5. PENUTUP

5.1   Kesimpulan

Dari hasil penelitian ini dapat diambil kesimpulan bahwa penambahan kultur starter *Lactobacillus plantarum* pada sosis fermentasi ikan tongkol sebagai berikut:

- Dari uji organoleptik penelitian pendahuluan perlakuan yang terbaik dengan mengunakan metode pengasapan dengan lama waktu pengasapan terbaik selama 3 jam

- Dari uji fisik penelitian tahap pertama diperoleh hasil tekstur berkisar antara 2,77 – 4,45N.

- Untuk hasil analisa kimia atau proksimat diperoleh hasil yaitu nilai kadar air berkisar antara 48,31 – 54,36%, nilai kadar protein berkisar 14,92 – 18,14%, nilai kadar abu berkisar antara 1,05 – 2,84%, nilai kadar lemak berkisar antara 6,23 – 8,20%, dan hasil analisa kadar karbohidrat berkisar antara 16,67 – 25,77%.

- Untuk hasil organoleptik diperoleh hasil yaitu aroma 5,67 – 4,43, sedangkan hasil tekstur berkisar antara 5,53 – 4,27, warna 5,70 – 4,33, rasa 5,40 – 3,90.

- Untuk hasil Uji Total BAL sosis ikan tongkol asap diperoleh hasil dalam penelitian ini adalah $1,3 \times 10^5 – 3,2 \times 10^6$.

5.2   Saran

Penelitian ini masih memiliki banyak keterbatasan ukuran seperti selongsong yang terbuat dari usus ayam. Lebih baik menggunakan selongsong yang lebih besar agar isi dan penampilan fisik sosis ikan lebih bagus.

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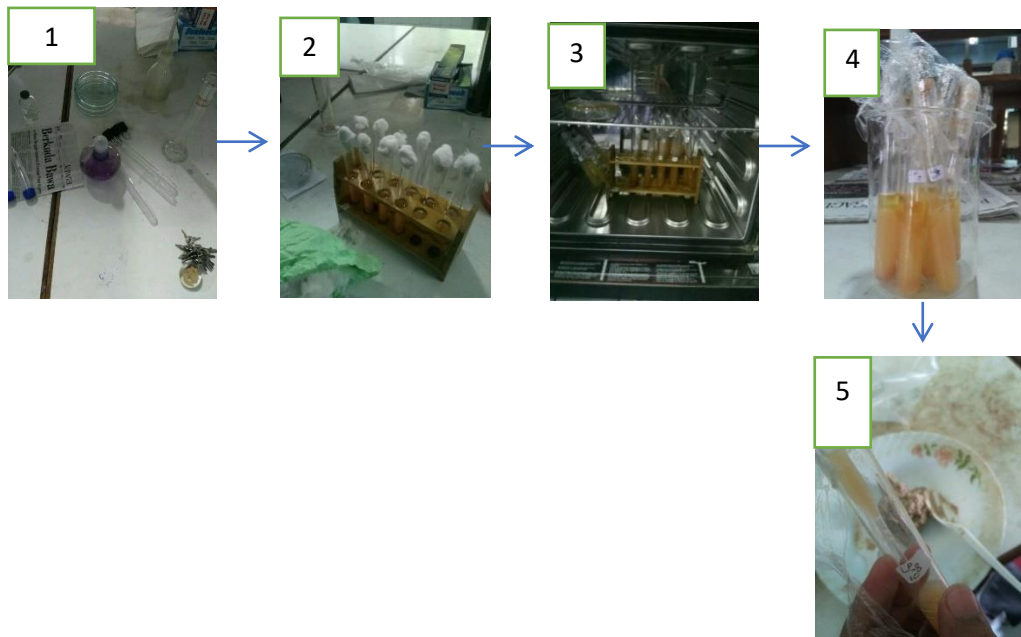
LAMPIRAN

Lampiran 1. Dokumentasi Cara Pembuatan Sosis Ikan Tongkol Asap

Keterangan :

1. Ikan tongkol di siangi
2. Pencucian ikan tongkol
3. Lemak sapi ditambah es dan garam di food prosesor
4. Persiapan bumbu – bumbu
5. Bumbu – bumbu, daging ikan tongkol, serta lemak sapi di homogenkan dengan food prosesor
6. Adonan yang sudah homogen di tambah kultur bakteri *Lacctobacillus plantarum*
7. Adonan siap dimasukkan ke selongsong
8. Sosis ikan tongkol dalam selongsong
9. Proses pengasapan sosis ikan tongkol
10. Sosis ikan tongkol asap

Lampiran 2. Dokumentasi proses pengkulturan bakteri

Keterangan :

1. Di siapkan alat dan bahan
2. Dilakukan pengenceran sampai 10^8
3. Di inkubasi 24 jam
4. Kultur bakteri *Lactobacillus plantarum* telah tumbuh
5. Kultur bakteri *Lactobacillus plantarum* siap di masukkan kedalam adonan

Lampiran 3. Formulir Uji Organoleptik

LEMBAR UJI ORGANOLEPTIK HEDONIK

Nama Produk : ....
Tanggal   : ....
Nama Panelis : ....

Intruksi

Ujilah kenampakan rasa, warna, aroma dan tekstur dari produk berikut dan tuliskan seberapa jauh saudara menyukai dengan menuliskan angka dari 1-7 yang paling sesuai menurut anda pada tabel yang tersedia sesuai dengan pertanyaan-pertanyaan tersebut.

Produk	Aroma	Warna	Tekstur	Rasa
A				
B				
C				
D				
E				

Keterangan:

7 : amat sangat suka
6 : sangat suka
5 : suka
4 : agak suka

3 : agak tidak suka
2 : tidak suka
1 : sangat tidak suka

Komentar:

....
....
....

Lampiran 4. Dokumentasi Hasil Penyimpanan Sosis Asap
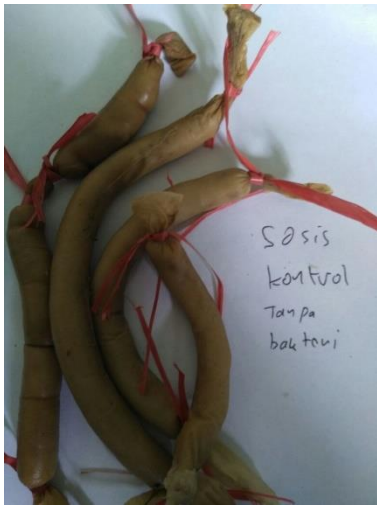
Hari ke - 0 perlakuan kontrol sosis
tongkol

ikan tongkol (tanpa penambahan bakteri

Lactobacillus plantarum

Hari ke – 0 Sosis ikan

dengan penambahan bakteri

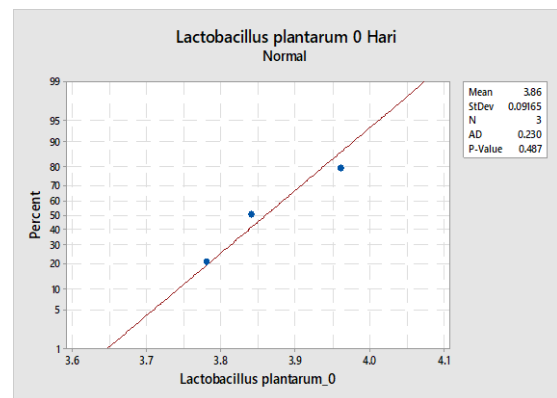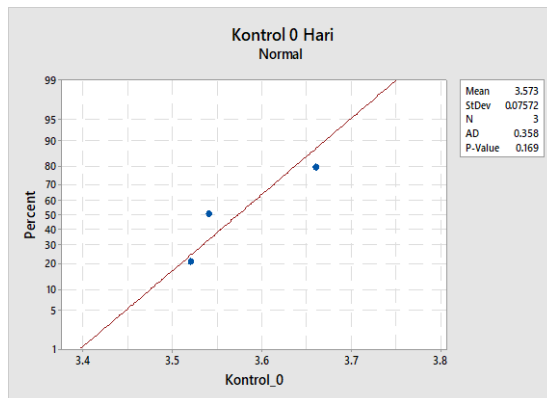*Lactobacillus plantarum*)

