GLOSSARY

ANOVA	: Analysis of Variance
BPOM	: *Badan Pengawas Obat dan Makanan*
BPOM RI MD	: *BPOM Republik Indonesia - Merek Dalam*
BSN	: *Badan Standardisasi Nasional*
CFU	: Colony Forming Unit
CPP	: Cast Polypropylene
CRD	: Completely Randomized Design
CV	: *Commanditaire Vennootschap*
FFA	: Free Fatty Acids
FGD	: Focus Group Discussion
GMP	: Good Manufacturing Practices
HDPE	: High Density Polyethylene
ISO	: International Organisation for Standardisation
PA	: Polyamide
PCA	: Plate Count Agar
PEF	: Pulsed Electric Field
PIRT	: *Produk Industri Rumah Tangga*
PP	: Polypropylene
PT	: *Perseroan Terbatas*
R5	: Sample of Retort Sterilisation for 5 Minutes
R15	: Sample of Retort Sterilisation for 15 Minutes
R25	: Sample of Retort Sterilisation for 25 Minutes
S5	: Sample of Steam Heating for 5 Minutes
S15	: Sample of Steam Heating for 15 Minutes
S25	: Sample of Steam Heating for 25 Minutes
SNI	: *Standar Nasional Indonesia*
TBA	: Thiobarbituric Acid
TPC	: Total Plate Count

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APPENDICES

Appendix A: Colourimetry Results and Analysis

- Control

Batch	*L	*a	*b
1	62.02	4.91	27.59
2	58.17	5.27	20.55
3	59.11	5.44	22.78
4	64.65	5.10	27.55
Average	60.99	5.18	24.62
Standard Deviation	2.94	0.23	3.53

- R15

Batch	*L	*a	*b
1	54.46	6.07	15.77
2	52.22	4.41	11.33
3	62.98	7.20	26.27
4	55.16	6.52	17.12
5	58.83	7.04	21.44
6	61.88	7.8	26.59
7	62.34	8.16	27.2
Average	58.27	6.74	20.82
Standard Deviation	4.34	1.25	6.24

- t-Test: Two-Sample Assuming Equal Variances for *L Value (Control & R15)

	**L-Control*	**L-R15*	
Mean	60.99	58.27	
Variance	8.6478	18.8142	
Observations	4	7	
Pooled Variance	13.7309910		
Hypothesised Mean Difference	7		
Significance level, α	0		
df	0.05		
t Stat	9		
P(T<=t) one-tail	1.1713		
t Critical one-tail	0.1358		
P(T<=t) two-tail	1.8331	**CONCLUSION:**	
t Critical two-tail	**0.2716**	**NO SIGNIFICANT**	
	2.2622	**DIFFERENT**	

- t-Test: Two-Sample Assuming Equal Variances for *a Value (Control & R15)

	**a-Control*	**a-R15*	
Mean	5.18	6.64	
Variance	0.0517	1.3816	
Observations	4	7	
Pooled Variance	0.71665		
Hypothesised Mean Difference	0		
Significance level, α	0.05		
df	9		
t Stat	-2.7516		
P(T<=t) one-tail	0.0112		
t Critical one-tail	1.8331	**CONCLUSION:**	
P(T<=t) two-tail	**0.0224**	**SIGNIFICANT**	
t Critical two-tail	2.2622	**DIFFERENT**	

- t-Test: Two-Sample Assuming Equal Variances for *b Value (Control & R15)

	**b-Control*	**b-R15*	
Mean	24.62	20.79	
Variance	12.4521	38.5111	
Observations	4	7	
	25.4816029		
Pooled Variance	8		
Hypothesised Mean Difference	0		
Significance level, α	0.05		
df	9		
t Stat	1.2093		
P(T<=t) one-tail	0.1287		
t Critical one-tail	1.8331	**CONCLUSION:**	
P(T<=t) two-tail	**0.2574**	**NO SIGNIFICANT**	
t Critical two-tail	2.2622	**DIFFERENT**	

- One Sample t-test for *L Value (R15)

Significance level, α	:	0.05
Sample Size	:	7
Sample Mean	:	58.27
Sample Standard Deviation	:	4.34
Sample Standard Error	:	1.64
Hypothesized mean	:	60.9875
t stat	:	1.66
df	:	6
P(T<=t) one-tail	:	0.0741
t Critical one-tail	:	1.9432
P(T<=t) two-tail	**:**	**0.1481**
t Critical two-tail	:	2.44691

