5. PENUTUP

5.1 Kesimpulan

Dari hasil penelitian ini dapat diambil kesimpulan bahwa penambahan kultur starter *Lactobacillus casei* pada sosis fermentasi ikan tuna di dapatkan kesimpulan sebagai berikut :

- Pada penelitian pendahuluan di dapatkan hasil bahwa proses pematangan yang terbaik dari pembuatan sosis ikan tuna yaitu dengan cara di asap dan mengenai lama waktu diperoleh lama waktu terbaik yaitu selama 3 jam.
- Pada penelitian utama pada uji tekstur di dapatkan nilai tertinggi adalah 3,65N dan nilai terendah adalah 2,27N.
- Pada uji kadar air di dapatkan nilai tertinggi yaitu 57,56% pada perlakuan kontrol dan nilai terendah yaitu 47,87% pada perlakuan penambahan bakteri *Lactobacillus casei*.
- Pada uji protein di dapatkan nilai tertinggi yaitu 15,35% pada perlakuan kontrol dan nilai terendah 13,25% pada perlakuan penambahan bakteri *Lactobacillus casei.*
- Pada uji lemak di dapatkan nilai tertinggi yaitu 8,34% pada perlakuan kontrol dan nilai terendah 4,63% pada perlakuan penambahan bakteri *Lactobacillus casei.*
- Pada uji kadar abu di dapatkan nilai tertinggi yaitu 2,39% pada perlakuan kontrol dan nilai tertnggi diperoleh pada perlakuan penambahan bakteri *Lactobacillus casei* yaitu 1,17%.

- Pada uji kadar karbohidrat di dapatkan nilai tertinggi yaitu 21,99% pada perlakuan kontrol, sedangkaan nilai terendah diperoleh pada perlakuan penambahan bakteri dengan nilai 18,37%.
- Pada uji bakteri *Lactobacillus casei* diperoleh nilai terendah yaitu $1,3x10^4$CFU/g pada perlakuan control hari ke 0 dan nilai tertinggi yaitu $3,1x10^5$CFU/g.
- Hasil analisis uji organoleptik yaitu: Aroma 6,20 – 4,33, Tekstur 6,07 – 5,20, Warna 5,30 – 5,00, Rasa 5,53 – 4,17

5.2 Saran

Berdasarkan hasil penelitian yang dilakukan disarankan pembuatan sosis fermentasi ikan tuna dengan menggunakan kultur starter *Lactobacillus casei* dihentikan pada pematangan hari ke 10 karena lebih dari penyimpanan hari ke 10 sosis ikan dengan penambahan atau tanpa penambahan kultur starter *Lactobacillus casei* sudah mengalami kerusakan.

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LAMPIRAN

Lampiran 1. Dokumentasi Cara Pembuatan Sosis Ikan Tuna Asap

4

Keterangan :

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

Lampiran 2. Dokumentasi proses pengkulturan bakteri

4

5

Keterangan :

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

Lampiran 3. Formulir Uji Hedonik 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:

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

Lampiran4. Dokumentasi Hasil Penyimpanan Sosis Ikan Tuna

Hari ke- 0 Sosis ikan tuna control (Tanpa penambahan bakteri)

Hari ke – 0 Sosis ikan dengan penambahan bakteri *Lactobacillus casei*

Hari ke- 5 Sosis ikan tuna control (Tanpa penambahan bakteri)

Hari ke – 5 Sosis ikan tuna dengan Penambahan bakteri *Lactobacillus casei*

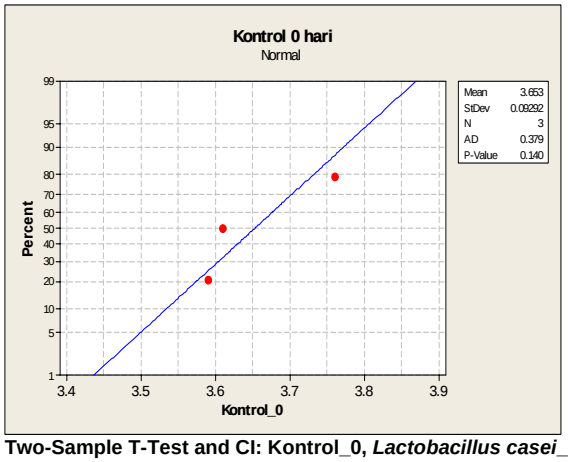
Hari ke- 10 Sosis ikan tuna control (Tanpa penambahan bakteri)

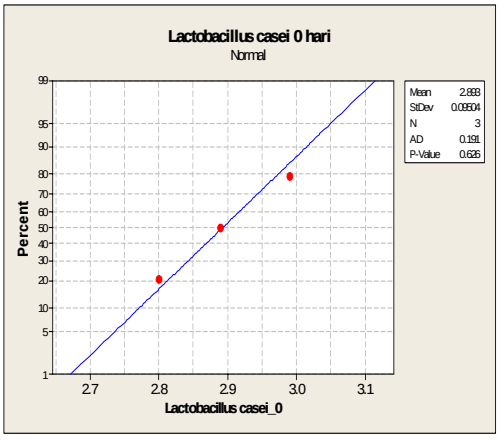
Hari ke – 10 Sosis ikan tuna dengan Penambahan bakteri *Lactobacillus casei*

Hari ke- 15 Sosis ikan tuna kontrol (Tanpa penambahan bakteri)

Hari ke – 15 Sosis ikan tuna dengan Penambahan bakteri *Lactobacillus casei*

Lampiran 5. Analisis Perhitungan Tekstur



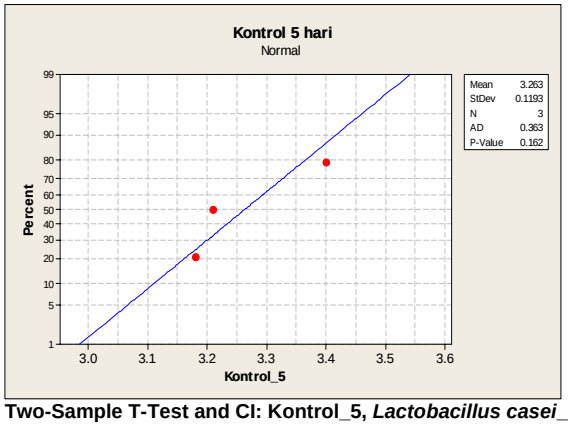


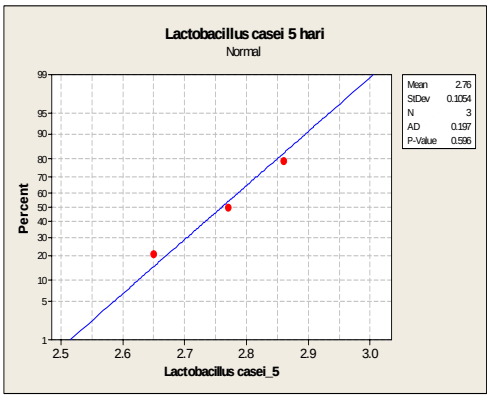
Two-Sample T-Test and CI: Kontrol_0, *Lactobacillus casei*_0

```
Two-sample T for Kontrol_0 vs Lactobacillus casei_0

                      N    Mean   StDev  SE Mean
Kontrol_0             3  3.6533  0.0929    0.054
Lactobacillus casei_0 3  2.8933  0.0950    0.055


Difference = mu (Kontrol_0) - mu (Lactobacillus casei_0)
Estimate for difference:  0.7600
95% CI for difference:  (0.5158, 1.0042)
T-Test of difference = 0 (vs not =): T-Value = 9.90  P-Value = 0.002  DF = 3
```

