

RESEARCH AND DEVELOPMENT FINAL PROJECT  
“FERMENTED BEET AND LEMON JUICE FOR HEALTHY  
DIGESTIVE SYSTEM AND HEALTH BOOST”



ARRANGED BY :  
YERIMIA LAYONO, S.E.  
1774130010062

STUDY PROGRAM OF CULINARY ART  
OTTIMMO INTERNATIONAL MASTERGOURMET ACADEMY  
SURABAYA  
2019

**RESEARCH AND DEVELOPMENT NEW PRODUCT**  
**FINAL REPORT**  
**“FERMENTED BEET AND LEMON JUICE FOR HEALTHY**  
**DIGESTIVE SYSTEM AND HEALTH BOOST”**

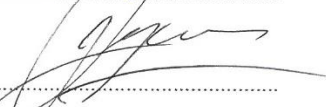
Arranged by :


**YERIMIA LAYONO, SE. (1774130010062)**

Approved by :

Irra Chrisyanti Dewi, S.Pd.,M.S.M ..... 

Dr. Ir. Fadjar Kurnia Hartati, M.P ..... 

Chef Ryan Yeremia Iskandar ..... 

Chef Kresna Bayu Pranata ..... 

Knowing

**Director of OTTIMMO**  
**International Mastergourmet Academy,**



**Zaldy Iskandar, B.Sc.**  
**NIP : 197310251201001**

**Head of Study Program Culinary Art,**  
**OTTIMMO International**  
**Mastergourmet Academy,**



**Irra Chrisyanti Dewi, S.Pd.,M.S.M**  
**NIP : 197812011702028**

## ACKNOWLEDGEMENT

Praise and thankfulness be offered to GOD for His mercy and blessings, so this paper can be completed as one of the tasks of the requirement to complete the Diploma III of Culinary Arts Program of ACADEMY CULINARY AND PÂTISSERIE OTTIMMO INTERNATIONAL.

This purpose of this paper is to help student to be creative and innovative, with the ever changing economic condition of the world so the student can make creative product that can be marketed on global market. As one of the reasons the author come up with this idea are for to creating healthier product that can be consumed on daily basis to improve health.

During the process in completing this paper, the author received so much guidance and support. With this, the author would like to express the gratitude to :

1. To parents, who have supported and provided me physically and spiritually.
2. Mr. Zaldy Iskandar as the Head Director of Ottimmo International
3. Ms. Yusi Erni as my Mentor who have helped me to finish this project.
4. Mrs. Irra Chrisyanti Dewi, S.Pd, M.S.M
5. All my friend
6. All staff of Ottimmo International

Surabaya, 02 September 2019



Yerimia Layono, S.E.

## PLAGIARISM STATEMENT

I certify that this assignment/report is my own work, based on my personal study and/or research and that I have acknowledged all material and sources used in its preparation, whether they be books, articles, reports, lecture notes, and any other kind of document, electronic or personal communication. I also certify that this assignment/report 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 I have not copied in part or whole or otherwise plagiarised the work of other students and/or persons.

On this statement, I am ready to bear the risk/any sanctions imposed to me in 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, 02 September 2019



Yerimia Layono, S.E.

## **EXECUTIVE SUMMARY**

Fermented Beet and Lemon Juice made from beet root and lemon juice then fermented in water for few days. It has a lot of benefit for health improvement, with high source of folate and manganese, beet root proven in reducing blood pressure, improving endurance exercise performance and also detoxing liver.

There are 4 steps process until finished product. First is preparation which sanitize all the tools with hot water, then cut the beet root and put it in sanitized jar and put water in with ratio 1:4. Step 2, fermenting process which last for 2-3 days until beet root extracted. Step 3, filtering which separate the juice from beet root then filter the juice from scum to have clean finished product. Step 4, maturing which put sugar to let the yeast improve the taste of the product.

Finished product will be packed in 1 liter food grade container, with the target market are people who health conscious and people who want natural medication.

Keywords : Fermented Drink, Beetroot, Lemon, Healthy digestive system, Health Booster.