CONCLUSION: NO SIGNIFICANT DIFFERENT

- One Sample t-test for *a Value (R15)

Significance level, α	:	0.05
Sample Size	:	7
Sample Mean	:	6.64
Sample Standard Deviation	:	1.18
Sample Standard Error	:	0.44
Hypothesized mean	:	5.18
t stat	:	3.29
df	:	6
P(T<=t) one-tail	:	0.0083
t Critical one-tail	:	1.9432
P(T<=t) two-tail	**:**	**0.0167**
t Critical two-tail	:	2.44691

CONCLUSION: NO SIGNIFICANT DIFFERENT

- One Sample t-test for *a Value (R15)

Significance level, α	:	0.05
Sample Size	:	7
Sample Mean	:	20.79
Sample Standard Deviation	:	6.21
Sample Standard Error	:	2.35
Hypothesized mean	:	24.62
t stat	:	1.63
df	:	6
P(T<=t) one-tail	:	0.0769
t Critical one-tail	:	1.9432
P(T<=t) two-tail	**:**	**0.1537**
t Critical two-tail	:	2.44691

CONCLUSION: SIGNIFICANT DIFFERENT

- Benchmarking Product 1

Batch	*L	*a	*b
1	54.11	4.57	9.22
2	54.09	4.69	11.40
3	54.24	5.12	12.04
Average	54.15	4.79	10.89
Standard Deviation	0.08	0.29	1.48

- Benchmarking Product 2

Batch	*L	*a	*b
1	56.85	6.40	13.53
2	69.92	7.11	17.48
3	70.44	7.22	18.3
Average	65.74	6.91	16.44
Standard Deviation	7.70	0.45	2.55

- Benchmarking Product 3

Batch	*L	*a	*b
1	55.96	2.96	10.97
2	54.43	2.40	10.37
3	57.51	2.57	11.8
Average	55.97	2.64	11.05
Standard Deviation	1.54	0.29	0.72

- Benchmarking Product 4

Batch	*L	*a	*b
1	63.68	9.88	20.19
2	62.94	9.96	19.17
3	67.19	11.33	23.12
Average	64.60	10.39	20.83
Standard Deviation	2.27	0.82	2.05

- t-Test: Two-Sample Assuming Equal Variances for *L Value (Control & Product 1)

	**L-Control*	**L-Product 1*	
Mean	60.99	54.15	
Variance	8.6478	0.0066	
Observations	4	3	
	4.32719583		
Pooled Variance	3		
Hypothesised Mean Difference	0		
Significance level, α	0.05		
df	5		
t Stat	4.3057		
P(T<=t) one-tail	0.0038		
t Critical one-tail	2.0150	**CONCLUSION:**	
P(T<=t) two-tail	**0.0077**	**SIGNIFICANT**	
t Critical two-tail	2.5706	**DIFFERENT**	

- t-Test: Two-Sample Assuming Equal Variances for *a Value (Control & Product 1)

	**a-Control*	**a-Product 1*	
Mean	5.18	4.79	
Variance	0.0517	0.0836	
Observations	4	3	
Pooled Variance	0.06765		
Hypothesised Mean Difference	0		
Significance level, α	0.05		
df	5		
t Stat	1.9465		
P(T<=t) one-tail	0.0546		
t Critical one-tail	2.0150	**CONCLUSION:**	
P(T<=t) two-tail	**0.1092**	**NO SIGNIFICANT**	
t Critical two-tail	2.5706	**DIFFERENT**	

- t-Test: Two-Sample Assuming Equal Variances for *b Value (Control & Product 1)

	**b-Control*	**b-Product 1*	
Mean	24.62	10.89	
Variance	12.4521	2.1857	
Observations	4	3	
Pooled Variance	7.3189125		
Hypothesised Mean Difference	0		
Significance level, α	0.05		
df	5		
t Stat	6.6453		
P(T<=t) one-tail	0.0006		
t Critical one-tail	2.0150	**CONCLUSION:**	
P(T<=t) two-tail	**0.0012**	**SIGNIFICANT**	
t Critical two-tail	2.5706	**DIFFERENT**	

