

RESEARCH AND DEVELOPMENT FINAL PROJECT

“BROGET The Broccoli Stems for nugget”

(Broccoli Stems as the main ingredients for Brogget)



By :

Marcellino Leonardo Nyoto

1774130010053

STUDY PROGRAM OF CULINARY ART

OTTIMMO INTERNATIONAL

MASTER GOURMET ACADEMY

SURABAYA

2019

BROCCOLI STEMS FLOUR

(Broccoli Stems as The Main Ingredients for Broget - Broccoli Stems Nugget)

Arranged by:

Marcellino Leonardo Nyoto (1774130010053)

Surabaya, 6 Agustus 2019

Approved by:

Advisor,

Examiner I,

Examiner II,

Aprillia Nurchayaningsih

NIP. 199204081803042

Knowing,

Director of OTTIMMO
Art,

International Mastergourmet Academy,

Head of Study Program Culinary

OTTIMMO International

Mastergourmet Academy,

Zaldy Iskandar, B.SC.

NIP. 197310251201001

Irra ChrisyantiDewi, S.Pd.,M.S.M

NIP. 19781201170202

ii

ACKNOWLEDGEMENT

The basis for this research originally stemmed from my passion for developing new ingredients from unused food for better use so it can minimize food waste. In the most recent years, food waste has become a complex phenomenon attracting the attention of scientists, consumers and activists alike. It's been termed as a global paradox regarding

ii

the manner in which emphasis is put on agriculture to improve food security and then a third of all the food produced ends up as waste. This is according to FAO (Food and Agriculture Organization of the United Nations) report in 2013 indicating that the food waste globally sums to one-third of the total food produced for human consumption, about 1.6 billion tons a year. It is my passion to not only find out, but to develop ingredients to break down barriers of accessibility of reducing food waste.

The main purpose of this report is to help students in Ottimmo to be creative and innovative as we have to create a new recipe / a new product that never been made in Indonesia. As i've already explained earlier why I came up with the idea of making Broccoli Stems Nugget is because I want to minimize food waste and create healthy yet delicious food. Nuggets always have been my girlfriend favorite's since she was a little kid, so this new product that i made is dedicated for her love of nuggets since, plenty nuggets out there is unhealthy, especially the one that fast food restaurants sell. It's becoming my concern that my girlfriend keeps eating unhealthy nuggets. Making Broget has been a challenge which giving me joyful hearth and healthy option. It is such a self honour and pleasure to make this Broget.

In truth, I could not have achieved my current tasty Broget without a strong supports. First of all, I want to thank God for his blessings and guidance so that I can finish this Research and Development report. And secondly, my Advisors and lecturers, each of whom has provided patient advice and guidance throughout the research process. Thank you all for your unwavering support.

Lastly, in the process of completion of this report I have received much guidance and support. To that end, I would to express my sincere thanks to :

1. My parents who have supported and provided me to achieve good education and as a family role to help me personally.
2. My dearest girlfriend, Lisa who support and help me by a lot of guidance and suggestions.
3. Ms. Aprilia Nurcahyaningsih as my RnD mentor who has help and guided me until the completion of making this report.
4. Mrs. Nia Rochmawati, Ir. Thomas Indarto Putut Suseno . MP . , and Mrs. Yusi Erni Wulan for help me and guided me of making this report.
5. Mrs. IrraChrisyantiDewi as the Head of Study Program at Ottimmo International.
6. Mr. ZaldyIskandar as Director of Academy culinary dan Pastry of OTTIMMO International Surabaya.
7. My best friends, Jonathan and Roberto who help me through the process.

Surabaya, August 7th , 2019

Marcellino Leonardo Nyoto

PLAGIARISM STATEMENT

I certify that this assignment is on my own work. Based on my personal study and or research ad that I have acknowledged all material and sources used in its preparation, whether the be books, articles, reports, lecture notes, and any other kind of documents, electronic, or personal communication. I also certify that this assignment has not previously been submitted for assessment in any other unit, except where specific permission has been granted from all unit coordinators involved, or at any other

time in this unit, and that have not copied in part or whole or otherwise plagiarized the work of other students or person

On this statement I am already bear the risk or any sanctions imposed to me accordance with applicable regulations, if in the future there is a breach of scientific ethics or you have a claim against the authenticity of my work.