Hari ke – 5 perlakuan kontrol
tongkol

Sosis ikan tongkol (tanpa penambahan

Bakteri *Lactobacillus plantarum)*

Hari ke – 5 Sosis ikan

dengan penambahan bakteri

Lactobacillus plantarum

Hari ke – 10 perlakuan kontrol tongkol

Sosis ikan tongkol (tanpa penambahan

Bakteri *Lactobacillus plantarum)*

Hari ke – 10 Sosis ikan

dengan penambahan bakteri

Lactobacillus plantarum

Hari ke – 15 perlakuan kontrol tongkol

Sosis ikan tongkol (tanpa penambahan

Bakteri *Lactobacillus plantarum)*

Hari ke – 15 Sosis ikan

dengan penambahan bakteri

Lactobacillus plantarum

Lampiran 5. Analisis Perhitungan Tekstur

Two-Sample T-Test and CI: Kontrol_0, *Lactobacillus plantarum*_0

Two-sample T for Kontrol_0 vs *Lactobacillus plantarum*_0

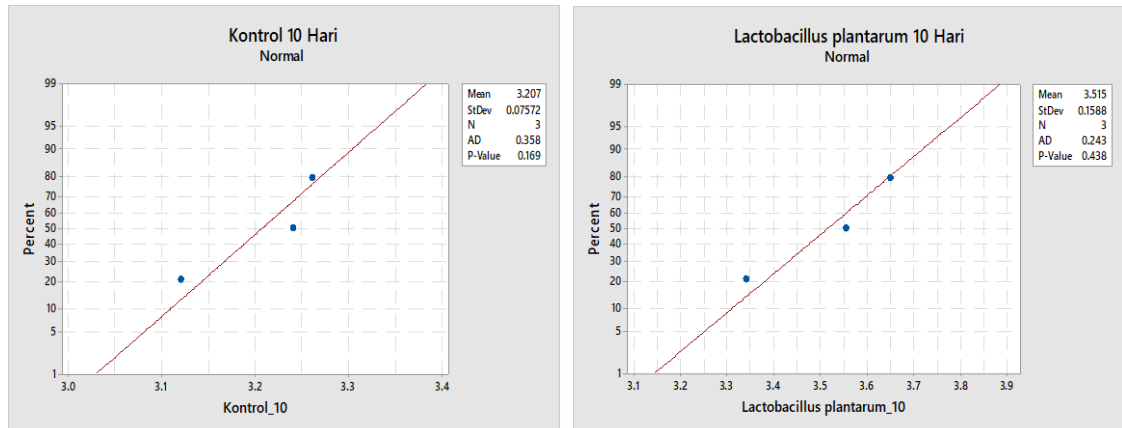|	N	Mean	StDev	SE Mean
Kontrol_0	3	3.5733	0.0757	0.044
*Lactobacillus plantarum*_0	3	3.8600	0.0917	0.053

Difference = mu (Kontrol_0) - mu (*Lactobacillus plantarum*_0)
Estimate for difference: -0.2867
95% CI for difference: (-0.5051, -0.0682)
T-Test of difference = 0 (vs not =): T-Value = -4.18 P-Value = 0.025 DF = 3
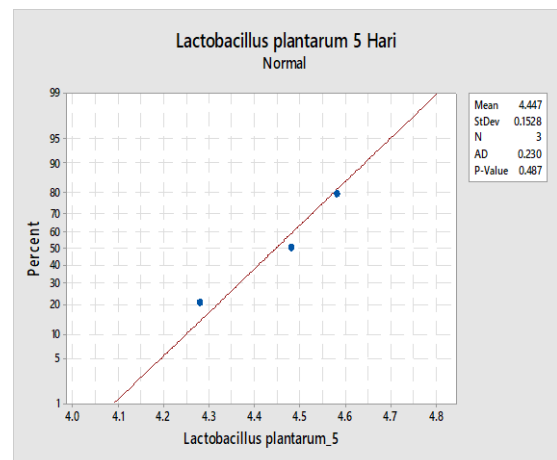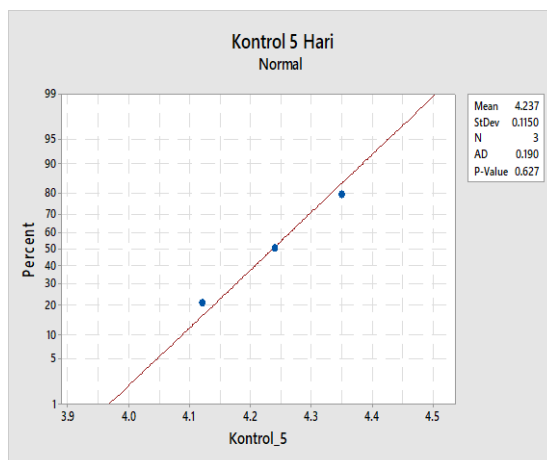
Two-Sample T-Test and CI: Kontrol_5, *Lactobacillus plantarum*_5

Two-sample T for Kontrol_5 vs *Lactobacillus plantarum*_5
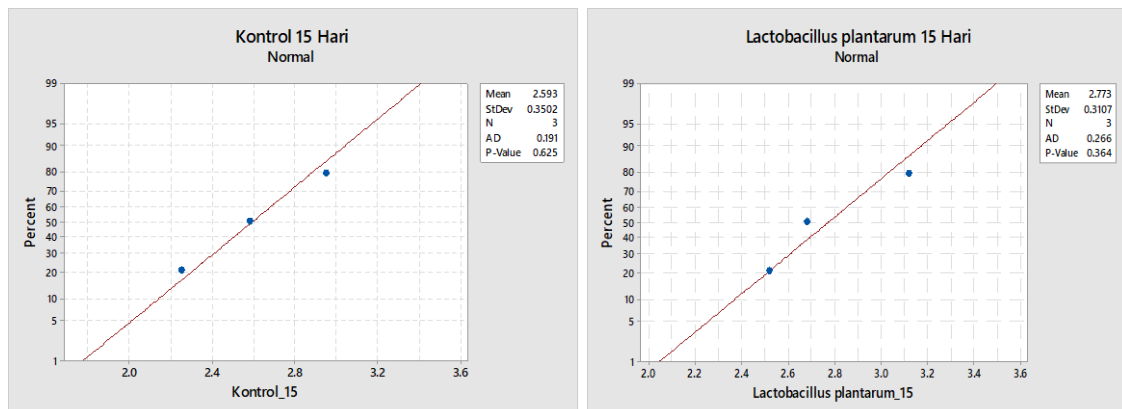
	N	Mean	StDev	SE Mean
Kontrol_5	3	4.237	0.115	0.066
*Lactobacillus plantarum*_5	3	4.447	0.153	0.088

Difference = mu (Kontrol_5) - mu (*Lactobacillus plantarum*_5)
Estimate for difference: -0.210
95% CI for difference: (-0.561, 0.141)
T-Test of difference = 0 (vs not =): T-Value = -1.90 P-Value = 0.153 DF = 3

Two-Sample T-Test and CI: Kontrol_10, *Lactobacillus plantarum*_10

Two-sample T for Kontrol_10 vs *Lactobacillus plantarum*_10

	N	Mean	StDev	SE Mean
Kontrol_10	3	3.2067	0.0757	0.044
*Lactobacillus plantarum*_10	3	3.515	0.159	0.092

Difference = mu (Kontrol_10) - mu (*Lactobacillus plantarum*_10)
Estimate for difference: -0.308
95% CI for difference: (-0.745, 0.129)
T-Test of difference = 0 (vs not =): T-Value = -3.04 P-Value = 0.094 DF = 2