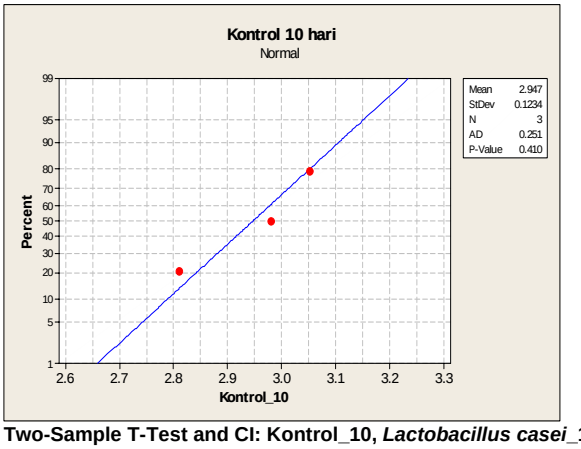


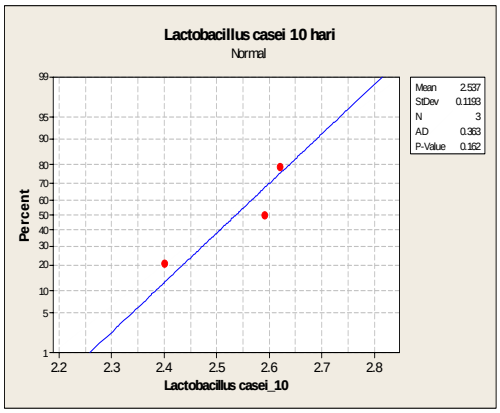


Two-Sample T-Test and CI: Kontrol_5, *Lactobacillus casei*_5

```
Two-sample T for Kontrol_5 vs Lactobacillus casei_5
g
                      N   Mean  StDev  SE Mean
Kontrol_5             3  3.263  0.119    0.069
Lactobacillus casei_5 3  2.760  0.105    0.061


Difference = mu (Kontrol_5) - mu (Lactobacillus casei_5)
Estimate for difference:  0.5033
95% CI for difference:  (0.2109, 0.7958)
T-Test of difference = 0 (vs not =): T-Value = 5.48  P-Value = 0.012  DF = 3
```



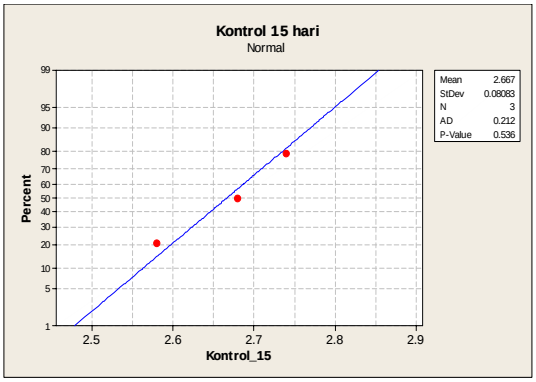


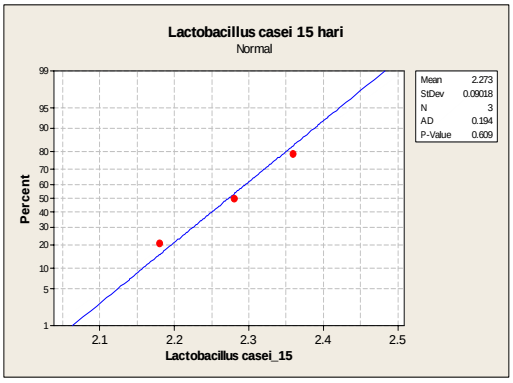
Two-Sample T-Test and CI: Kontrol_10, *Lactobacillus casei*_10

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

	N	Mean	StDev	SE Mean
Kontrol_10	3	2.947	0.123	0.071
*Lactobacillus casei*_10	3	2.537	0.119	0.069

Difference = mu (Kontrol_10) - mu (*Lactobacillus casei*_10)
Estimate for difference: 0.4100
95% CI for difference: (0.0946, 0.7254)
T-Test of difference = 0 (vs not =): T-Value = 4.14 P-Value = 0.026 DF = 3





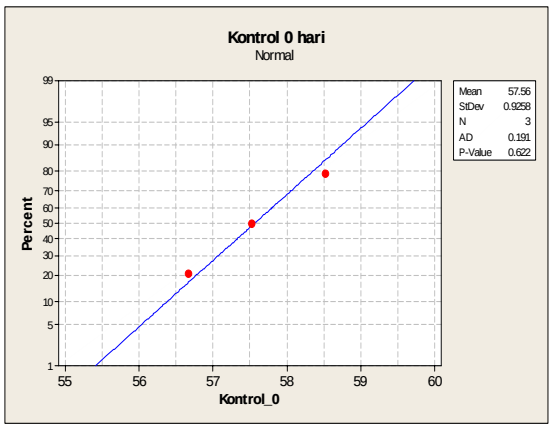
Two-Sample T-Test and CI: Kontrol_15, *Lactobacillus casei*_15

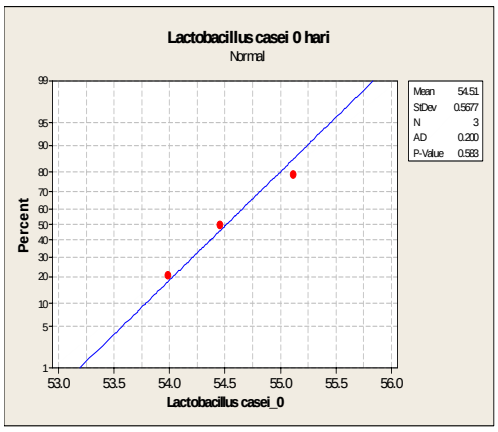
Two-sample T for Kontrol_15 vs *Lactobacillus casei*_15

	N	Mean	StDev	SE Mean
Kontrol_15	3	2.6667	0.0808	0.047
*Lactobacillus casei*_15	3	2.2733	0.0902	0.052

Difference = mu (Kontrol_15) - mu (*Lactobacillus casei*_15)
Estimate for difference: 0.3933
95% CI for difference: (0.1708, 0.6159)
T-Test of difference = 0 (vs not =): T-Value = 5.63 P-Value = 0.011 DF = 3

Lampiran 6. Analisis Kadar Air



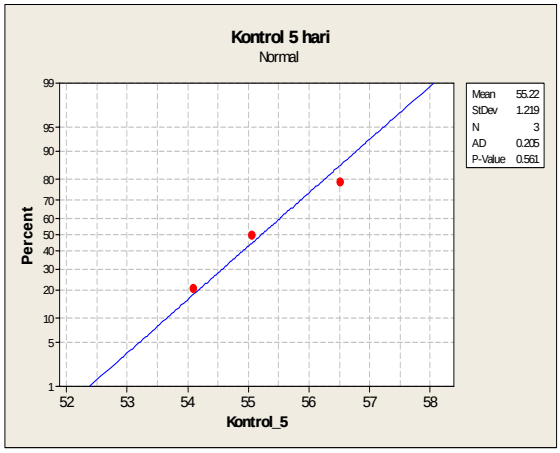


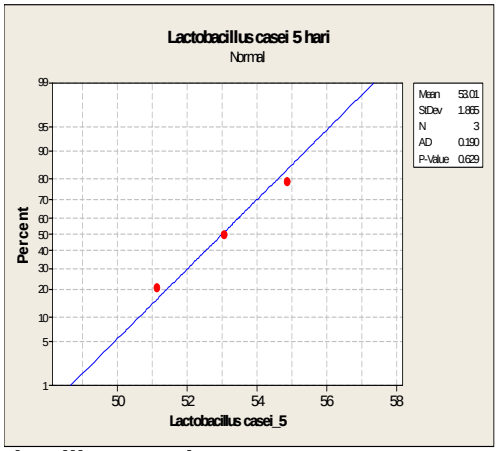
Two-Sample T-Test and CI: Kontrol_0, *Lactobacillus casei*_0

```
Two-sample T for Kontrol_0 vs Lactobacillus casei_0

                          N    Mean  StDev  SE Mean
Kontrol_0                 3  57.563  0.926     0.53
Lactobacillus casei_      3  54.513  0.568     0.33


Difference = mu (Kontrol_0) - mu (Lactobacillus casei_0)
Estimate for difference:  3.050
95% CI for difference:  (1.055, 5.045)
T-Test of difference = 0 (vs not =): T-Value = 4.86  P-Value = 0.017  DF
= 3
```