# TABLE OF CONTENTS

<b>APPROVAL</b> .....	<b>Error! Bookmark not defined.</b>
<b>ACKNOWLEDGEMENT</b> .....	<b>Error! Bookmark not defined.</b>
<b>PLAGIARISM STATEMENT</b> .....	<b>Error! Bookmark not defined.</b>
<b>EXECUTIVE SUMMARY</b> .....	<b>v</b>
<b>TABLE OF CONTENTS</b> .....	<b>1</b>
<b>LIST OF FIGURE</b> .....	<b>3</b>
<b>LIST OF TABLES</b> .....	<b>4</b>
<b>CHAPTER I INTRODUCTION</b> .....	<b>5</b>
<b>1.1. Background of Ingredients</b> .....	<b>5</b>
<b>1.2. Reason for Selection of Ingredients</b> .....	<b>6</b>
<b>1.3. The Main Material Processing Reason</b> .....	<b>6</b>
<b>1.4. The Content of Nutrients and Health Benefit</b> .....	<b>7</b>
1.4.1. Nutritional Value of Beetroot .....	<b>7</b>
1.4.2. Health Benefit.....	<b>7</b>
<b>CHAPTER II INGREDIENTS AND UTENSILS OVERVIEW</b> .....	<b>9</b>
<b>2.1. Description of The Material to be Used</b> .....	<b>9</b>
2.1.1. Beetroot .....	<b>9</b>
2.1.2. Lemon .....	<b>9</b>
2.1.3. Water .....	<b>10</b>
2.1.4. Salt .....	<b>10</b>
2.1.5. Simple Syrup .....	<b>11</b>
<b>2.2. The Tools Used During The Processing</b> .....	<b>11</b>
2.2.1. Kitchen Knife .....	<b>11</b>
2.2.2. Cutting Board .....	<b>12</b>
2.2.3. Jar with airlock .....	<b>12</b>
2.2.4. Strainer .....	<b>13</b>
2.2.5. Bowl.....	<b>14</b>
2.2.6. Funnel.....	<b>14</b>

2.2.7. Fermenting Gallon / Bucket .....	15
<b>CHAPTER III NEW PRODUCT PROCESSING SEQUENCE .....</b>	<b>16</b>
<b>3.1. The Processing Product by Using Flowchart .....</b>	<b>16</b>
<b>3.2. Complete Recipe Attached .....</b>	<b>18</b>
<b>CHAPTER IV NEW PRODUCT OVERVIEW .....</b>	<b>19</b>
<b>4.1. The Facts of Nutrition.....</b>	<b>19</b>
4.1.1. Raw Beetroot .....	19
4.1.2. Final Product .....	20
<b>4.2. New Product Characteristic .....</b>	<b>20</b>
<b>CHAPTER V BUSINESS PLAN .....</b>	<b>21</b>
<b>5.1. Identification of Investment Opportunities – SWOT Analysis.....</b>	<b>21</b>
<b>5.2. Marketing Aspect.....</b>	<b>22</b>
<b>5.3. Technical Aspect .....</b>	<b>22</b>
<b>5.4. Financial Aspect.....</b>	<b>23</b>
5.4.1. Variable Cost .....	23
5.4.2. Fixed Cost .....	24
5.4.3. Overhead Cost .....	24
5.4.4. Sales and Profit .....	25
<b>CHAPTER VI .....</b>	<b>26</b>
<b>CONCLUSION .....</b>	<b>26</b>
<b>6.1. Conclusion .....</b>	<b>26</b>
<b>6.2. Suggestion .....</b>	<b>26</b>
<b>BIBLIOGRAPHY .....</b>	<b>27</b>
<b>APPENDIX .....</b>	<b>28</b>
1. Packaging Design .....	28
2. Logo Product.....	29

## LIST OF FIGURE

Figure 1. Beetroot .....	9
Figure 2. Lemon.....	10
Figure 3. Water .....	10
Figure 4. Salt.....	10
Figure 5. Simple Syrup.....	11
Figure 6. Kitchen Knife.....	11
Figure 7. Cutting Board.....	12
Figure 8. Airlock Glass Jar .....	12
Figure 9. Glass Jar with airlock for fermentation .....	13
Figure 10. Strainer .....	13
Figure 11. Stainless Steel Bowl .....	14
Figure 12. Funnel.....	14
Figure 13. Fermenting Bucket with airlock and airlock and spigot.....	15
Figure 14. Production Process Flowchart.....	16
Figure 15. Cutted Beetroot .....	17
Figure 16. Fermenting Process .....	17
Figure 17. Nutritional Value of Beetroot .....	19
Figure 18. SWOT Analysis .....	21
Figure 19. Final Product (Back).....	28
Figure 20. Final Product (Front) .....	28
Figure 21. Sticker Logo Front .....	29
Figure 22. Sticker Logo Back.....	29



## LIST OF TABLES

Table 1. Recipe .....	18
Table 2. Nutritional Value of Final Product .....	20
Table 3. Variable Cost.....	23
Table 4. Fixed Cost .....	24
Table 5. Overhead Cost .....	24
Table 6. Sales and Profit.....	25