Two-Sample T-Test and CI: Kontrol_15, *Lactobacillus plantarum*_15

Two-sample T for Kontrol_15 vs *Lactobacillus plantarum*_15

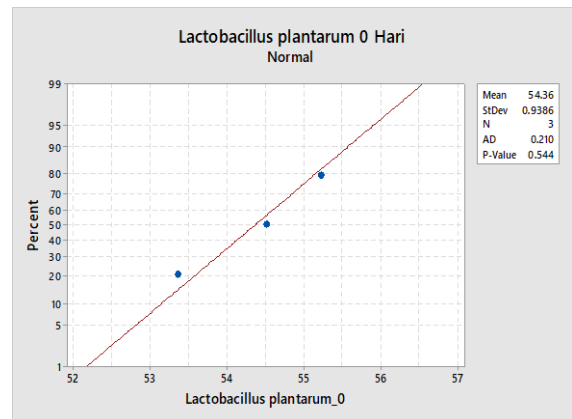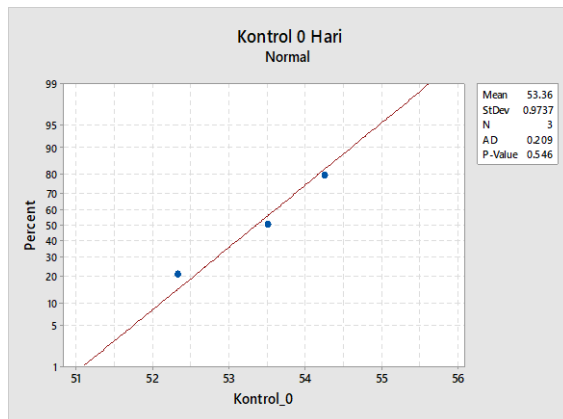|	N	Mean	StDev	SE Mean
Kontrol_15	3	2.593	0.350	0.20
*Lactobacillus plantarum*_15	3	2.773	0.311	0.18

Difference = mu (Kontrol_15) - mu (*Lactobacillus plantarum*_15)
Estimate for difference: -0.180
95% CI for difference: (-1.040, 0.680)
T-Test of difference = 0 (vs not =): T-Value = -0.67 P-Value = 0.553 DF = 3

Lampiran 6. Analisis Perhitungan Kadar Air

Two-Sample T-Test and CI: Kontrol_0, *Lactobacillus plantarum*_0

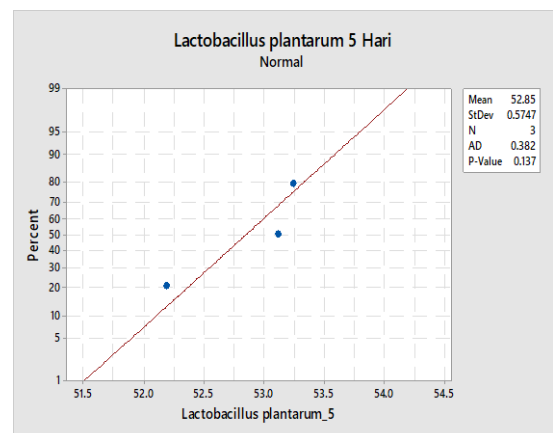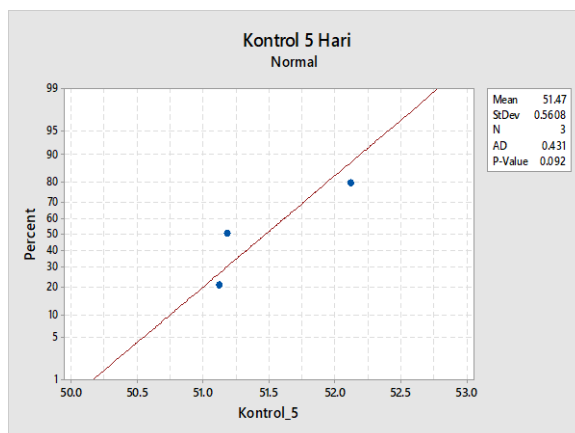Two-sample T for Kontrol_0 vs *Lactobacillus plantarum*_0

	N	Mean	StDev	SE Mean
Kontrol_0	3	53.360	0.974	0.56
*Lactobacillus plantarum*_0	3	54.363	0.939	0.54

Difference = mu (Kontrol_0) - mu (*Lactobacillus plantarum*_0)
Estimate for difference: -1.003
95% CI for difference: (-3.488, 1.482)
T-Test of difference = 0 (vs not =): T-Value = -1.28 P-Value = 0.289 DF = 3

Two-Sample T-Test and CI: Kontrol_5, *Lactobacillus plantarum*_5
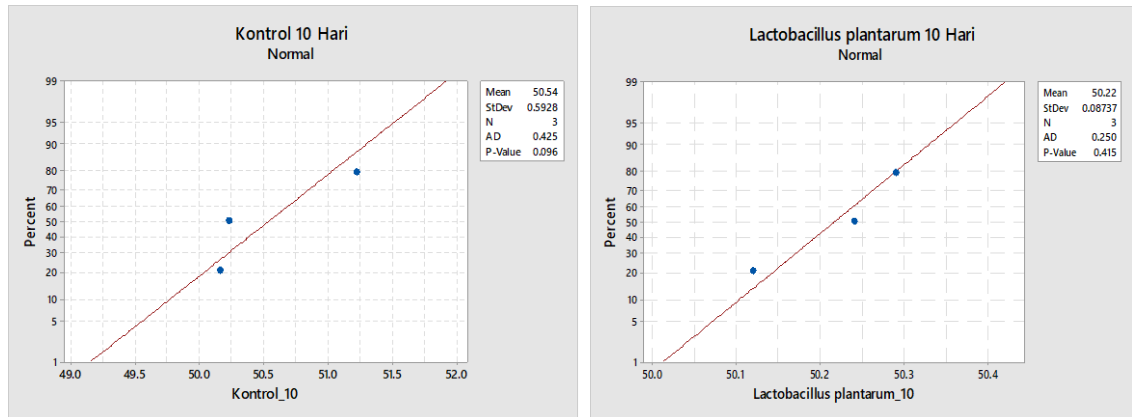
Two-sample T for Kontrol_5 vs *Lactobacillus plantarum*_5

	N	Mean	StDev	SE Mean
Kontrol_5	3	51.473	0.561	0.32
*Lactobacillus plantarum*_5	3	52.850	0.575	0.33

Difference = mu (Kontrol_5) - mu (*Lactobacillus plantarum*_5)
Estimate for difference: -1.377
95% CI for difference: (-2.852, 0.099)
T-Test of difference = 0 (vs not =): T-Value = -2.97 P-Value = 0.059 DF = 3

Kontrol 10 Hari — Normal

Lactobacillus plantarum 10 Hari — Normal

Two-Sample T-Test and CI: Kontrol_10, *Lactobacillus plantarum*_10

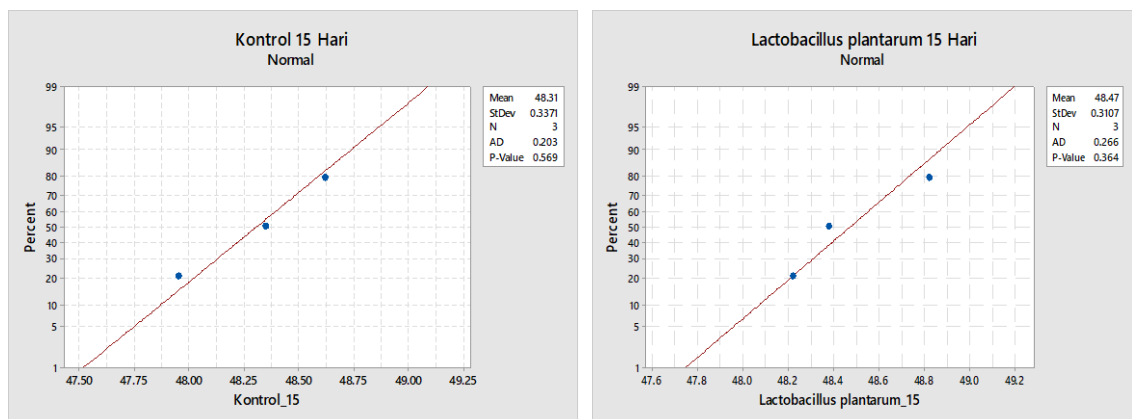Two-sample T for Kontrol_10 vs *Lactobacillus plantarum*_10

	N	Mean	StDev	SE Mean
Kontrol_10	3	50.537	0.593	0.34
*Lactobacillus plantarum*_ 10	3	50.2167	0.0874	0.050

Difference = mu (Kontrol_10) - mu (*Lactobacillus plantarum*_10)
Estimate for difference: 0.320
95% CI for difference: (-1.169, 1.809)
T-Test of difference = 0 (vs not =): T-Value = 0.92 P-Value = 0.453 DF = 2