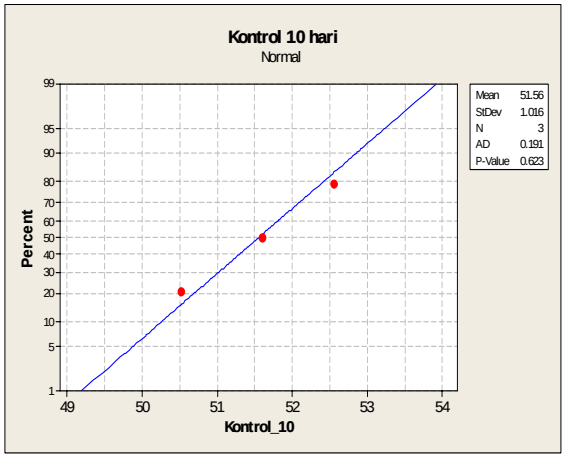


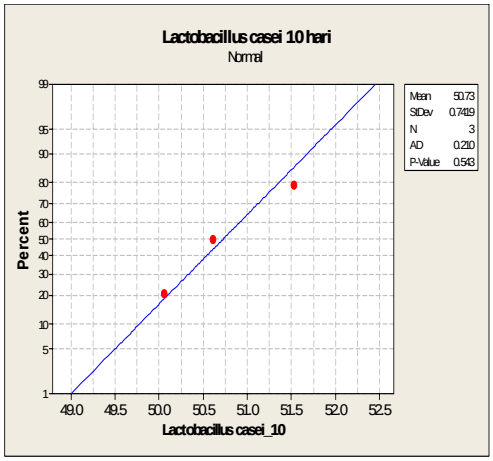
Two-Sample T-Test and CI: Kontrol_5, *Lactobacillus casei*_5

```
Two-sample T for Kontrol_5 vs Lactobacillus casei_5

                          N   Mean  StDev  SE Mean
Kontrol_5                 3  55.22   1.22     0.70
Lactobacillus casei _     3  53.01   1.87      1.1


Difference = mu (Kontrol_5) - mu (Lactobacillus casei _5)
Estimate for difference:  2.21
95% CI for difference:  (-1.88, 6.30)
T-Test of difference = 0 (vs not =): T-Value = 1.72  P-Value = 0.184  DF
= 3
```



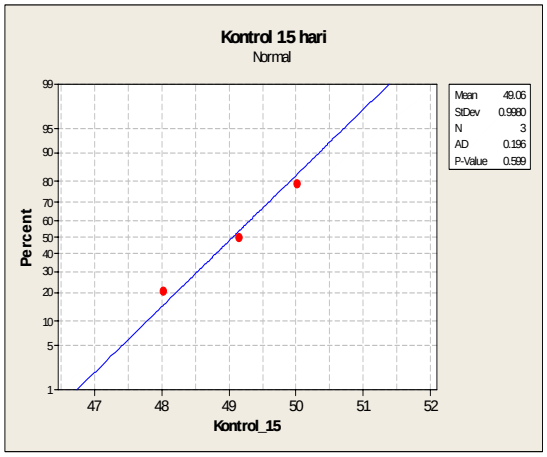


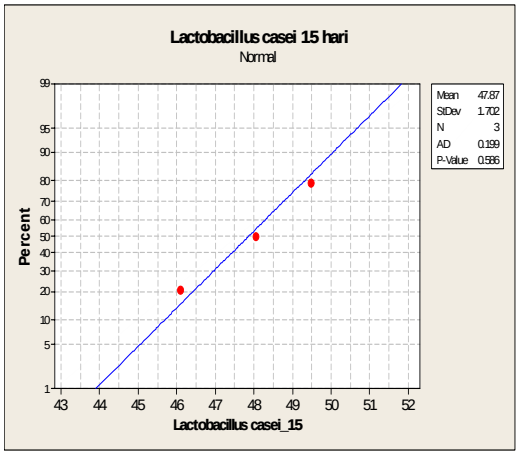
Two-Sample T-Test and CI: Kontrol_10, *Lactobacillus casei*_10

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

	N	Mean	StDev	SE Mean
Kontrol_10	3	51.56	1.02	0.59
*Lactobacillus casei*_	3	50.727	0.742	0.43

Difference = mu (Kontrol_10) - mu (*Lactobacillus casei* _10)
Estimate for difference: 0.830
95% CI for difference: (-1.481, 3.141)
T-Test of difference = 0 (vs not =): T-Value = 1.14 P-Value = 0.336 DF = 3





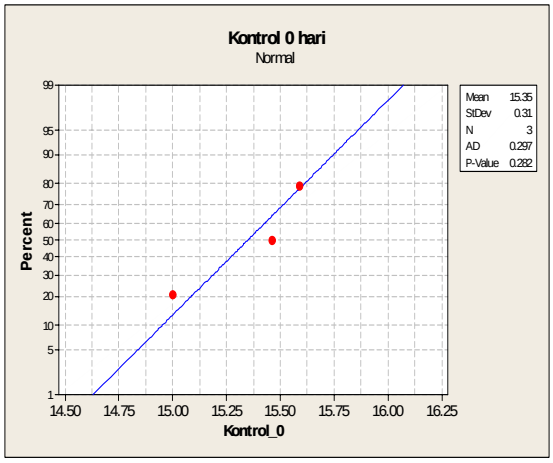
Two-Sample T-Test and CI: Kontrol_15, *Lactobacillus casei*_15

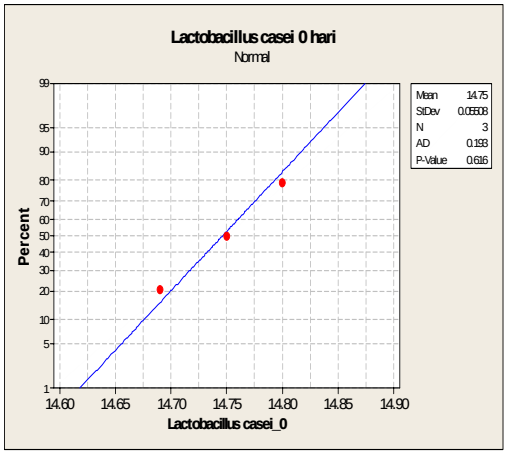
Two-sample T for Kontrol_15 vs *Lactobacillus casei* _15

	N	Mean	StDev	SE Mean
Kontrol_15	3	49.060	0.998	0.58
*Lactobacillus casei*_	3	47.87	1.70	0.98

