MR 1.25%. However, There are no consistent patterns of increased taste perception in both sweet and spicy taste. This phenomenon also occurs in ranking tests. The change of saturation on food and drinks affect taste perception from the consumer. From this experiment, lighter samples are perceived to have more intense spiciness and sweetness. For sweetness perception in MC and MT, the increase of concentration is aligned with the perceived intensity. MT sweetness rank increases as the concentration increases contrast with spiciness rank. Further research should be conducted using trained panelists for more accurate results.