Kontrol 15 Hari — Normal

Lactobacillus plantarum 15 Hari — Normal

Two-Sample T-Test and CI: Kontrol_15, *Lactobacillus plantarum*_15

Two-sample T for Kontrol_15 vs *Lactobacillus plantarum*_15

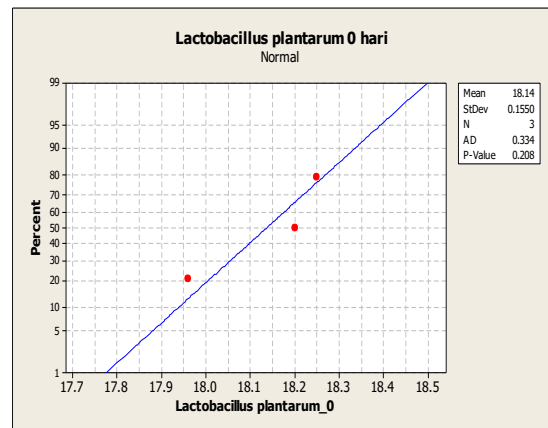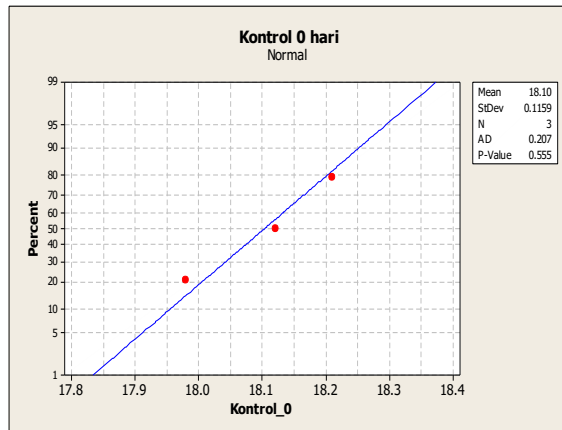|	N	Mean	StDev	SE Mean
Kontrol_15	3	48.307	0.337	0.19
*Lactobacillus plantarum*_15	3	48.473	0.311	0.18

Difference = mu (Kontrol_15) - mu (*Lactobacillus plantarum*_15)
Estimate for difference: -0.167
95% CI for difference: (-1.009, 0.676)
T-Test of difference = 0 (vs not =): T-Value = -0.63 P-Value = 0.574 DF = 3

Lampiran 7. Analisis Perhitungan Kadar Protein

Kontrol 0 hari
Normal

Mean	18.10
StDev	0.1159
N	3
AD	0.207
P-Value	0.555

Lactobacillus plantarum 0 hari
Normal

Mean	18.14
StDev	0.1550
N	3
AD	0.334
P-Value	0.208

Two-Sample T-Test and CI: Kontrol_0, _Lactobacillus plantarum__0

Two-sample T for Kontrol_0 vs _Lactobacillus plantarum__0

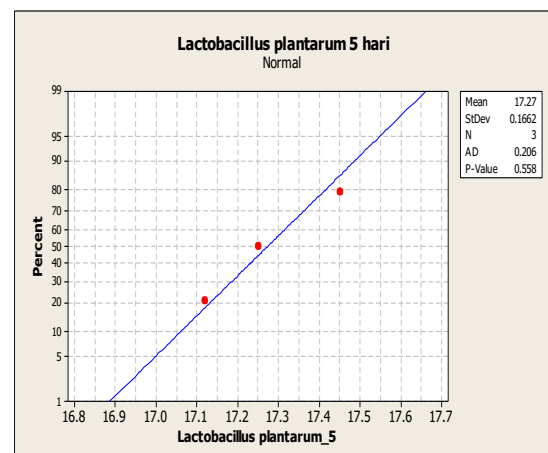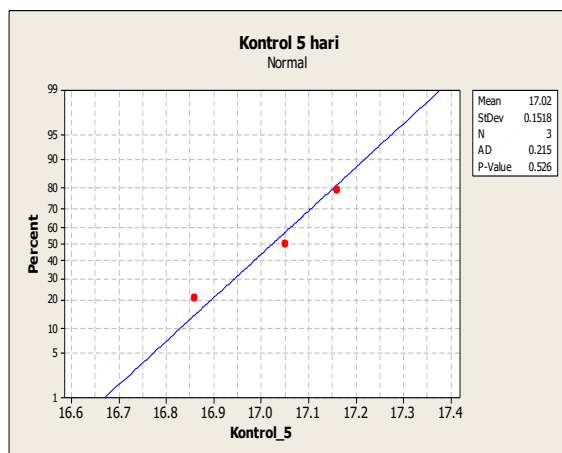|	N	Mean	StDev	SE Mean
Kontrol_0	3	18.103	0.116	0.067
_Lactobacillus plantarum__0	3	18.137	0.155	0.090

Difference = mu (Kontrol_0) - mu (_Lactobacillus plantarum__0)

Estimate for difference: -0.033
95% CI for difference: (-0.389, 0.322)
T-Test of difference = 0 (vs not =): T-Value = -0.30 P-Value = 0.785 DF = 3

Kontrol 5 hari
Normal

Mean	17.02
StDev	0.1518
N	3
AD	0.215
P-Value	0.526

Lactobacillus plantarum 5 hari
Normal

Mean	17.27
StDev	0.1662
N	3
AD	0.206
P-Value	0.558

Two-Sample T-Test and CI: Kontrol_5, _Lactobacillus plantarum__5
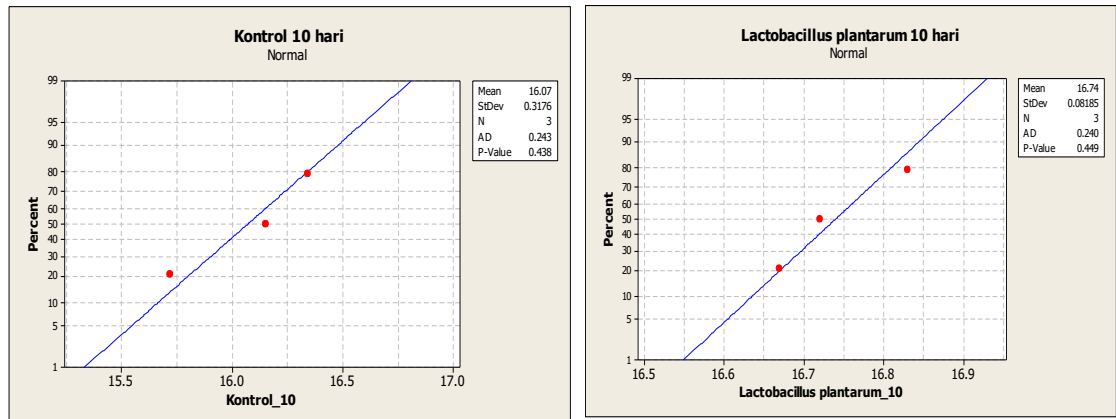
Two-sample T for Kontrol_5 vs _Lactobacillus plantarum__5

	N	Mean	StDev	SE Mean
Kontrol_5	3	17.023	0.152	0.088
_Lactobacillus plantarum__ 5	3	17.273	0.166	0.096

Difference = mu (Kontrol_5) - mu (_Lactobacillus plantarum__5)
Estimate for difference: -0.250

95% CI for difference: (-0.664, 0.164)
T-Test of difference = 0 (vs not =): T-Value = -1.92 P-Value = 0.150 DF = 3

Two-Sample T-Test and CI: Kontrol_10, *Lactobacillus plantarum*_10

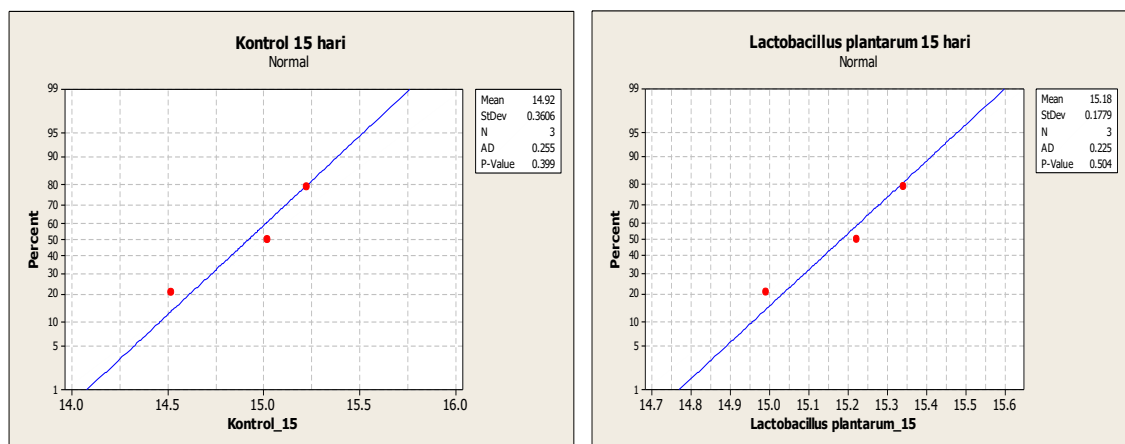Two-sample T for Kontrol_10 vs *Lactobacillus plantarum*_10

```
                            N    Mean   StDev  SE Mean
Kontrol_10                  3   16.070  0.318   0.18
Lactobacillus plantarum_ 10 3   16.7400 0.0819  0.047
```