Difference = mu (Kontrol_15) - mu (*Lactobacillus casei* _15)
Estimate for difference: 1.19
95% CI for difference: (-2.43, 4.82)
T-Test of difference = 0 (vs not =): T-Value = 1.05 P-Value = 0.372 DF = 3

Lampiran 7. Analisis Kadar Protein



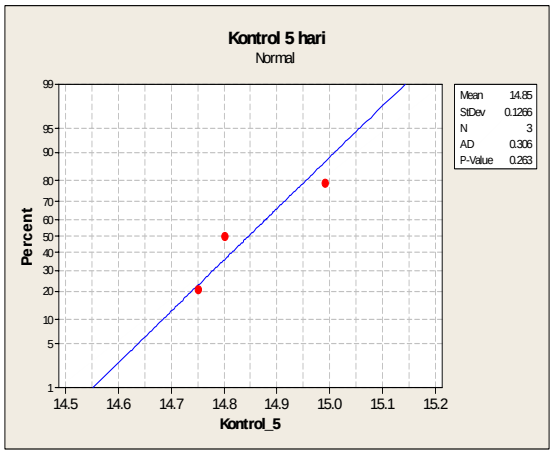


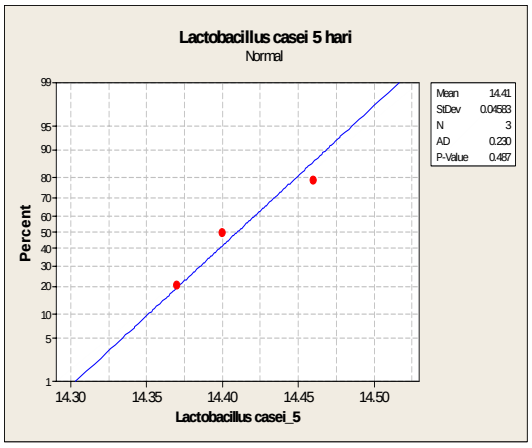
Two-Sample T-Test and CI: Kontrol_0, *Lactobacillus casei*_0

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

	N	Mean	StDev	SE Mean
Kontrol_0	3	15.350	0.310	0.18
*Lactobacillus casei*_0	3	14.7467	0.0551	0.032

Difference = mu (Kontrol_0) - mu (*Lactobacillus casei*_0)
Estimate for difference: 0.603
95% CI for difference: (-0.179, 1.385)
T-Test of difference = 0 (vs not =): T-Value = 3.32 P-Value = 0.080 DF = 2



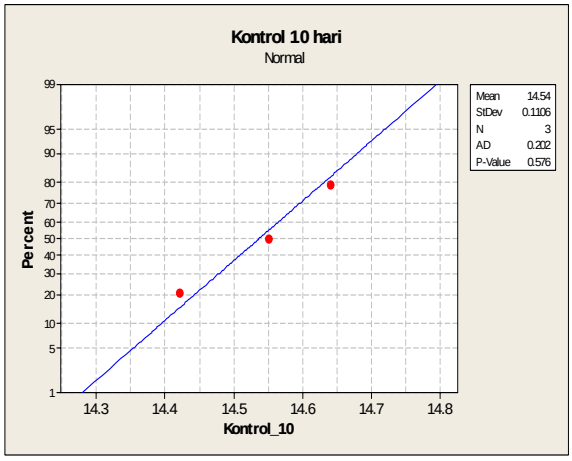


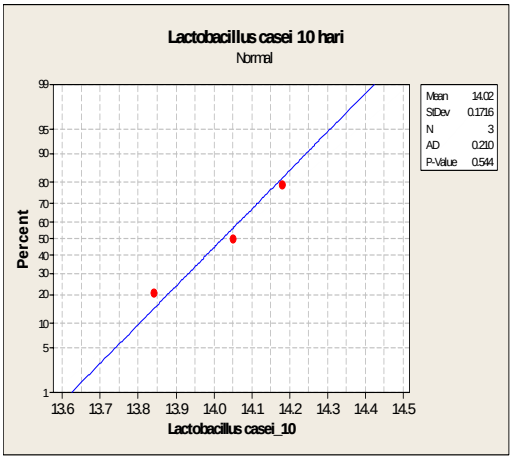
Two-Sample T-Test and CI: Kontrol_5, *Lactobacillus casei*_5

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

	N	Mean	StDev	SE Mean
Kontrol_5	3	14.847	0.127	0.073
*Lactobacillus casei*_5	3	14.4100	0.0458	0.026

Difference = mu (Kontrol_5) - mu (*Lactobacillus casei*_5)
Estimate for difference: 0.4367
95% CI for difference: (0.1022, 0.7712)
T-Test of difference = 0 (vs not =): T-Value = 5.62 P-Value = 0.030 DF = 2



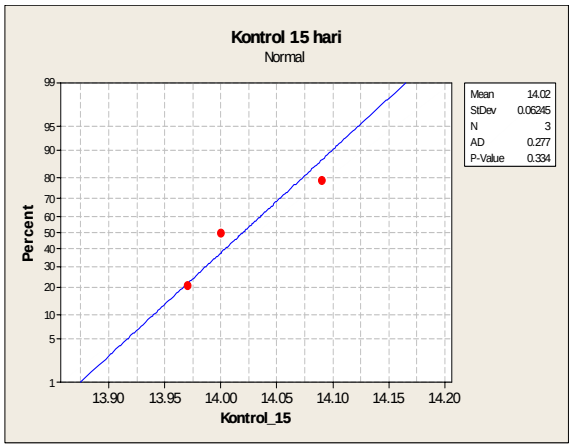


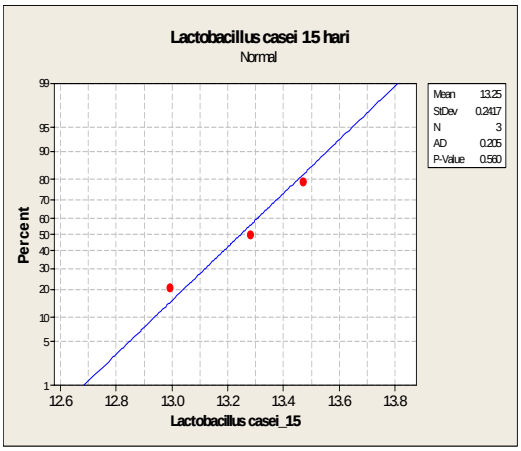
Two-Sample T-Test and CI: Kontrol_10, *Lactobacillus casei*_10

```
Two-sample T for Kontrol_10 vs Lactobacillus casei_10

                       N    Mean  StDev  SE Mean
Kontrol_10             3  14.537  0.111    0.064
Lactobacillus casei_10 3  14.023  0.172    0.099


Difference = mu (Kontrol_10) - mu (Lactobacillus casei_10)
Estimate for difference:  0.513
95% CI for difference:  (0.138, 0.888)
T-Test of difference = 0 (vs not =): T-Value = 4.36  P-Value = 0.022  DF
= 3
```





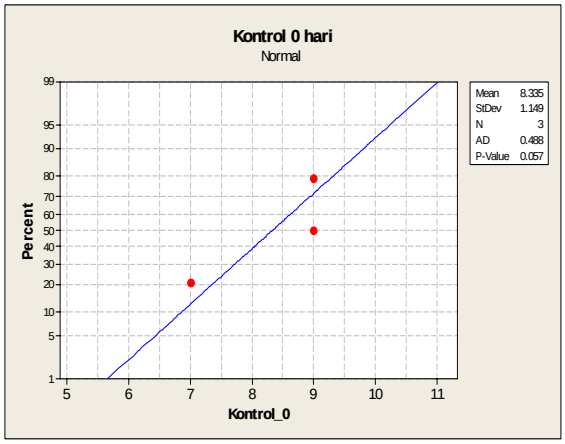
Two-Sample T-Test and CI: Kontrol_15, *Lactobacillus casei*_15

