

Colour and volume development of cake baking and its influence on cake qualities

ABSTRACT

Baking is the last but most important step in cake making procedure because it involves moisture content, texture, browning and volume changes that are strongly coupled. The final bakery product properties are not only affected by the ingredients but also by processing conditions. Volume and browning changes were observed at three different temperatures, namely 160°C, 170°C, and 180°C, for different baking times namely 35, 40, 45, and 55 minutes, by using convection oven and its relationship with texture and water evaporation during baking process. The objective of this research is to investigate the effect and the relationship of different baking parameters to the cake qualities during baking process. The results show that the total colour difference, ΔE , and volume expansion rapidly changed due to the rise in temperature of cake and has a positive relationship with cakes' firmness and the moisture loss. The data also demonstrated that the browning and volume expansion were more significant to the baking temperature ($P < 0.001$) than baking times.

Keyword: Cake baking; Volume expansion; Browning surface; Texture; Moisture content