Difference = mu (Kontrol_10) - mu (*Lactobacillus plantarum*_10)
Estimate for difference: -0.670
95% CI for difference: (-1.485, 0.145)
T-Test of difference = 0 (vs not =): T-Value = -3.54 P-Value = 0.071 DF = 2

Two-Sample T-Test and CI: Kontrol_15, *Lactobacillus plantarum*_15

Two-sample T for Kontrol_15 vs *Lactobacillus plantarum*_15

```
                           N    Mean   StDev  SE Mean
Kontrol_15                 3   14.920  0.361   0.21
Lactobacillus plantarum_15 3   15.183  0.178   0.10
```
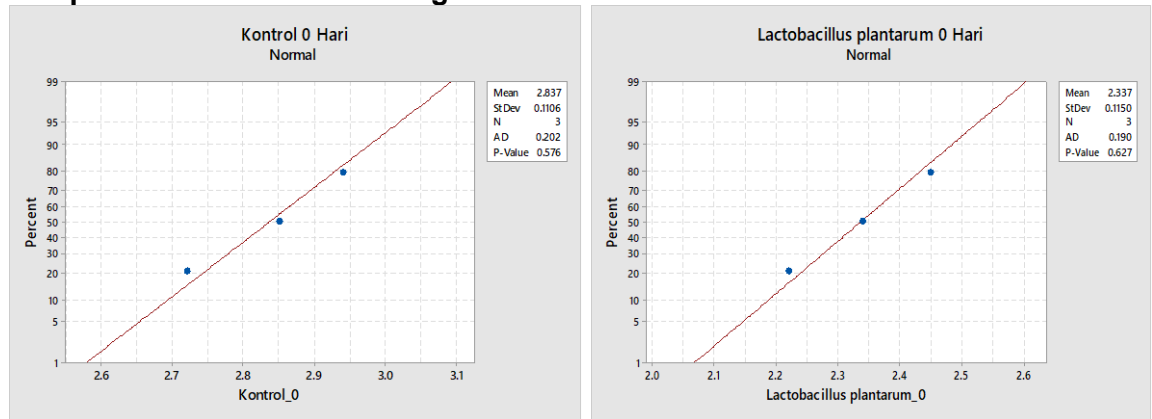
Difference = mu (Kontrol_15) - mu (*Lactobacillus plantarum*_15)
Estimate for difference: -0.263
95% CI for difference: (-1.262, 0.735)
T-Test of difference = 0 (vs not =): T-Value = -1.13 P-Value = 0.374 DF = 2
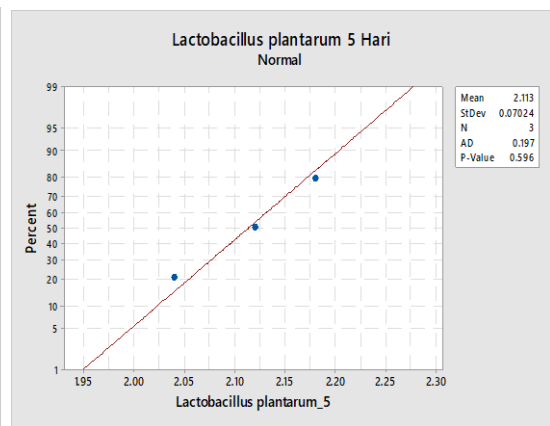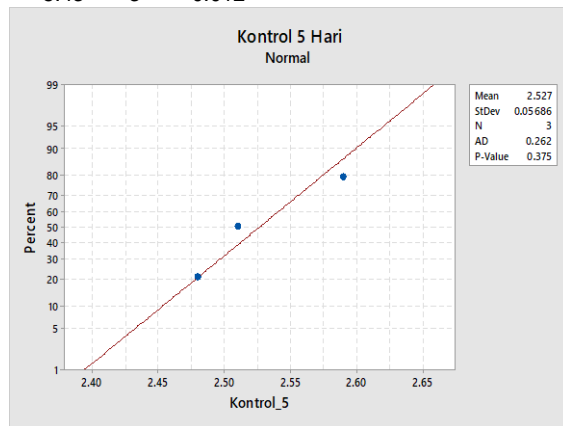
Lampiran 8. Analisis Perhitungan Kadar Abu

Two-Sample T-Test and CI: Kontrol_0, _Lactobacillus plantarum_0

Two-sample T for Kontrol_0 vs _Lactobacillus plantarum_0

Sample	N	Mean	StDev	SE Mean
Kontrol_0	3	2.837	0.111	0.064
_Lactobacillus plantarum_0	3	2.337	0.115	0.066

Estimate Difference	95% CI for Difference
0.5000	(0.2068, 0.7932)

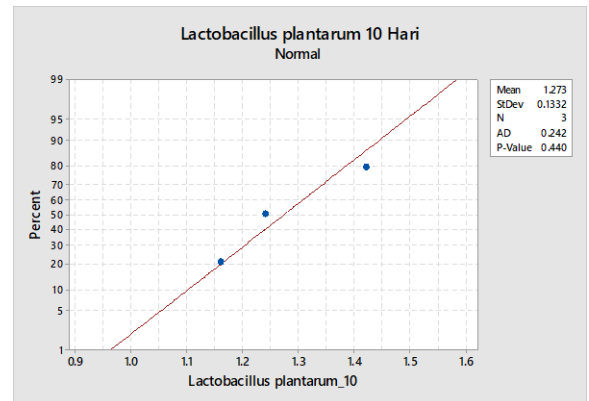| T-Value	DF	P-Value
5.43	3	0.012

Two-Sample T-Test and CI: Kontrol_5, _Lactobacillus plantarum_5

Two-sample T for Kontrol_5 vs _Lactobacillus plantarum_5

Sample	N	Mean	StDev	SE Mean
Kontrol_5	3	2.5267	0.0569	0.033
_Lactobacillus plantarum_5	3	2.1133	0.0702	0.041

Estimate Difference	95% CI for Difference
0.4133	(0.2473, 0.5794)

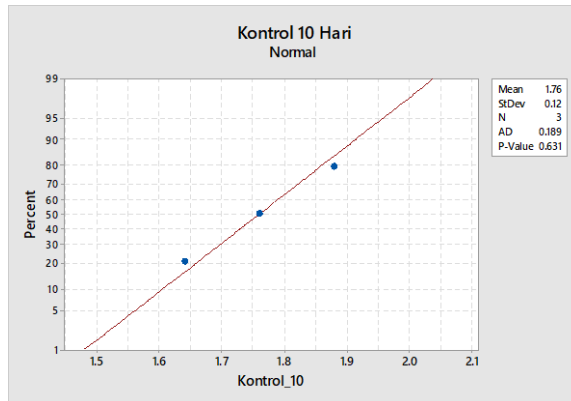| T-Value	DF	P-Value
4.70	3	0.018

Two-Sample T-Test and CI: Kontrol_10, *Lactobacillus plantarum*_10

Two-sample T for Kontrol_10 vs *Lactobacillus plantarum*_10

Sample	N	Mean	StDev	SE Mean
Kontrol_10	3	1.760	0.120	0.069
*Lactobacillus plantarum*_10	3	1.273	0.133	0.077

Estimate Difference	95% CI for Difference
0.487	(0.157, 0.816)