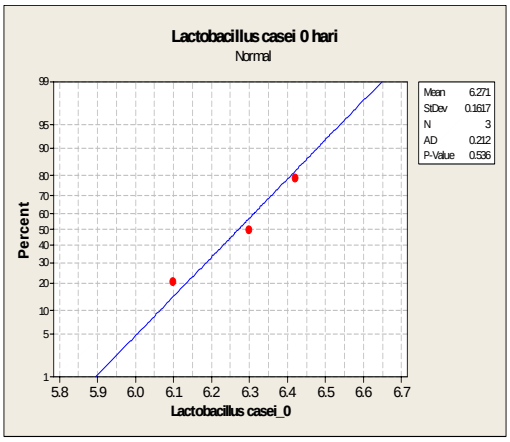
```
Two-sample T for Kontrol_15 vs Lactobacillus casei_15

                       N     Mean   StDev  SE Mean
Kontrol_15             3  14.0200  0.0624    0.036
Lactobacillus casei_15 3   13.247   0.242     0.14


Difference = mu (Kontrol_15) - mu (Lactobacillus casei_15)
Estimate for difference:  0.773
95% CI for difference:  (0.153, 1.394)
T-Test of difference = 0 (vs not =): T-Value = 5.36  P-Value = 0.033  DF
= 2
```

Lampiran 8. Analisis Kadar Lemak



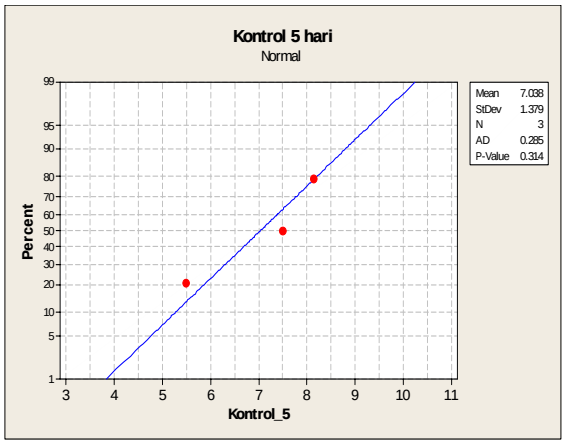


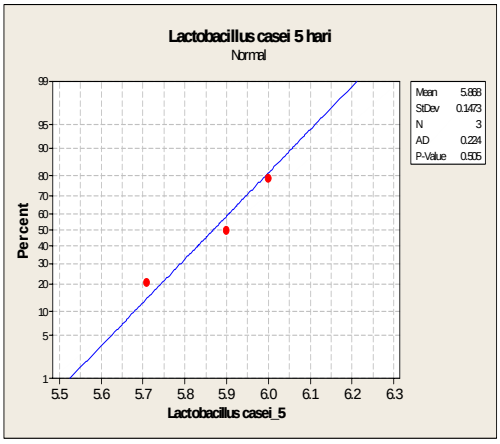
Two-Sample T-Test and CI: Kontrol_0, *Lactobacillus casei*_0

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

	N	Mean	StDev	SE Mean
Kontrol_0	3	8.33	1.15	0.66
*Lactobacillus casei*_0	3	6.271	0.162	0.093

Difference = mu (Kontrol_0) - mu (*Lactobacillus casei*_0)
Estimate for difference: 2.063
95% CI for difference: (-0.819, 4.946)
T-Test of difference = 0 (vs not =): T-Value = 3.08 P-Value = 0.091 DF = 2



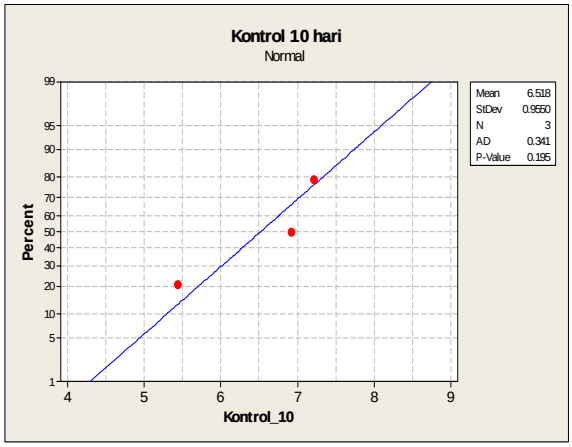


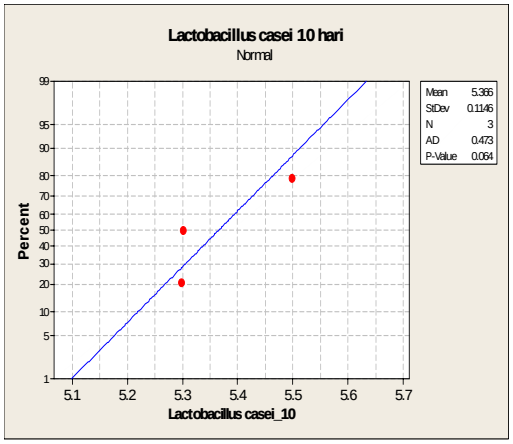
Two-Sample T-Test and CI: Kontrol_5, *Lactobacillus casei*_5

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

	N	Mean	StDev	SE Mean
Kontrol_5	3	7.04	1.38	0.80
*Lactobacillus casei*_5	3	5.868	0.147	0.085

Difference = mu (Kontrol_5) - mu (*Lactobacillus casei*_5)
Estimate for difference: 1.170
95% CI for difference: (-2.275, 4.615)
T-Test of difference = 0 (vs not =): T-Value = 1.46 P-Value = 0.281 DF = 2



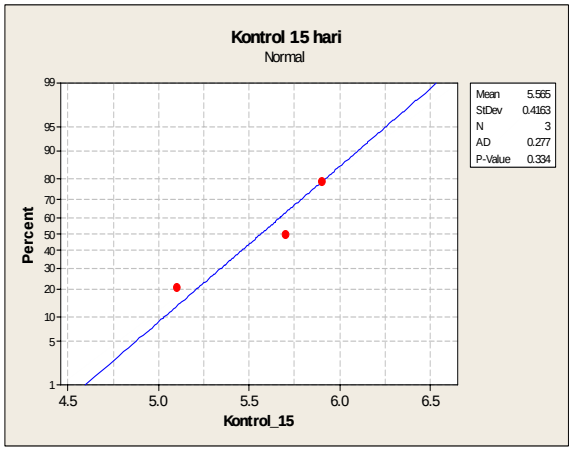


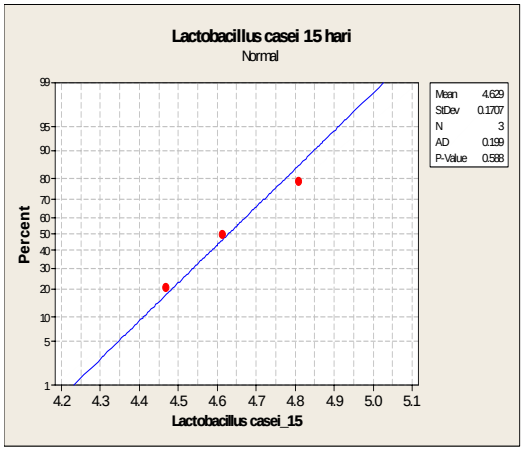
Two-Sample T-Test and CI: Kontrol_10, *Lactobacillus casei*_10

```
Two-sample T for Kontrol_10 vs Lactobacillus casei_10

                       N   Mean  StDev  SE Mean
Kontrol_10             3  6.518  0.955     0.55
Lactobacillus casei_10 3  5.366  0.115    0.066


Difference = mu (Kontrol_10) - mu (Lactobacillus casei_10)
Estimate for difference:  1.152
95% CI for difference:  (-1.237, 3.542)
T-Test of difference = 0 (vs not =): T-Value = 2.07  P-Value = 0.174  DF
= 2
```





