

PRODUCTION OF ORANGE FLAVOURED REDUCED-FAT MAYONNAISE

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ABSTRACT

The objective of this study was to develop orange flavoured reduced-fat mayonnaises by substituting fat in mayonnaise with fat replacers (MALTRIN[®] M040 maltodextrin or Simplesse[®] 100). Five mayonnaise formulations were produced containing different oil contents, amount and type of fat replacers and the addition of food gum and modified food starch. Developed mayonnaise samples were first evaluated in Quantitative Descriptive Analysis (QDA) which involved fourteen untrained panellists to study the effects of fat replacers toward sensory attributes of mayonnaise. Later, proximate, physical, rheological analysis and hedonic test were performed on chosen mayonnaise samples, RfM2 and RfS2 which exhibited the most similar sensory properties to full-fat mayonnaise. The results indicated that full-fat mayonnaise had significantly higher ($P \leq 0.05$) total fat and total solid content than both reduced-fat mayonnaises. RfS2 contained the highest protein and moisture content as compared to RfM2 and full-fat mayonnaise. Both reduced-fat mayonnaises exhibited lower viscosity than full-fat mayonnaise. Quantitative Descriptive Analysis showed that no significant difference ($P > 0.05$) in sourness, oiliness and viscosity attributes among mayonnaise samples except smoothness. Hedonic test demonstrated that RfS2 were more acceptable and RfM2 were less acceptable by the panellists when compared with commercial reduced-fat mayonnaise without flavour.

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