

**DEVELOPMENT OF ROASTING TECHNIQUE AS POST HARVEST
PROCESSING IN CIANJUR CACAO BEANS**

By

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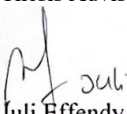
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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

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This study investigates the impact of steam pre-treatment and convection roasting parameters on the acidity of cacao nibs and the sensory acceptability of the resulting chocolate. The first objective was to assess whether steaming reduces acidity; the second was to determine optimal Air fryer roasting conditions. A total of 20 air-fryer conditions were tested. Titratable acidity and pH were measured on both steamed and unsteamed roasted nibs. Steaming significantly reduced acidity ($p = 0.0096$) and increased pH ($p = 0.0029$), confirming improved acid removal. The most preferred chocolates evaluated by 42 untrained panellists were produced from *unsteamed* nibs roasted at 140 °C (short time) and 110 °C (long time), both using air fryers. While steaming effectively lowered analytical acidity, it did not result in the highest overall sensory acceptability. Penalty analysis, conducted on roasted nibs, revealed that sweetness had the strongest positive influence on acceptability, while excessive bitterness and acidity significantly reduced it, and aroma had minimal impact. Overall, chocolate made from cacao beans roasted using air fryers was preferred over drum-roasted samples, highlighting Air fry roasting as a promising small-scale alternative that can produce chocolates with desirable sensory qualities. *Keywords: Steaming, Roasting, Air fryer, Chocolate sensory*



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DEDICATION

I dedicate this works for the future of the country I loved: Indonesia



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