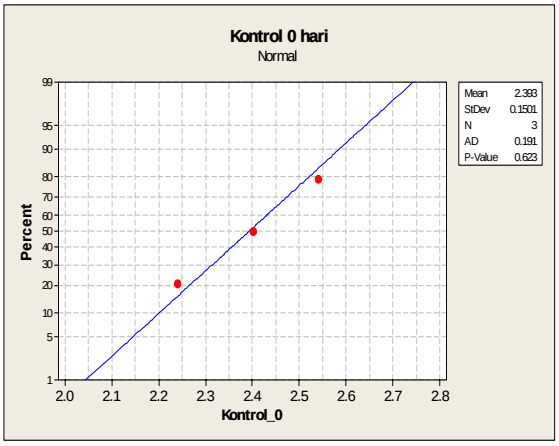
Two-Sample T-Test and CI: Kontrol_15, *Lactobacillus casei*_15

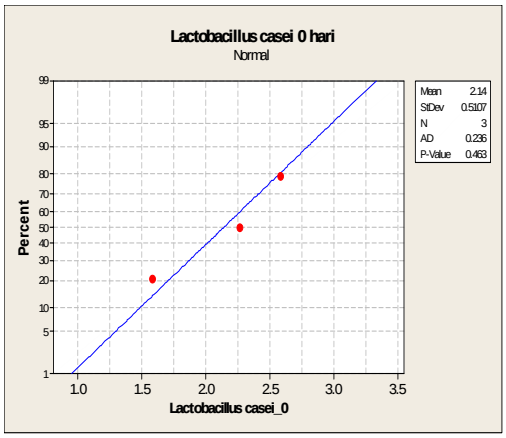
```
Two-sample T for Kontrol_15 vs Lactobacillus casei_15

                       N   Mean  StDev  SE Mean
Kontrol_15             3  5.565  0.416     0.24
Lactobacillus casei_15 3  4.629  0.171    0.099


Difference = mu (Kontrol_15) - mu (Lactobacillus casei_15)
Estimate for difference:  0.936
95% CI for difference:  (-0.182, 2.053)
T-Test of difference = 0 (vs not =): T-Value = 3.60  P-Value = 0.069  DF
= 2
```

Lampiran 9. Analisis Kadar Abu



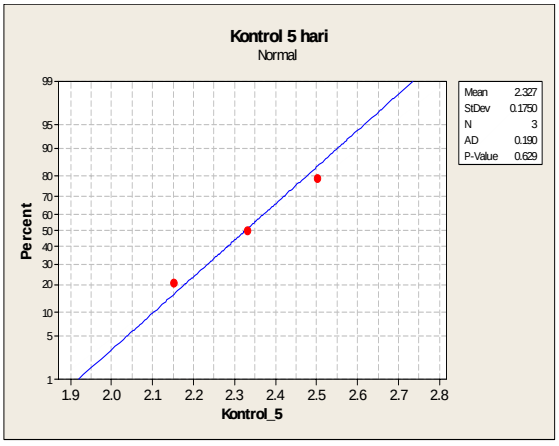


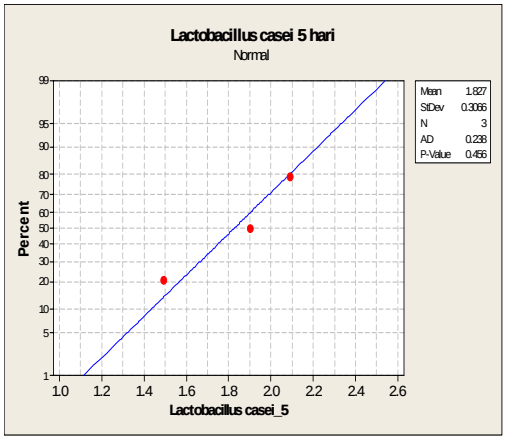
Two-Sample T-Test and CI: Kontrol_0, *Lactobacillus casei*_0

```
Two-sample T for Kontrol_0 vs Lactobacillus casei_0

                      N   Mean  StDev  SE Mean
Kontrol_0             3  2.393  0.150    0.087
Lactobacillus casei_0 3  2.140  0.511     0.29


Difference = mu (Kontrol_0) - mu (Lactobacillus casei_0)
Estimate for difference:  0.253
95% CI for difference:  (-1.069, 1.576)
T-Test of difference = 0 (vs not =): T-Value = 0.82  P-Value = 0.496  DF
= 2
```



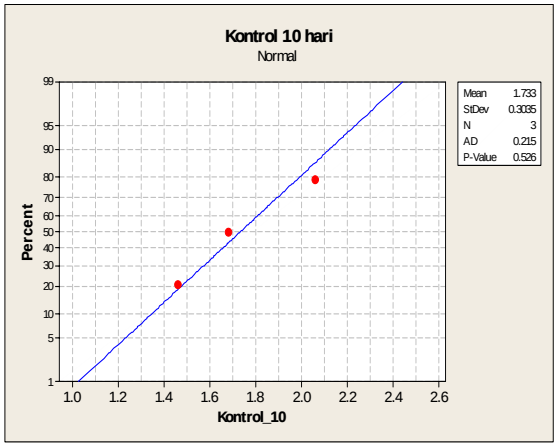


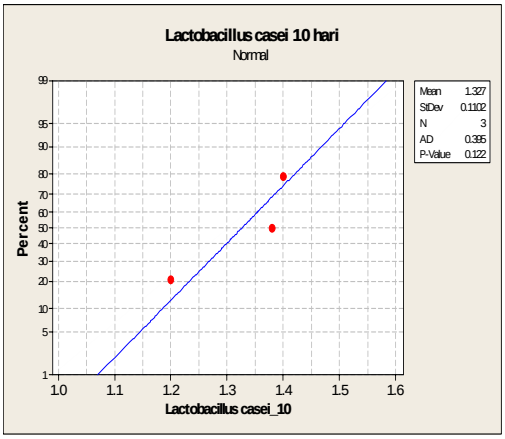
Two-Sample T-Test and CI: Kontrol_5, *Lactobacillus casei*_5

```
Two-sample T for Kontrol_5 vs Lactobacillus casei_5

                      N   Mean  StDev  SE Mean
Kontrol_5             3  2.327  0.175     0.10
Lactobacillus casei_5 3  1.827  0.307     0.18


Difference = mu (Kontrol_5) - mu (Lactobacillus casei_5)
Estimate for difference:  0.500
95% CI for difference:  (-0.149, 1.149)
T-Test of difference = 0 (vs not =): T-Value = 2.45  P-Value = 0.091  DF
= 3
```