- t-Test: Two-Sample Assuming Equal Variances for *L Value (Control & Product 2)

	**L-Control*	**L-Product 2*	
Mean	60.99	65.74	
Variance	8.6478	59.2972	
Observations	4	3	
Pooled Variance	33.9724958		
Hypothesised Mean Difference	0		
Significance level, α	0.05		
df	5		
t Stat	-1.0668		
P(T<=t) one-tail	0.1674		
t Critical one-tail	2.0150	**CONCLUSION:**	
P(T<=t) two-tail	**0.3348**	**NO SIGNIFICANT**	
t Critical two-tail	2.5706	**DIFFERENT**	

- t-Test: Two-Sample Assuming Equal Variances for *a Value (Control & Product 2)

	**a-Control*	**a-Product 2*	
Mean	5.18	6.91	
Variance	0.0517	0.1981	
Observations	4	3	
Pooled Variance	0.12488333		
Hypothesised Mean Difference	0		
Significance level, α	0.05		
df	5		
t Stat	-6.4097		
P(T<=t) one-tail	0.0007		
t Critical one-tail	2.0150	**CONCLUSION:**	
P(T<=t) two-tail	**0.0014**	**SIGNIFICANT**	
t Critical two-tail	2.5706	**DIFFERENT**	

- t-Test: Two-Sample Assuming Equal Variances for *b Value (Control & Product 2)

	**b-Control*	**b-Product 2*	
Mean	24.62	16.44	
Variance	12.4521	6.5046	
Observations	4	3	
Pooled Variance	9.4783625		
Hypothesised Mean Difference	0		
Significance level, α	0.05		
df	5		
t Stat	3.4791		
P(T<=t) one-tail	0.0088		
t Critical one-tail	2.0150	**CONCLUSION:**	
P(T<=t) two-tail	**0.0177**	**SIGNIFICANT**	
t Critical two-tail	2.5706	**DIFFERENT**	

- t-Test: Two-Sample Assuming Equal Variances for *L Value (Control & Product 3)

	**L-Control*	**L-Product 3*	
Mean	60.99	55.97	
Variance	8.6478	2.3716	
Observations	4	3	
Pooled Variance	5.50969583		
Hypothesised Mean Difference	0		
Significance level, α	0.05		
df	5		
t Stat	2.8006		
P(T<=t) one-tail	0.0190		
t Critical one-tail	2.0150	**CONCLUSION:**	
P(T<=t) two-tail	**0.0380**	**SIGNIFICANT**	
t Critical two-tail	2.5706	**DIFFERENT**	

- t-Test: Two-Sample Assuming Equal Variances for *a Value (Control & Product 3)

	**a-Control*	**a-Product 3*	
Mean	5.18	2.64	
Variance	0.0517	0.0824	
Observations	4	3	
Pooled Variance	0.06705		
Hypothesised Mean Difference	0		
Significance level, α	0.05		
df	5		
t Stat	12.8264		
P(T<=t) one-tail	0.0000		
t Critical one-tail	2.0150	**CONCLUSION:**	
P(T<=t) two-tail	**0.0001**	**SIGNIFICANT**	
t Critical two-tail	2.5706	**DIFFERENT**	

- t-Test: Two-Sample Assuming Equal Variances for *b Value (Control & Product 3)

	**b-Control*	**b-Product 3*	
Mean	24.62	11.05	
Variance	12.4521	0.5156	
Observations	4	3	
Pooled Variance	6.4838625		
Hypothesised Mean Difference	0		
Significance level, α	0.05		
df	5		
t Stat	6.9780		
P(T<=t) one-tail	0.0005		
t Critical one-tail	2.0150	**CONCLUSION:**	
P(T<=t) two-tail	**0.0009**	**SIGNIFICANT**	
t Critical two-tail	2.5706	**DIFFERENT**	

- t-Test: Two-Sample Assuming Equal Variances for *L Value (Control & Product 4)

	**L-Control*	**L-Product 4*	
Mean	60.99	64.60	
Variance	8.6478	5.1550	
Observations	4	3	
Pooled Variance	6.90139583		
Hypothesised Mean Difference	0		
Significance level, α	0.05		
df	5		
t Stat	-1.8021		
P(T<=t) one-tail	0.0657		
t Critical one-tail	2.0150	**CONCLUSION:**	
P(T<=t) two-tail	**0.1314**	**NO SIGNIFICANT**	
t Critical two-tail	2.5706	**DIFFERENT**	

