



**DEVELOPMENT AND CHARACTERIZATION
OF YOGURT LIKE PROBIOTIC PRODUCT
FROM JACKFRUIT (*ARTOCARPUS
HETEROPHYLLUS*) SEED MILK**

by

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Sekian, terima kasih.

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LIST OF ABBREVIATIONS

Abbreviation	Caption
ANOVA	Analysis of Variance
AOAC	Association of Official Analytical Chemist
CFU	Colony Forming Unit
C100	Commercial yogurt with 0% jackfruit seed milk and soymilk
J100	Yogurt with 100% jackfruit seed milk
JS50	Yogurt with 50% jackfruit seed milk and 50% soymilk
MRS	deMan, Rogosa and Sharpe
rpm	Revolutions per minute
spp	Species
S100	Yogurt with 100% soymilk
SD	Standard Deviation
USDA	United States Department of Agriculture

**PERKEMBANGAN DAN PENCIRIAN YOGURT SEPERTI PRODUK
PROBIOTIK DARI SUSU BIJI NANGKA (*ARTOCARPUS
HETEROPHYLLUS*)**

ABSTRAK

Potensi mengubah sisa nangka (kulit dan biji) yang boleh menyebabkan pembuangan sampah yang serius termasuk masalah persekitaran, untuk menjadi produk yang lebih baik sedang dikaji kerana banyaknya pembuangan sisa nangka tersebut. Penggunaan biji nangka dan kacang soya sebagai bahan utama dalam pembuatan yogurt adalah satu pendekatan untuk memberi nilai tambah dan mengkomersialkan biji nangka. Pada mulanya, yogurt dengan nisbah susu yang berbeza dari kedua biji nangka dan susu soya disediakan berdasarkan nisbah tetap; 100% susu biji nangka (J100), 100% susu soya (S100) dan susu biji nangka 50% dengan susu soya 50% (JS50). Pengukuran fizikal dilakukan pada yogurt dari segi warna, kelikatan, sineresis, keasidan yang dapat dititrat dan pengukuran pH. Peningkatan peratusan susu biji nangka menunjukkan kesan yang signifikan terhadap sifat fizikal di mana nilai kelikatan meningkat, sementara sineresis menurun dan keasidan yang dapat dititrat menjadi yang paling rendah. Kiraan probiotik pada kepekatan susu biji nangka dan susu soya yang berbeza dalam yogurt tidak banyak berubah kerana penggunaan jumlah kultur pemula yang sama. Kepekatan susu biji nangka dan susu soya yang berbeza menunjukkan kesan yang signifikan terhadap anggaran abu, protein, lemak, dan karbohidrat. Yogurt yang diperbuat daripada sampel 100% susu soya menunjukkan warna yang lebih kuning sementara, sampel 100% susu biji nangka menghasilkan warna coklat muda berbanding dengan sampel yogurt yang lain. Oleh itu, dapat disimpulkan bahawa julat peratusan susu biji nangka dan susu soya yang berbeza dalam sampel yogurt mempengaruhi sifat fizikokimia (fizikal, mikrob, dan analisis proksimat) berbanding dengan yogurt komersial.

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ABSTRACT

The potential of converting the jackfruit wastes (peels and seeds) which may cause serious waste discarding including environmental problems, into an improved product is being studied due to an abundant amount of those inedible parts. Utilisation of jackfruit seeds and soybeans as the main ingredients for yogurt making is an approach to give added value and commercialising jackfruit seeds. Initially, yogurt with different ratio of milk from both jackfruit seed and soymilk were prepared based on the fixed ratio; 100% jackfruit seed milk (J100), 100% soymilk (S100) and 50% jackfruit seed milk with 50% soymilk (JS50). Physical measures were conducted on the developed yogurt in terms of colour, viscosity, syneresis, titratable acidity and pH measurement. An increase in the percentage of jackfruit seed milk shown significant impact on the physical properties whereby viscosity value increased, while syneresis was decreased and titratable acidity became the lowest. The probiotic count on different concentration of jackfruit seed milk and soymilk in the developed yogurt did not vary significantly due to the constant amount of starter culture used. Different concentration of jackfruit seed milk and soymilk in yogurt samples shown significant impact on the ash, protein, fat, and carbohydrate estimation. Developed yogurt from 100% soymilk showed more yellowish colour while, 100% jackfruit seeds milk develop a light brown colour compared to the other yogurt samples. Therefore, it can be concluded that the range of different percentage of both jackfruit seed milk and soymilk in the yogurt samples influenced the physicochemical properties (physical, microbial, and proximate analysis) compared to the commercial one.