

# **DEVELOPMENT OF “KAYA” BY USING INULIN AS SUGAR REPLACER**

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## ABSTRACT

The aim of this research was to study the effects of inulin substitution towards physical, chemical, microbial and sensory properties of the "kaya". Control sample was developed, along with substitution of inulin at 10% (Formulation 1), 30% (Formulation 2) and 50% (Formulation 3). Quantitative Descriptive Analysis (QDA) from 11 trained panellists revealed that the percentage of inulin substitution was positively correlated with firmness, adhesiveness and spreadability properties of the "kaya". However, there was a decreased in the sweetness and smoothness score as the percentage of inulin incorporated into the "kaya" increases. Affective test was also conducted among 100 untrained panellists to evaluate the acceptance level of the formulated "kaya" in comparison with the commercial "kaya". Results showed that only F1 was well accepted among all the formulated "kaya" with rating above 6.0 (like slightly) while F2 and F3 received ratings lower than 6.0. Moreover, F1 was generally the most preferred in their overall sensory characteristics, followed by F2 and finally F3. Purchased intent has also revealed that the formulated "kaya" would probably have a marketability prospect. Both water activity,  $a_w$  and moisture content analyses of produced "kaya" showed no significant difference during storage for one month. However, the total soluble solids (TSS) values increased for all the samples after each week while the pH values drops after the third week from the production date of the "kaya". The results of ash analysis also reveal that F1 has a higher level of ash content compared to control. Besides that, chemical analyses of both control and F1 samples also revealed no significant difference ( $p>0.05$ ) in their protein and fat content however on the other hand, calcium level in F1 increased significantly with the addition of inulin. Finally, microbiological analysis revealed that the "kaya" samples were microbiologically stable for two weeks when stored at refrigerated temperature but was only stable for less than a week when stored at room temperature.

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