- t-Test: Two-Sample Assuming Equal Variances for *a Value (Control & Product 4)

	**a-Control*	**a-Product 4*	
Mean	5.18	10.39	
Variance	0.0517	0.6643	
Observations	4	3	
Pooled Variance	0.35798333		
Hypothesised Mean Difference	0		
Significance level, α	0.05		
df	5		
t Stat	-11.4011		
P(T<=t) one-tail	0.0000		
t Critical one-tail	2.0150	**CONCLUSION:**	
P(T<=t) two-tail	**0.0001**	**SIGNIFICANT**	
t Critical two-tail	2.5706	**DIFFERENT**	

- t-Test: Two-Sample Assuming Equal Variances for *b Value (Control & Product 4)

	**b-Control*	**b-Product 4*	
Mean	24.62	20.83	
Variance	12.4521	4.2046	
Observations	4	3	
Pooled Variance	8.3283625		
Hypothesised Mean Difference	0		
Significance level, α	0.05		
df	5		
t Stat	1.7199		
P(T<=t) one-tail	0.0730		
t Critical one-tail	2.0150	**CONCLUSION:**	
P(T<=t) two-tail	**0.1461**	**SIGNIFICANT**	
t Critical two-tail	2.5706	**DIFFERENT**	

Appendix B: Microbial Enumeration

- Control

Repetition	Dilution							
	10^{-1}	10^{-2}	10^{-3}	10^{-4}	10^{-5}	10^{-6}	10^{-7}	10^{-8}
1	0	TNTC	TNTC	TNTC	TNTC	131	7	0
2	0	TNTC	TNTC	TNTC	TNTC	TNTC	11	1

Calculation:

$$N = \frac{(131 + 11)}{1\ ml \times [1 + (0.1 \times 1)] + 10^{-6}}$$

$$N = 1.3 \times 10^{8}\ CFU/g$$

- S5

Repetition	Dilution							
	10^{-1}	10^{-2}	10^{-3}	10^{-4}	10^{-5}	10^{-6}	10^{-7}	10^{-8}
1	150	15	0	0	0	33	3	0
2	149	20	0	0	0	1	0	0

Calculation:

$$N = \frac{(150 + 149 + 15 + 20)}{1\ ml \times [2 + (0.1 \times 2)] + 10^{-1}}$$

$$N = 1.5 \times 10^{3}\ CFU/g$$

- S15

Repetition	Dilution							
	10^{-1}	10^{-2}	10^{-3}	10^{-4}	10^{-5}	10^{-6}	10^{-7}	10^{-8}
1	15	1	1	1	0	0	1	1
2	18	0	0	0	0	1	0	0

Calculation:

$$N = \frac{(15 + 18)}{1\ ml \times [2 + (0.1 \times 0)] + 10^{-1}}$$

$$N = 1.7 \times 10^{2}\ CFU/g$$

- S25

Repetition	Dilution							
	10^{-1}	10^{-2}	10^{-3}	10^{-4}	10^{-5}	10^{-6}	10^{-7}	10^{-8}
1	48	17	83	40	34	46	34	60
2	18	20	57	64	24	46	44	35

Calculation:

$$N = \frac{(48 + 18 + 17 + 20)}{1\ ml \times [2 + (0.1 \times 2)] + 10^{-1}}$$

$$N = 4.7 \times 10^{2}\ CFU/g$$

- R5

Repetition	Dilution							
	10^{-1}	10^{-2}	10^{-3}	10^{-4}	10^{-5}	10^{-6}	10^{-7}	10^{-8}
1	11	3	1	0	4	4	4	0
2	11	2	1	3	0	1	0	2

Calculation:

$$N = \frac{(11 + 11)}{1\ ml \times [2 + (0.1 \times 0)] + 10^{-1}}$$

$$N = 1.1 \times 10^{2}\ CFU/g$$

- R15

Repetition	Dilution							
	10^{-1}	10^{-2}	10^{-3}	10^{-4}	10^{-5}	10^{-6}	10^{-7}	10^{-8}
1	5	0	0	0	0	0	0	1
2	8	2	1	0	0	0	0	0