Surabaya, August 7th, 2019

EXECUTIVE SUMMARY

Broccoli is an edible green plant in the cabbage family whose large flowering head and stalk is eaten as a vegetable. All parts of broccoli are good for you. Since broccoli is one of the most nutritious vegetables, providing vitamin C (a day's worth in a cup, chopped), potassium, B vitamins (including folate)— even some calcium and iron. Ounce for ounce, the florets and stalks deliver equal amounts of these nutrients, according to the United States Department of Agriculture (USDA). Broccoli (like other

cruciferous vegetables) also contains *sulforaphane* and other compounds that may protect against certain cancers.

The part that is used is the stems, though not as colorful nor flavorful as their more desired florets, they are just as nutritious. Actually, gram for gram, the stems contain slightly more calcium, iron and Vitamin C. However, the florets, which are where the seeds and flowers develop, have a higher concentration of protective phytochemicals, notably beta carotene and other carotenoids as well as *sulforaphane* and Vitamin A. The stalks, on the other hand, have more fiber.

Many people, chefs and caterers among them, still discard the trunk and stalks. True, the outer skin can be fibrous and tough, but with just a little attention, the stem can be turned into something truly scrumptious. Broccoli stems are most often tossed in the garbage without any thought. The fluffy little florets, the buds at the top of the stalk that pick up texture and absorb flavors and seasoning beautifully get all of the love. But the stems can absolutely be eaten if you treat them right, and are completely delicious like the florets, but more mild and sweet.

Broget is a *lacto-ovo-vegetarian* nugget which uses Broccoli stems as main ingredients. The stems will be processed into flour and after that it will be processed into nuggets. The nugget itself is made from processed broccoli stems flour, broccoli stems, carrot, breadcrumbs, and eggs. Loaded with rich in essential vitamins and other healthy nutrition that our human body needs.

Keywords : Broget , Nugget , Broccoli Stems

TABLE OF CONTENT

COVER PAGE	i
SIGNATURE PAGE	ii
PREFACE	iii
PLAGIARISM STATEMENT	4
EXECUTIVE SUMMARY	5
TABLE OF CONTENT	6
LIST OF PICTURE	7

LIST OF TABLE9

CHAPTER-I INTRODUCTION

- 1.1 Background of Ingredients.....1
- 1.2 Objectives3

CHAPTER-II Ingredients and Utensils Overview

- 2.1 Description of The Material to be Used4
- 2.2 The Tools Used During The Processing9

CHAPTER-III New Product Processing Sequence

- 3.1 The Processing Product by Using Flowchart16
- 3.2 Complete Recipe Attached17

CHAPTER-IV New Product Overview

- 4.1 The Facts of Nutrition
 - 4.1.1 Ingredients nutrition facts18
 - 4.1.2 Nutrition Facts Calculation for Broget22

CHAPTER-V Business Plan

- 5.1 Identification of Investment Opportunities23
- 5.2 Marketing Aspect25
- 5.3 Technical Aspect26
- 5.4 Financial Aspect27

CHAPTER-VI Conclusion

- 6.1 Conclusion31
- 6.2 Suggestion31

REFERENCES32

APPENDIX

- 1. Packaging design and logo34
- 2. Supplier list35

LIST OF PICTURE

- Picture 1. Broccoli stems 4

Picture 2. Sugar	5
Picture 3. Salt & Pepper	5
Picture 4. Garlic	5
Picture 5. Eggs	6
Picture 6. Flour	6
Picture 7. Cheese	7
Picture 8. Carrots	7
Picture 9. Breadcrumbs	8
Picture 10. Leeks	8
Picture 11. Spoon	9
Picture 12. Knife	9
Picture 13. Digital scale	10
Picture 14. Frying pan	10
Picture 15. Bowl	11
Picture 16. Cutting board	11
Picture 17. Blender	12
Picture 18. Colander	12
Picture 19. Gas stove	13
Picture 20. Tupperware	14
Picture 21. Streamer	14
Picture 22. Tong	14
Picture 23. Strainer	15
Picture 24. Silicon spatula	15
Picture 25. Nutrition fact of stems	20
Picture 26. Nutrition fact carrot	20
Picture 27. Nutrition fact kraft cheese	21
Picture 28. Nutrition fact flour	21
Picture 29. Nutrition fact garlic	22
Picture 30. Nutrition fact egg	22

Picture 31. Nutrition fact breadcrumbs 23
Picture 32. Nutrition fact Broget 23
Picture 33. Packaging 34
Picture 34. Packaging paper 34
Picture 35. Logo 35

LIST OF TABLE

Table 1. Variable cost 27
Table 2. Overheard cost 28
Table 3. Fixed cost 29