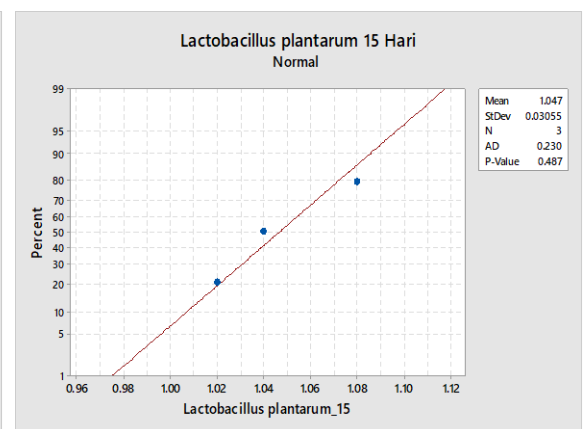| T-Value	DF	P-Value
4.70	3	0.018

Two-Sample T-Test and CI: Kontrol_15, *Lactobacillus plantarum*_15

Two-sample T for Kontrol_15 vs *Lactobacillus plantarum*_15

Sample	N	Mean	StDev	SE Mean
Kontrol_15	3	1.2567	0.0802	0.046
*Lactobacillus plantarum*_15	3	1.0467	0.0306	0.018

Estimate Difference	95% CI for Difference
0.2100	(-0.0032, 0.4232)

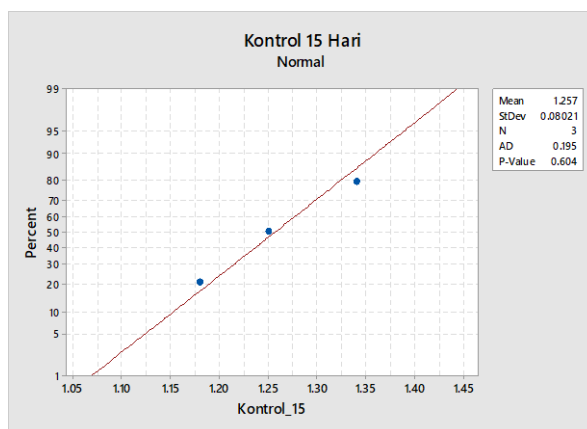| T-Value	DF	P-Value
4.24	2	0.051

Lampiran 9. Analisis Perhitungan Kadar Lemak
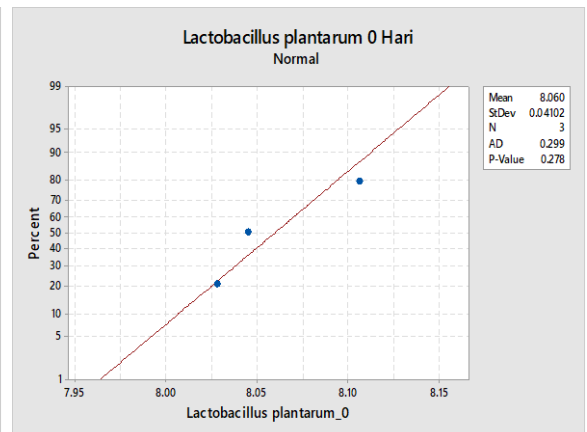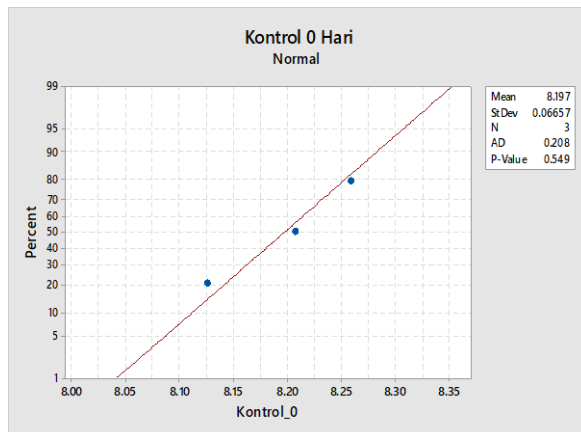
Two-Sample T-Test and CI: Kontrol_0, *Lactobacillus plantarum*_0

Two-sample T for Kontrol_0 vs *Lactobacillus plantarum*_0

Sample	N	Mean	StDev	SE Mean
Kontrol_0	3	8.1970	0.0666	0.038
*Lactobacillus plantarum*_0	3	8.0597	0.0410	0.024

Estimate Difference	95% CI for Difference
0.1373	(-0.0063, 0.2810)

T-Value	DF	P-Value
3.04	3	0.056

Two-Sample T-Test and CI: Kontrol_5, *Lactobacillus plantarum*_5

Two-sample T for Kontrol_5 vs *Lactobacillus plantarum*_5

Sample	N	Mean	StDev	SE Mean
Kontrol_5	3	7.9720	0.0972	0.056
*Lactobacillus plantarum*_5	3	7.735	0.134	0.077

Estimate Difference	95% CI for Difference
0.2370	(-0.0669, 0.5409)

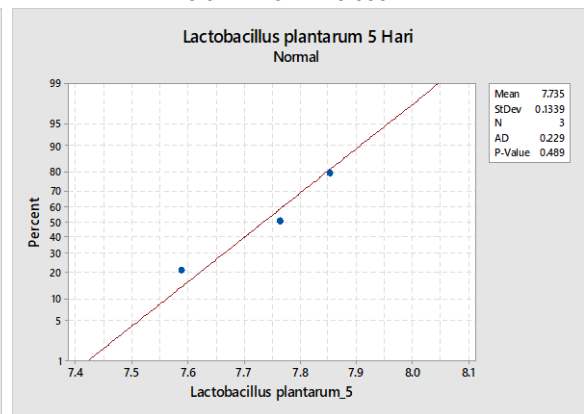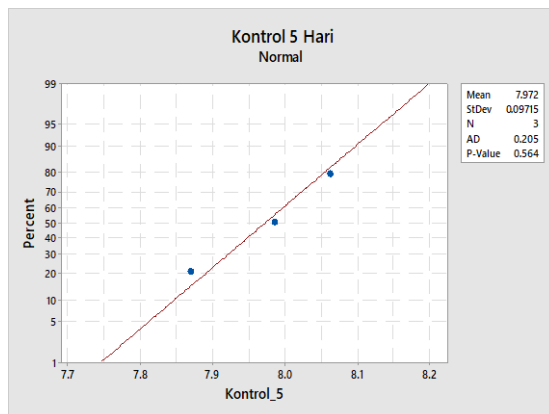| T-Value	DF	P-Value
2.48	3	0.089
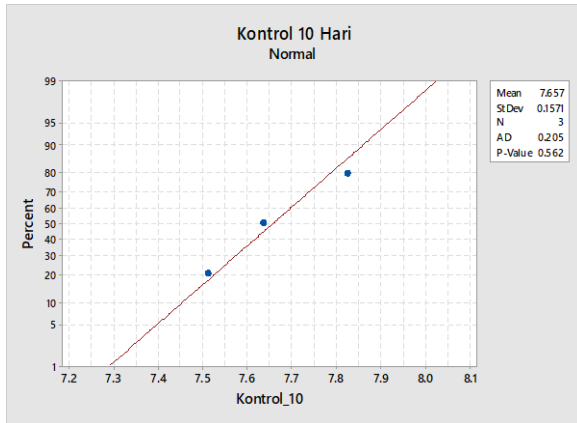
Two-Sample T-Test and CI: Kontrol_10, *Lactobacillus plantarum*_10

Two-sample T for Kontrol_10 vs *Lactobacillus plantarum*_10

Sample	N	Mean	StDev	SE Mean
Kontrol_10	3	7.657	0.157	0.091
*Lactobacillus plantarum*_10	3	7.1977	0.0674	0.039

	Estimate Difference	95% CI for Difference
	0.4597	(0.0350, 0.8843)

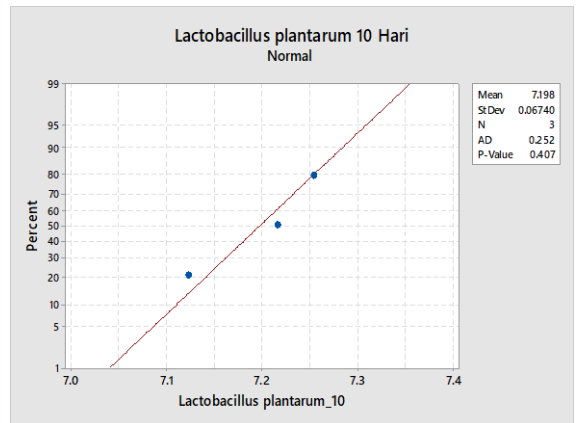| T-Value	DF	P-Value
4.66	2	0.043

Two-Sample T-Test and CI: Kontrol_15, *Lactobacillus plantarum*_15

Two-sample T for Kontrol_15 vs *Lactobacillus plantarum*_15

Sample	N	Mean	StDev	SE Mean
Kontrol_15	3	7.2347	0.0581	0.034
*Lactobacillus plantarum*_15	3	6.232	0.104	0.060