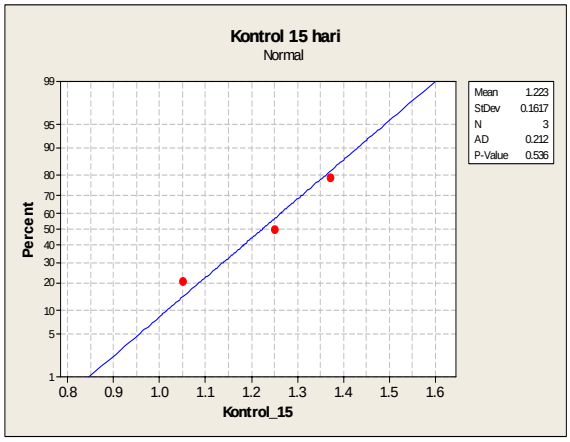


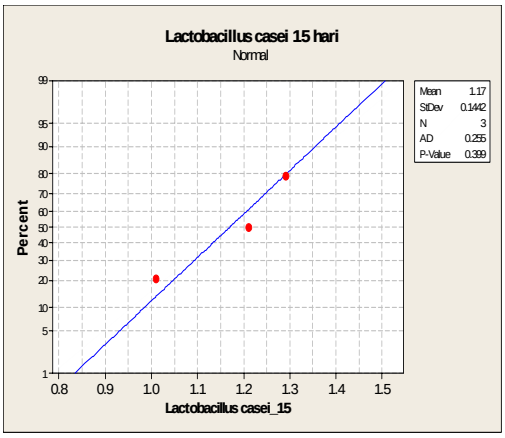
Two-Sample T-Test and CI: Kontrol_10, *Lactobacillus casei*_10

```
Two-sample T for Kontrol_10 vs Lactobacillus casei_10

                       N   Mean  StDev  SE Mean
Kontrol_10             3  1.733  0.304     0.18
Lactobacillus casei_10 3  1.327  0.110    0.064


Difference = mu (Kontrol_10) - mu (Lactobacillus casei_10)
Estimate for difference:  0.407
95% CI for difference:  (-0.395, 1.209)
T-Test of difference = 0 (vs not =): T-Value = 2.18  P-Value = 0.161  DF
= 2
```





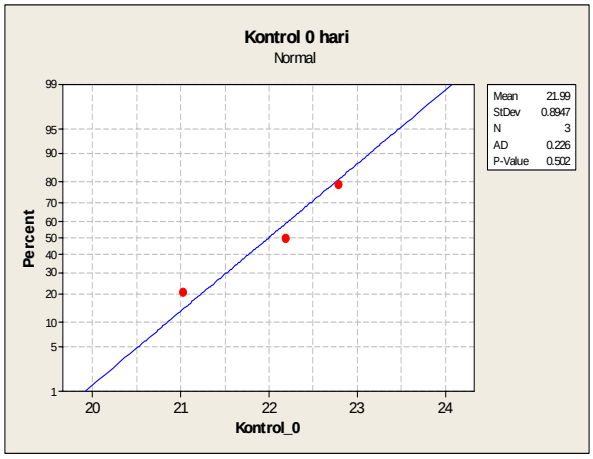
Two-Sample T-Test and CI: Kontrol_15, *Lactobacillus casei*_15

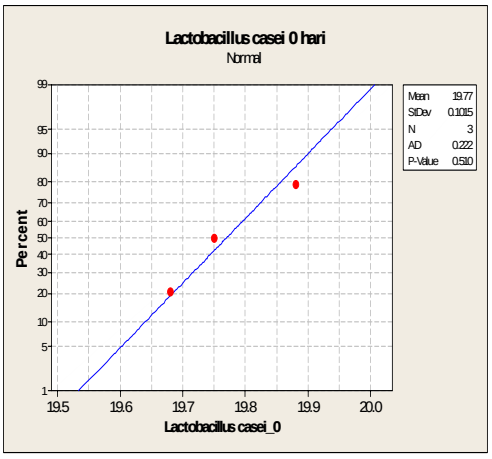
```
Two-sample T for Kontrol_15 vs Lactobacillus casei_15

                       N   Mean  StDev  SE Mean
Kontrol_15             3  1.223  0.162    0.093
Lactobacillus casei_15 3  1.170  0.144    0.083


Difference = mu (Kontrol_15) - mu (Lactobacillus casei_15)
Estimate for difference:  0.053
95% CI for difference:  (-0.345, 0.451)
T-Test of difference = 0 (vs not =): T-Value = 0.43  P-Value = 0.699  DF
= 3
```

Lampiran 10. Analisis Kadar Karbohidrat



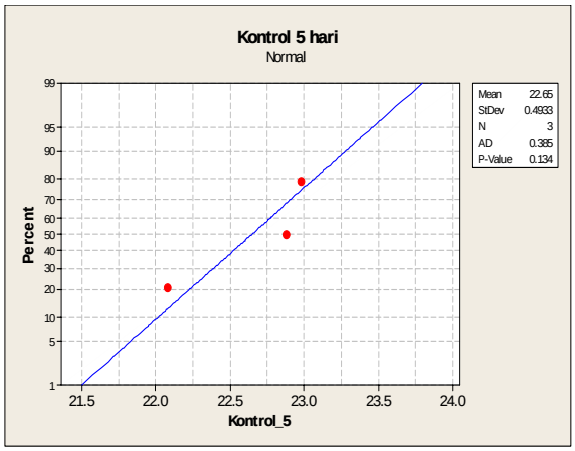


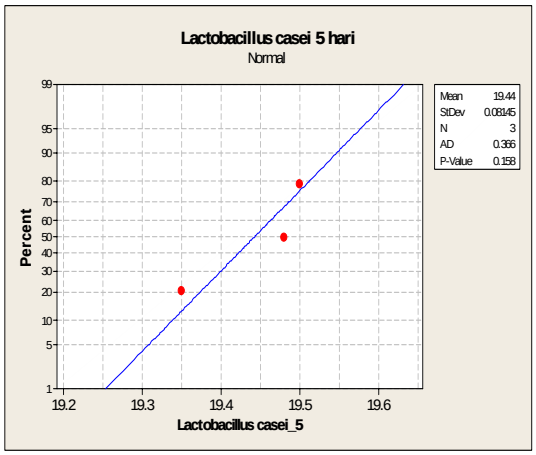
Two-Sample T-Test and CI: Kontrol_0, *Lactobacillus casei*_0

```
Two-sample T for Kontrol_0 vs Lactobacillus casei_0

                      N    Mean  StDev  SE Mean
Kontrol_0             3  21.993  0.895     0.52
Lactobacillus casei_0 3  19.770  0.101    0.059


Difference = mu (Kontrol_0) - mu (Lactobacillus casei_0)
Estimate for difference:  2.223
95% CI for difference:  (-0.014, 4.460)
T-Test of difference = 0 (vs not =): T-Value = 4.28  P-Value = 0.051  DF
= 2
```