Calculation:

$$N = \frac{0}{1\ ml \times [0 + (0.1 \times 0) + 0}$$

$$N = < 10\ CFU/g$$

- R25

Repetition	Dilution							
	10^{-1}	10^{-2}	10^{-3}	10^{-4}	10^{-5}	10^{-6}	10^{-7}	10^{-8}
1	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0

Calculation:

$$N = \frac{0}{1\ ml \times [0 + (0.1 \times 0)] + 0}$$

$$N = < 10\ CFU/g$$

Appendix C: Duration and Temperature Range of Heating Processes

- Steam Heating Batch 1

Duration (minutes)	Temperature Range (°C)
5	96.5–97.3
15	95.7–96.5
25	96.2–97.0

- Steam Heating Batch 2

Duration (minutes)	Temperature Range (°C)
5	96.6–97.1
15	96.9–97.6
25	97.2–97.9

- Retort Sterilisation Batch 1

Duration (minutes)	Total Duration of Process (minutes)
5	35
15	57
25	61

- Retort Sterilisation Batch 2

Duration (minutes)	Total Duration of Process (minutes)
5	50
15	59
25	59

- Retort Sterilisation Batch 3

Duration (minutes)	Total Duration of Process (minutes)
5	49
15	53

Appendix D: Dried Broth Determination Results and Analysis

- Overripe Tempe Stock

Scale Category	Amount of Panellist		
	Taste	Aroma	Colour
Extremely Dislike (1)	0	0	1
Dislike Very Much (2)	0	0	0
Dislike Moderately (3)	1	0	1
Dislike Slightly (4)	4	4	1
Neither Like nor Dislike (5)	3	2	2
Like Slightly (6)	1	1	3
Like Moderately (7)	0	1	0
Like Very Much (8)	0	1	1
Like Extremely (9)	1	1	1

- Block Chicken Broth

Scale Category	Amount of Panellist		
	Taste	Aroma	Colour
Extremely Dislike (1)	0	0	0
Dislike Very Much (2)	0	0	0
Dislike Moderately (3)	0	0	0
Dislike Slightly (4)	0	0	0
Neither Like nor Dislike (5)	0	1	1
Like Slightly (6)	2	0	0
Like Moderately (7)	6	2	2
Like Very Much (8)	1	5	3
Like Extremely (9)	1	2	4

- Mushroom Stock

Scale Category	Amount of Panellist		
	Taste	Aroma	Colour
Extremely Dislike (1)	0	0	0
Dislike Very Much (2)	0	0	0
Dislike Moderately (3)	0	0	1
Dislike Slightly (4)	0	0	0
Neither Like nor Dislike (5)	0	0	0
Like Slightly (6)	0	0	0
Like Moderately (7)	3	1	0
Like Very Much (8)	1	4	3
Like Extremely (9)	6	5	6

- Friedman's Test Result for Colour Parameter

Number of Data, n : 10
Number of Sample, k : 3
Degree of Freedom : 2
Significance Level, α : 0.05

Variables	Mean Ranks	Sst	Sse	Q	*p*-value
Overripe Tempe Stock	1.1	14.60	0.850	17.1765	**0.000186**
Block Chicken Broth	2.1				
Mushroom Stock	2.8				

CONCLUSION: SIGNIFICANT DIFFERENT

- Wilcoxon Test Result for Colour (Overripe Tempe Stock & Block Chicken Broth)

Significance Level, α	0.05
Sample Size, N	10
Effective Sample Size	9
W	45
W critical	29 (one tail)
Standard Deviation	16.88
Test Statistic, Z	2.6360
***p*-Value (lower tail)**	0.9958
***p*-Value (upper tail)**	0.0042
***p*-Value (two tail)**	0.0084

CONCLUSION: SIGNIFICANT DIFFERENT

- Wilcoxon Test Result for Colour (Overripe Tempe Stock & Mushroom Stock)

Significance Level, α	0.05
Sample Size, N	10
Effective Sample Size	9
W	45
W critical	29 (one tail)
Standard Deviation	16.88
Test Statistic, Z	2.6360
***p*-Value (lower tail)**	0.9958
***p*-Value (upper tail)**	0.0042
***p*-Value (two tail)**	0.0084