	Estimate Difference	95% CI for Difference
	1.0027	(0.7831, 1.2223)

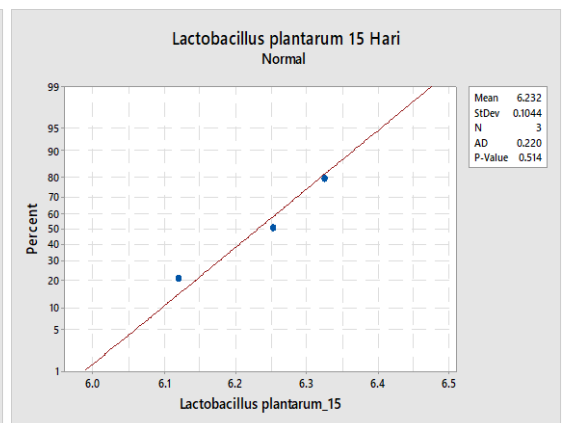| T-Value	DF	P-Value
14.53	3	0.001

Lampiran 10. Analisis Perhitungan Kadar Karbohidrat
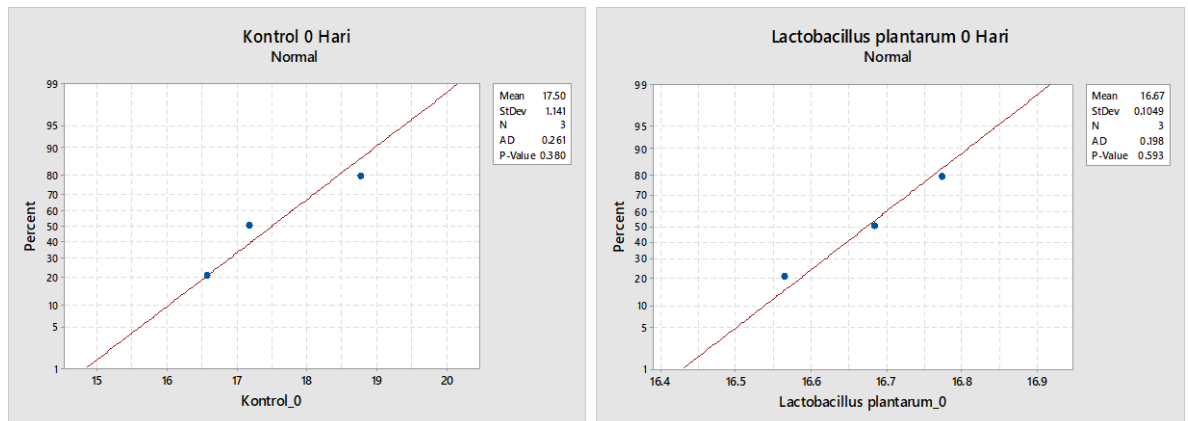
Two-Sample T-Test and CI: Kontrol_0, *Lactobacillus plantarum*_0

Two-sample T for Kontrol_0 vs *Lactobacillus plantarum*_0

Sample	N	Mean	StDev	SE Mean
Kontrol_0	3	17.50	1.14	0.66
*Lactobacillus plantarum*_0	3	16.674	0.105	0.061

Estimate Difference	95% CI for Difference
0.829	(-2.017, 3.676)

T-Value	DF	P-Value
1.25	2	0.337

Two-Sample T-Test and CI: Kontrol_5, *Lactobacillus plantarum*_5

Two-sample T for Kontrol_5 vs *Lactobacillus plantarum*_5

Sample	N	Mean	StDev	SE Mean
Kontrol_5	3	21.005	0.779	0.45
*Lactobacillus plantarum*_5	3	19.769	0.184	0.11

Estimate Difference	95% CI for Difference
1.235	(-0.754, 3.224)

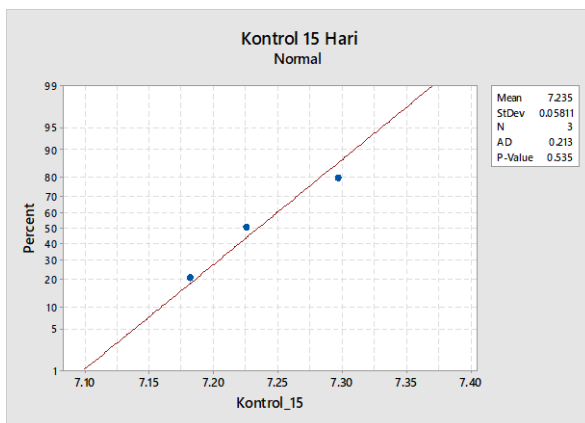| T-Value	DF	P-Value
2.67	2	0.116
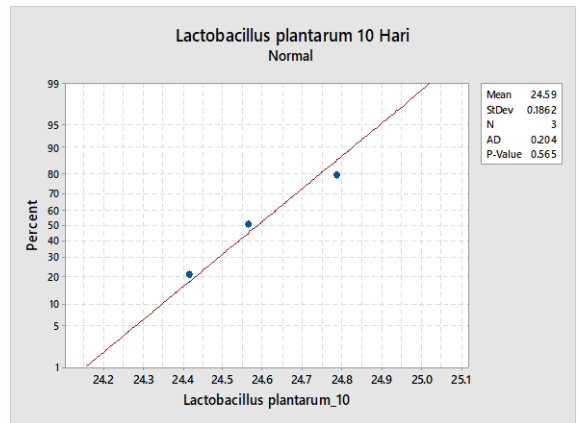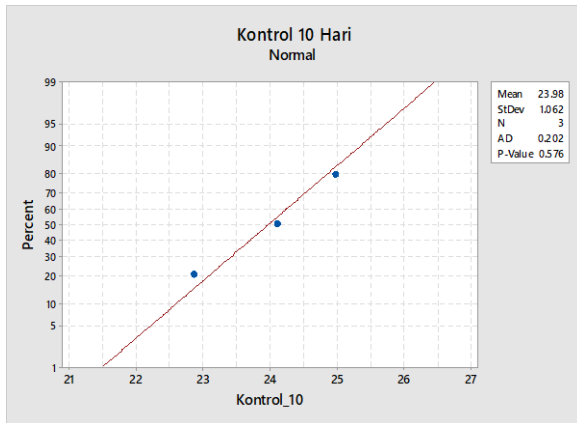
Two-Sample T-Test and CI: Kontrol_10, *Lactobacillus plantarum*_10

Two-sample T for Kontrol_10 vs *Lactobacillus plantarum*_10

Sample	N	Mean	StDev	SE Mean
Kontrol_10	3	23.98	1.06	0.61
*Lactobacillus plantarum*_10	3	24.589	0.186	0.11

	Estimate Difference	95% CI for Difference
	-0.613	(-3.291, 2.065)

