

RESEARCH AND DEVELOPMENT

“Cowpea and Jack bean Tempeh”

(High in Protein, Calcium, Omega 6, and Carbohydrate content)



Arranged by:

Yohana Ditya Puspita (1674130010074)

OTTIMMO INTERATIONAL MASTERGOURMET ACADEMY

SURABAYA

2018

PREFACE

As a part of the Diploma Curriculum and in order to gain practical knowledge in the field of Culinary Art, we are required to make a Research and Development as Final Project. In this project report, we have included detail of ingredients, cooking methods, nutrition facts, marketing strategy, and also product calculation. Doing this project report helped us to enhance our knowledge regarding the work in to the attitude of consumer towards this new product, whether it can be acceptable or not. Finally, we would like to thank our lecturer for their help in supervise our product and making this report.

EXECUTIVE SUMMARY

Tempeh (tépé) is a traditional soy product originating from Indonesia. It is made by a nature culturing and controlled fermentation process that binds soybeans into a cake form. In Indonesia especially on Java island, tempeh is a staple source of protein. Like tofu, tempeh is made from soybeans, but it is a whole soybean product with different nutritional characteristics and textural qualities. Tempeh begins with whole soybeans, which are softened by soaking, and de-hulled, then partly cooked. A fermentation starter containing the spores of fungus *Rhizopus oligosporus* or *Rhizopus oryzae*. The strarter culture contains beneficial bacteria that produce vitamins such as B₁₂. Tempeh's fermentation process and its retention of the whole bean give it a higher content of protein, dietary fiber, and vitamins.

In this study, is aimed to make tempeh with a higher nutrition especially in the protein amount. The soybeans are changed with cowpeas and jack beans, which are qualified in legumes family. In the other hand, cowpeas and jack beans has a similar texture to soybeans. Cowpeas are high in protein contain, omega 3 fatty acids, iron. Also, jack beans are high in essentials amino acids, and fiber. This product is good on preventing cancer, cholesterol problems, and cardio vascular. Cowpeas and jack beans tempeh could be a better option for vegans.

LIST OF PICTURE

Picture 1. Cowpea	5
Picture 2. Cowpea seed.....	6
Picture 3. Jack bean seed.....	8
Picture 4. Fermentation starter.....	9
Picture 5. Distilled water.....	10
Picture 6. Banana leaf.....	10
Picture 7. Wooden spoon.....	11
Picture 8. Cheese cloth.....	11
Picture 9. Steamer.....	12
Picture 10. Strainer.....	12
Picture 11. Bowl.....	13
Picture 12. Stove.....	13
Picture 13. Soaked cowpea and jack bean	16
Picture 14. De-hulled cowpea.....	17
Picture 15. De-hulled jack bean.....	17
Picture 16. Steamed legumes.....	17
Picture 17. Cooled down legumes.....	18
Picture 18. Smearred tempeh with fermentation starter.....	19
Picture 19. Packed tempeh.....	19
Picture 20. Folding the banana leaf.....	20
Picture 21. Folding the banana leaf.....	20
Picture 22. Product.....	21
Picture 23. Nuttempeh logo.....	42

TABLE OF CONTENT

RESEARCH AND DEVELOPMENT.....	1
CHAPTER I (INTRODUCTION).....	2
CHAPTER II (PRODUCT DESCRIPTION).....	5
CHAPTER III (NUTRITION FACT).....	14
CHAPTER IV (STANDARD OPERATION PROGRAM).....	15
CHAPTER V (METHODOLOGY).....	16
CHAPTER VI (FOOD SAFETY).....	22
CHAPTER VII (BUSINESS ANALYSIS).....	27
CHAPTER VIII (MARKET ANALYSIS).....	30
CHAPTER IX (HUMAN RESOURCHE MANAGEMENT).....	33
CHAPTER X (PRODUCT CALCULATION).....	37
CHAPTER XI (MENU REVISION).....	40
CHAPTER XII (CONCLUSION)	42
CHAPTER XIII (REFERENCE).....	43

RESEARCH AND DEVELOPMENT

TEMPEH MADE FROM COWPEA AND JACK BEAN THAT
HIGH IN PROTEIN, OMEGA 6, CALCIUM AND
CARBOHYDRATES



Arranged by:

Yohana Ditya Puspita

1674130010074

OTTIMMO INTERNATIONAL MASTERGOURMET ACADEMY
SURABAYA
2018