CONCLUSION: SIGNIFICANT DIFFERENT

- Wilcoxon Test Result for Colour (Chicken Block Broth & Mushroom Stock)

Significance Level, α	0.05
Sample Size, N	10
Effective Sample Size	7
W	28
W critical	22 (one tail)
Standard Deviation	11.83
Test Statistic, Z	2.3242
***p*-Value (lower tail)**	0.9899
***p*-Value (upper tail)**	0.0101
***p*-Value (two tail)**	0.0201

CONCLUSION: SIGNIFICANT DIFFERENT

- Friedman's Test Result for Taste Parameter

Number of Data, n : 10
Number of Sample, k : 3
Degree of Freedom : 2
Significance Level, α : 0.05

Variables	Mean Ranks	Sst	Sse	Q	*p*-value
Overripe Tempe Stock	1.2	10.85	0.775	14.0000	**0.000912**
Block Chicken Broth	2.2				
Mushroom Stock	2.7				

CONCLUSION: SIGNIFICANT DIFFERENT

- Wilcoxon Test Result for Taste (Overripe Tempe Stock & Block Chicken Broth)

Significance Level, α	0.05
Sample Size, N	10
Effective Sample Size	8
W	36
W critical	26 (one tail)
Standard Deviation	14.28
Test Statistic, Z	2.4855
***p*-Value (lower tail)**	0.9935
***p*-Value (upper tail)**	0.0065
***p*-Value (two tail)**	0.0129

CONCLUSION: SIGNIFICANT DIFFERENT

- Wilcoxon Test Result for Taste (Overripe Tempe Stock & Mushroom Stock)

Significance Level, α	0.05
Sample Size, N	10
Effective Sample Size	10
W	35
W critical	
Standard Deviation	19.62
Test Statistic, Z	1.7583
***p*-Value (lower tail)**	0.9607
***p*-Value (upper tail)**	0.0393
***p*-Value (two tail)**	0.0787

CONCLUSION: SIGNIFICANT DIFFERENT

- Wilcoxon Test Result for Taste (Block Chicken Broth & Mushroom Stock)

Significance Level, α	0.05
Sample Size, N	10
Effective Sample Size	7
W	14
W critical	22 (one tail)
Standard Deviation	11.83
Test Statistic, Z	1.1410
***p*-Value (lower tail)**	0.8731
***p*-Value (upper tail)**	0.1269
***p*-Value (two tail)**	0.2539

CONCLUSION: NO SIGNIFICANT DIFFERENT

- Friedman's Test Result for Aroma Parameter

Number of Data, n : 10
Number of Sample, k : 3
Degree of Freedom : 2
Significance Level, α : 0.05

Variables	Mean Ranks	Sst	Sse	Q	*p*-value
Overripe Tempe Stock	1.3	7.40	0.850	8.7059	**0.012869**
Block Chicken Broth	2.3				
Mushroom Stock	2.4				

CONCLUSION: SIGNIFICANT DIFFERENT

- Wilcoxon Test Result for Aroma (Overripe Tempe Stock & Block Chicken Broth)

Significance Level, α	0.05
Sample Size, N	10
Effective Sample Size	9
W	43
W critical	29 (one tail)
Standard Deviation	16.88
Test Statistic, Z	2.5175
***p*-Value (lower tail)**	0.9941
***p*-Value (upper tail)**	0.0059
***p*-Value (two tail)**	0.0118

CONCLUSION: SIGNIFICANT DIFFERENT

- Wilcoxon Test Result for Aroma (Overripe Tempe Stock & Mushroom Stock)

Significance Level, α	0.05
Sample Size, N	10
Effective Sample Size	8
W	36
W critical	26 (one tail)
Standard Deviation	14.28
Test Statistic, Z	2.4855
***p*-Value (lower tail)**	0.9935
***p*-Value (upper tail)**	0.0065
***p*-Value (two tail)**	0.0129

CONCLUSION: SIGNIFICANT DIFFERENT

- Wilcoxon Test Result for Aroma (Block Chicken Broth & Mushroom Stock)

Significance Level, α	0.05
Sample Size, N	10
Effective Sample Size	6
W	11
W critical	17 (one tail)
Standard Deviation	9.54
Test Statistic, Z	1.1007
***p*-Value (lower tail)**	0.8645
***p*-Value (upper tail)**	0.1355
***p*-Value (two tail)**	0.2710