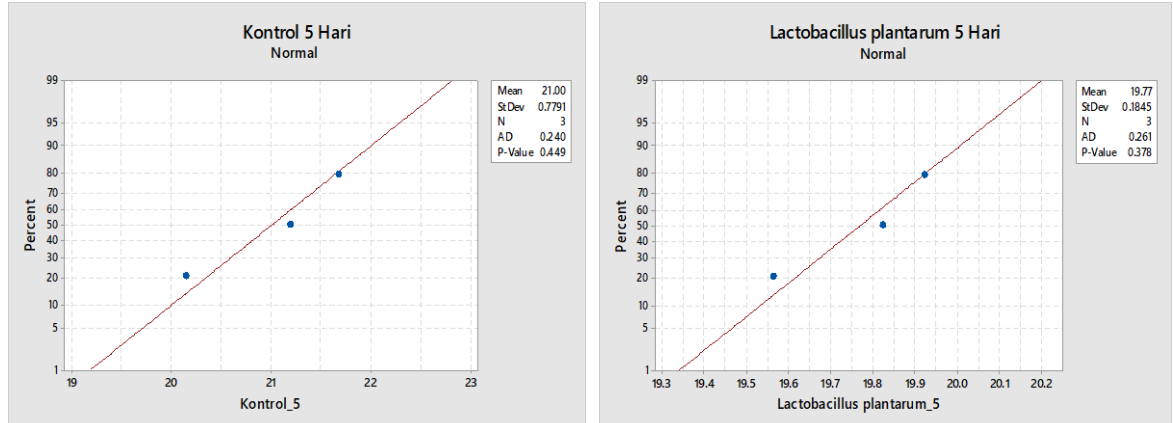| T-Value	DF	P-Value
-0.98	2	0.429
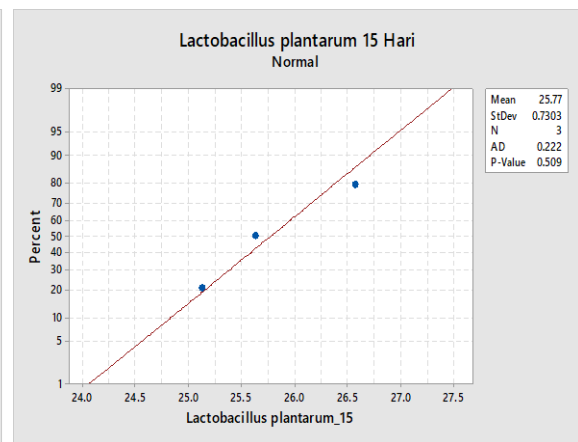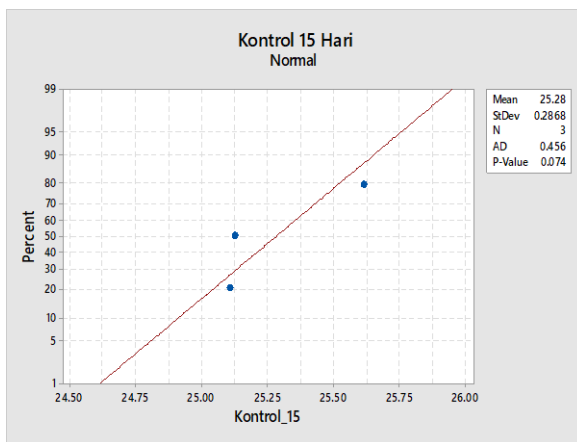
Two-Sample T-Test and CI: Kontrol_15, *Lactobacillus plantarum*_15

Two-sample T for Kontrol_15 vs *Lactobacillus plantarum*_15

Sample	N	Mean	StDev	SE Mean
Kontrol_15	3	25.282	0.287	0.17
*Lactobacillus plantarum*_15	3	25.772	0.730	0.42

	Estimate Difference	95% CI for Difference
	-0.490	(-2.439, 1.459)

T-Value	DF	P-Value
-1.08	2	0.392

Lampiran 11. Analisis Perhitungan Organoleptik Aroma

One-way ANOVA: Kontrol, *Lactobacillus plantarum*

Null hypothesis   All means are equal

Alternative hypothesis   Not all means are equal

Significance level   α = 0.05
Equal variances were assumed for the analysis.
Factor Information

Factor	Levels	Values
Factor	2	Kontrol, *Lactobacillus plantarum*

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Factor	1	0.1901	0.1901	1.07	0.340
Error	6	1.0619	0.1770		
Total	7	1.2521			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
0.420703	15.19%	1.05%	0.00%

Factor	N	Mean	StDev	95% CI
Kontrol_0	4	5.225	0.362	(4.710, 5.740)
*Lactobacillus plantarum*_0	4	4.917	0.472	(4.402, 5.431)

Pooled StDev = 0.420703

Dunnett Multiple Comparisons with a Control
Grouping Information Using the Dunnett Method and 95% Confidence

Factor	N	Mean	Grouping
Kontrol_0 (control)	4	5.225	A
*Lactobacillus plantarum*_0	4	4.917	A

Means not labeled with the letter A are significantly different from the control level mean.

Lampiran 12. Analisis Perhitungan Organoleptik Tesktur

One-way ANOVA: Kontrol, *Lactobacillus plantarum*

Null hypothesis   All means are equal

Alternative hypothesis   Not all means are equal

Significance level   α = 0.05
Equal variances were assumed for the analysis.
Factor Information

Factor	Levels	Values
Factor	2	Kontrol, *Lactobacillus plantarum*

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Factor	1	0.1168	0.1168	0.55	0.484
Error	6	1.2631	0.2105		
Total	7	1.3799			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
0.458813	8.47%	0.00%	0.00%

Factor	N	Mean	StDev	95% CI
Kontrol_5	4	4.900	0.464	(4.339, 5.461)
Lactobacillus plantarum_5	4	4.658	0.453	(4.097, 5.220)

Pooled StDev = 0.458813

Dunnett Multiple Comparisons with a Control
Grouping Information Using the Dunnett Method and 95% Confidence

Factor	N	Mean	Grouping
Kontrol_5 (control)	4	4.900	A
Lactobacillus plantarum_5	4	4.658	A

Means not labeled with the letter A are significantly different from the control level mean.

Lampiran 13. Analisis Perhitungan Organoleptik Warna

One-way ANOVA: Kontrol, *Lactobacillus plantarum*

Null hypothesis	All means are equal
Alternative hypothesis	Not all means are equal
Significance level	α = 0.05

Equal variances were assumed for the analysis.

Factor Information

Factor	Levels	Values
Factor	2	Kontrol_, *Lactobacillus plantarum*

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Factor	1	0.2112	0.2112	0.70	0.435
Error	6	1.8153	0.3025		
Total	7	2.0265			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
0.550042	10.42%	0.00%	0.00%

Factor	N	Mean	StDev	95% CI
Kontrol_10	4	5.083	0.515	(4.410, 5.756)
*Lactobacillus plantarum*_10	4	4.758	0.583	(4.085, 5.431)

Pooled StDev = 0.550042

Dunnett Multiple Comparisons with a Control
Grouping Information Using the Dunnett Method and 95% Confidence

Factor	N	Mean	Grouping
Kontrol_10 (control)	4	5.083	A
*Lactobacillus plantarum*_10	4	4.758	A

Means not labeled with the letter A are significantly different from the control level mean.

Lampiran 14. Analisis Perhitungan Organoleptik Rasa

One-way ANOVA: Kontrol, *Lactobacillus plantarum*

Null hypothesis   All means are equal

Alternative hypothesis   Not all means are equal

Significance level $\alpha = 0.05$
Equal variances were assumed for the analysis.
Factor Information

Factor	Levels	Values
Factor	2	Kontrol, *Lactobacillus plantarum*

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Factor	1	0.1013	0.1013	0.31	0.600
Error	6	1.9853	0.3309		
Total	7	2.0865			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
0.575221	4.85%	0.00%	0.00%

Factor	N	Mean	StDev	95% CI
Kontrol_15	4	4.725	0.565	(4.021, 5.429)
*Lactobacillus plantarum*_15	4	4.500	0.586	(3.796, 5.204)

Pooled StDev = 0.575221

Dunnett Multiple Comparisons with a Control
Grouping Information Using the Dunnett Method and 95% Confidence

Factor	N	Mean	Grouping
Kontrol_15 (control)	4	4.725	A
*Lactobacillus plantarum*_15	4	4.500	A

Means not labeled with the letter A are significantly different from the control level mean.

Lampiran 15. Hasil Perhitungan TPC

Perlakuan	Ulangan	Lama penyimpanan (hari)				Total
		0	5	10	15	
Kontrol	1	134000	152000	182000	195000	663000
	2	138000	175000	198000	210000	721000
	3	132000	168000	192000	224000	716000
Total		404000	495000	572000	629000	2100000
Rerata		134666.7	165000.0	190666.7	209666.7	700000
TPC		$1,3x10^5$	$1,7x10^5$	$1,9x10^5$	$2,1x10^5$	
Lactobacillus plantarum	1	2150000	2950000	2470000	1290000	8860000
	2	2400000	3280000	2750000	1650000	10080000
	3	2510000	3420000	2410000	1360000	9700000
Total		7060000	9650000	7630000	4300000	28640000
Rerata		2353333	3216667	2543333	1433333	9546667
TPC		$2,3x10^6$	$3,2x10^6$	$2,5x10^6$	$1,4x10^6$	