DEVELOPMENT OF STARCH-BASED IMITATION CHEESE SPREAD

by

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Sekian, terima kasih.

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DECLARATION BY AUTHOR

This dissertation is composed of my original work and contains no material previously published or written by another person except where due reference has been made in the text. The content of my dissertation is the result of work I have carried out since the commencement of my research project and does not include a substantial part of work that has been submitted to qualify for the award of any other degree or diploma in any university or other tertiary institution.

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LIST OF ABBREVIATION

Abbreviation	Caption
ANOVA	Analysis of Variance
AOAC	Association of Official Analytical Chemists
F1	Starch-based imitation cheese spread formulated with 0.0% of glycerol monostearate
F2	Starch-based imitation cheese spread formulated with 2.5% of glycerol monostearate
F3	Starch-based imitation cheese spread formulated with 5.0% of glycerol monostearate
F4	Starch-based imitation cheese spread formulated with 7.5% of glycerol monostearate
F5	Starch-based imitation cheese spread formulated with 10.0% of glycerol monostearate
g	gram
GMS	Glycerol monostearate
G′	storage modulus
G″	loss modulus
Hz	hertz
kg	kilogram
min	minute
mL	milliliter
mm	millimeter
mm/s	millimeters per second
PA	Commercial cheese spread product A
PB	Commercial cheese spread product B
Pa	Pascal
rpm	revolutions per minute
tan δ	loss tangent

PERKEMBANGAN KEJU TIRUAN MEREBAK BERASASKAN KANJI

ABSTRAK

Tujuan kajian ini adalah untuk menghasilkan keju tiruan merebak berasaskan kanji sebagai alternatif bagi menggantikan setara tenusunya. Kesan peratusan berat gliserol monostearat (GMS) yang berlainan (0.0%, 2.5%, 5.0%, 7.5% dan 10.0%) dalam keju tiruan merebak berasaskan kanji terhadap sifat fisiko-kimia dan reologi telah dikaji. Sampel yang dihasilkan telah diciri berdasarkan komposisi proksi, warna, pemisahan minyak, tingkah laku viskoelastik dan penyebaran. Perbezaan peratusan berat GMS dalam keju tiruan merebak berasaskan kanji mempunyai kesan yang signifikan ($p < 0.05$) terhadap kandungan kelembapan dan lemak dalam analisis proksi. Hasil kajian menunjukkan bahawa peningkatan jumlah GMS secara signifikan meningkatkan kecerahan dan penurunan kromatik keju tiruan merebak berasaskan kanji yang dihasilkan. Sampel yang mengandungi GMS didapati tetap stabil tanpa pemisahan minyak semasa penyimpanan. Selain itu, tingkah laku seperti pepejal dipaparkan oleh semua sampel kecuali sampel yang dirumus dengan 0.0% GMS. Penemuan menunjukkan bahawa kegunaan GMS mempunyai kesan langsung terhadap tingkah laku viskoelastik keju tiruan merebak berasaskan kanji. Dengan peningkatan peratusan berat GMS sehingga 10.0%, kedua-dua modul penyimpanan (G′) dan kerugian (G") meningkat secara signifikan. Peningkatan kandungan GMS menyebabkan penurunan signifikan ($p < 0.05$) dalam penyebaran keju tiruan merebak berasaskan kanji. Secara keseluruhan, keputusan mendedahkan bahawa mengubahsuai kandungan GMS sahaja tidak mencukupi untuk meniru sifat produk keju merebak berasaskan tenusu, oleh itu, kajian lebih lanjut mengenai faktor-faktor lain diperlukan.