CONCLUSION: NO SIGNIFICANT DIFFERENT

Appendix E: Sensory Evaluation Result and Data Analysis

- Control

Scale Category	Amount of Panellist	
	Aroma	**Taste**
Very Not Strong (1)	1	1
Not Strong Moderately (2)	2	2
Not Strong Slightly (3)	1	5
Just Right (4)	11	7
Strong Slightly (5)	3	12
Strong Moderately (6)	8	6
Very Strong (7)	8	1

- R5

Scale Category	Amount of Panellist	
	Aroma	**Taste**
Very Not Strong (1)	3	4
Not Strong Moderately (2)	9	8
Not Strong Slightly (3)	7	7
Just Right (4)	8	6
Strong Slightly (5)	3	6
Strong Moderately (6)	3	3
Very Strong (7)	1	0

- R15

Scale Category	Amount of Panellist	
	Aroma	**Taste**
Very Not Strong (1)	3	0
Not Strong Moderately (2)	7	2
Not Strong Slightly (3)	4	6
Just Right (4)	8	13
Strong Slightly (5)	6	7
Strong Moderately (6)	3	4
Very Strong (7)	3	2

- Friedman's Test Result for Aroma Parameter

Number of Data, n : 34
Number of Sample, k : 3
Degree of Freedom : 2
Significance Level, α : 0.05

Variables	Mean Ranks	Sst	Sse	Q	*p*-value
Control	2.6	20.49	0.963	21.2672	**0.000024**
R5	1.5				
R15	1.9				

CONCLUSION: SIGNIFICANT DIFFERENT

- Wilcoxon Test Result for Aroma (Control & R5)

Significance Level, α	0.05
Sample Size, N	34
Effective Sample Size	34
W	398
W critical	
Standard Deviation	116.98
Test Statistic, Z	3.3979
***p*-Value (lower tail)**	0.9997
***p*-Value (upper tail)**	0.0003
***p*-Value (two tail)**	0.0007

CONCLUSION: SIGNIFICANT DIFFERENT

- Wilcoxon Test Result for Aroma (Control & R15)

Significance Level, α	0.05
Sample Size, N	34
Effective Sample Size	33
W	319
W critical	
Standard Deviation	11193
Test Statistic, Z	2,8455
***p*-Value (lower tail)**	0,.9978
***p*-Value (upper tail)**	0.0022
***p*-Value (two tail)**	0.0044

CONCLUSION: SIGNIFICANT DIFFERENT

- Wilcoxon Test Result for Aroma (R5 & R15)

Significance Level, α	0.05
Sample Size, N	34
Effective Sample Size	30
W	133
W critical	
Standard Deviation	97.24
Test Statistic, Z	1.3627
***p*-Value (lower tail)**	0.9135
***p*-Value (upper tail)**	0.0865
***p*-Value (two tail)**	0.1730

CONCLUSION: NO SIGNIFICANT DIFFERENT

- Friedman's Test Result for Taste Parameter

Number of Data, n : 34
Number of Sample, k : 3
Degree of Freedom : 2
Significance Level, α : 0.05

Variables	Mean Ranks	Sst	Sse	Q	*p*-value
Control	2.3	11.43	0.919	12.4320	**0.001997**
R5	1.5				
R15	21				

CONCLUSION: SIGNIFICANT DIFFERENT

- Wilcoxon Test Result for Taste (Control & R5)

Significance Level, α	0.05
Sample Size, N	34
Effective Sample Size	30
W	303
W critical	
Standard Deviation	97,.24
Test Statistic, Z	3.1110
***p*-Value (lower tail)**	0.9991
***p*-Value (upper tail)**	0.0009
***p*-Value (two tail)**	0.0019

CONCLUSION: SIGNIFICANT DIFFERENT

- Wilcoxon Test Result for Taste (Control & R15)

Significance Level, α	0.05
Sample Size, N	3
Effective Sample Size	31
W	62
W critical	
Standard Deviation	102.06
Test Statistic, Z	0.6026
***p*-Value (lower tail)**	0.7266
***p*-Value (upper tail)**	0.2734
***p*-Value (two tail)**	0.5468

CONCLUSION: NO SIGNIFICANT DIFFERENT

- Wilcoxon Test Result for Taste (R5 & R15)

Significance Level, α	0.05
Sample Size, N	34
Effective Sample Size	31
W	279
W critical	
Standard Deviation	102.06
Test Statistic, Z	2.7288
***p*-Value (lower tail)**	0.9968
***p*-Value (upper tail)**	0.0032
***p*-Value (two tail)**	0.0064

CONCLUSION: SIGNIFICANT DIFFERENT

CURRICULUM VITAE

PERSONAL DATA

Name	: Vincent Satya Surya
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Place and Date of Birth	: Samarinda, 28th October 2001

EDUCATION

2019 — present **Swiss German University, Alam Sutera, Tangerang, Banten**
Food Technology Department

2016 — 2019 **SMA Budi Bakti (Senior High School), Samarinda, East Kalimantan**
Natural Sciences

2013 — 2016 **SMP Budi Bakti (Junior High School), Samarinda, East Kalimantan**

ACADEMIC PAPERS & ACHIEVEMENTS

2022 **Development of Etawa Goat Milk Processing Facilities in Semawung Village - Purworejo Regency**
Konferensi Nasional Pengabdian Masyarakat (KOPEMAS), Universitas Islam Malang

2022 **A Review of the Effectiveness Natural Pigment as Antidiabetic to Decrease the Significant Risk For COVID-19 Disease**
Journal of Functional Food and Nutraceutical, Academic Research and Community Services Swiss German University & Perhimpunan Penggiat Pangan Fungsional dan Nutrasetikal Indonesia

2022 **A Review on the Potential of Natural Antioxidant Sources to Improve Oxidative Stability in Edible Oils**
6th International Conference of Food, Agriculture, and Natural Resource, Swiss German University

2020 **Second Winner of Article Writing Competition, Universitas Gadjah Mada**
Article Title: "Build Happiness and Peace by Having Self-Control"

2017 **First Winner of *Rancang Bangun Industri*, Universitas Mulawarman**
Title: "Industrial Design of VCO, Soap, Nata de Coco, Absorber, and Briquette Integrated Manufacturing"

2016 **First Winner of *Kompetisi Karya Tulis Ilmiah Kimia*, Universitas Mulawarman**
Research Title: "Research Supplements of Acid-Base Indicators Based on Green Chemistry in Utilizing Natural Resources in East Borneo"

2016 **First Winner of *Teknologi Tepat Guna*, Universitas Mulawarman**
Research Title: "Innovation Media Chemistry Learning in Electrochemical Material Based on Green Chemistry"

ORGANISATION EXPERIENCES

Student Association of Food Technology (SAFT)

2020 — 2021	Head of Event Division
2020	Head of Committee of Digital Innovation Food Competition 2020
2019 — 2020	Member of Event Division

Student House of Representatives (SHOR)

2020 — 2021	Vice Chairman
2020	Member of Campus Affairs Division
2019 — 2020	Member of Accessor and Developer Division
2019	Vice Head of Student Organization Election 2020

Student Activity Unit of Swiss German University

2021	Head of Magna Incanto Choir
2020	Secretary of SGU Music Club

Budi Bakti Senior High School

2017 — 2018	Chairman of Class Representative Council
2017	Head of Publication and Documentation of Youth Scientific Community

The World Fellowship of Buddhist Youth - Indonesia Regional Center (Samarinda City)

2021 — 2023	Coordinator of Organisation Division
2020 — 2021	Member of Organisation and Worship Division
2019 — 2020	Member of Buddhist Education Division

WORKING EXPERIENCE

March — August 2022	**Andros Deutschland GmbH** Internship (Quality Assurance)	February 2021	**Monarch Cafe** Part-time (Waiter)
November 2020 — January 2021	**PT Pangan Bijak Indonesia** Internship (Research & Development)	September 2019 — February 2020	**Pande Coffee** Part-time (Barista)

SKILLS

Language Skills	Indonesian (Mother Tongue), English (Intermediate), Chinese (Basic), German (A1)
Computer Skills	Microsoft Office (PowerPoint, Word, Excel), CorelDRAW, Corel Video Studio, iMovie
Food Safety	Preparation of HACCP Document Competency