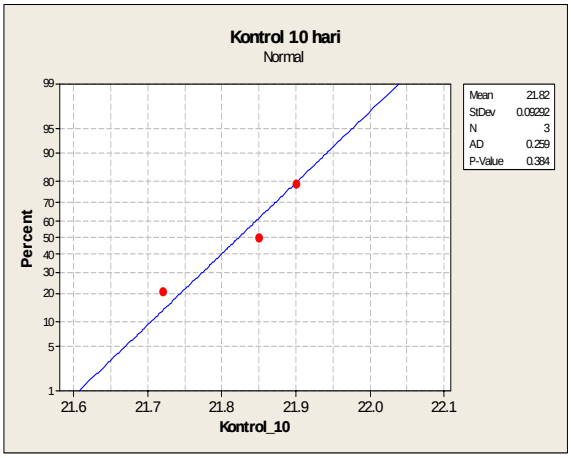


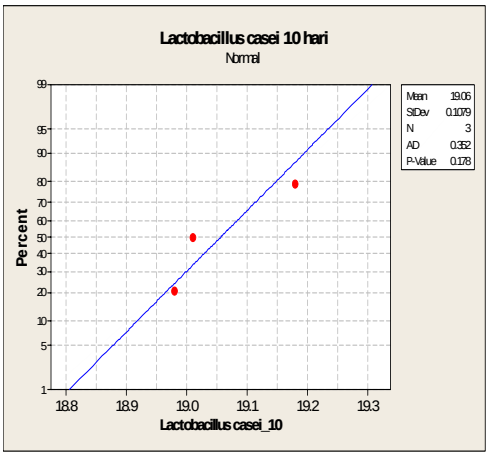
Two-Sample T-Test and CI: Kontrol_5, *Lactobacillus casei*_5

```
Two-sample T for Kontrol_5 vs Lactobacillus casei_5

                      N     Mean   StDev  SE Mean
Kontrol_5             3   22.647   0.493     0.28
Lactobacillus casei_5 3  19.4433  0.0814    0.047


Difference = mu (Kontrol_5) - mu (Lactobacillus casei_5)
Estimate for difference:  3.203
95% CI for difference:  (1.961, 4.445)
T-Test of difference = 0 (vs not =): T-Value = 11.10  P-Value = 0.008  DF
= 2
```



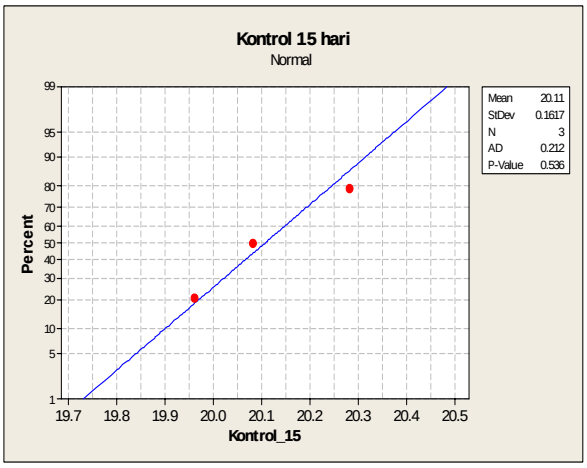


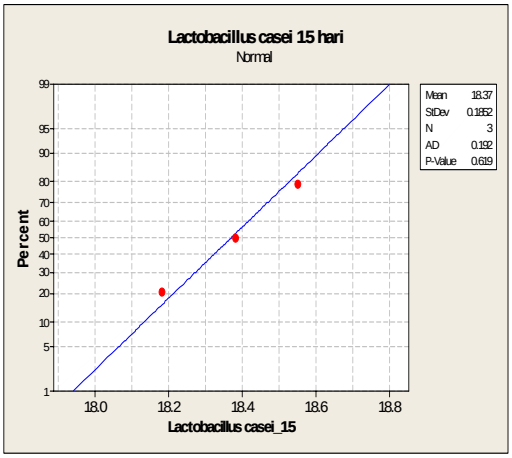
Two-Sample T-Test and CI: Kontrol_10, *Lactobacillus casei*_10

```
Two-sample T for Kontrol_10 vs Lactobacillus casei_10

                       N     Mean   StDev  SE Mean
Kontrol_10             3  21.8233  0.0929    0.054
Lactobacillus casei_10 3   19.057   0.108    0.062


Difference = mu (Kontrol_10) - mu (Lactobacillus casei_10)
Estimate for difference:  2.7667
95% CI for difference:  (2.5051, 3.0282)
T-Test of difference = 0 (vs not =): T-Value = 33.66  P-Value = 0.000  DF
= 3
```





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

```
Two-sample T for Kontrol_15 vs Lactobacillus casei_15

                       N    Mean  StDev  SE Mean
Kontrol_15             3  20.107  0.162    0.093
Lactobacillus casei_15 3  18.370  0.185     0.11


Difference = mu (Kontrol_15) - mu (Lactobacillus casei_15)
Estimate for difference:  1.737
95% CI for difference:  (1.285, 2.188)
T-Test of difference = 0 (vs not =): T-Value = 12.24  P-Value = 0.001  DF
= 3
```

Lampiran 11. Perhitungan Bakteri *Lactobacillus casei*

Perlakuan	ulangan	lama penyimpanan (hari)				total
		0	5	10	15	
Control	1	13000	18800	19500	18700	70,000.00
	2	13500	17000	17800	20900	69,200.00
	3	15200	19600	20200	22500	77,500.00
total		41,700	55,400	57,500	62,100	216,700
rerata		13,900	18,467	19,167	20,700	72,233
TPC		$1,3x10^4$	$1,8x10^4$	$1,9x10^4$	$2,0x10^4$	
Lactobacillus casei	1	210000	288000	250000	102000	850,000.00
	2	250000	313000	231000	99800	893,800.00
	3	241000	352000	210000	88900	891,900.00
total		701,000	953,000	691,000	290,700	2,635,700
rerata		233,667	317,667	230,333	96,900	878,567
TPC		$2,3x10^5$	$3,1x10^5$	$2,3x10^5$	$9,6x10^4$	

Lampiran. 12 Analisis Aroma Organoleptik

One-way ANOVA: Aroma Kontrol, Aroma *Lactobacillus casei*

```
Source  DF     SS     MS     F      P
Factor   1  0.569  0.569  1.73  0.237
Error    6  1.976  0.329
Total    7  2.544

S = 0.5738   R-Sq = 22.36%   R-Sq(adj) = 9.42%


Level                     N    Mean   StDev
Aroma Kontrol             4  5.2667  0.6622
Aroma Lactobacillus case  4  4.7333  0.4690

                          Individual 95% CIs For Mean Based on
                          Pooled StDev
Level                     ---------+---------+---------+---------+
Aroma Kontrol                      (-------------*-------------)
Aroma Lactobacillus case  (-------------*-------------)
                          ---------+---------+---------+---------+
                                 4.50      5.00      5.50      6.00

Pooled StDev = 0.5738


Grouping Information Using Dunnett Method

Level                       N    Mean  Grouping
Aroma Kontrol (control)     4  5.2667  A
Aroma Lactobacillus casei   4  4.7333  A

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


Dunnett's comparisons with a control

Family error rate = 0.05
Individual error rate = 0.0500

Critical value = 2.45

Control = Aroma Kontrol

Intervals for treatment mean minus control mean

Level                       Lower   Center   Upper
Aroma Lactobacillus case  -1.5262  -0.5333  0.4595

Level                       -+---------+---------+---------+--------
Aroma Lactobacillus case    (-------------------*-------------------)
                            -+---------+---------+---------+--------
                          -1.50     -1.00     -0.50      0.00
```

Lampiran. 13Analisis Tekstur Organoleptik

One-way ANOVA: Tekstur Kontrol, Tekstur *Lactobacillus casei*

```
Source  DF     SS     MS     F      P
Factor   1  1.253  1.253  4.80  0.071
Error    6  1.567  0.261
Total    7  2.821

S = 0.5111   R-Sq = 44.43%   R-Sq(adj) = 35.17%



Level                     N    Mean   StDev
Tekstur Kontrol           4  5.1583  0.6596
Tekstur Lactobacillus ca  4  4.3667  0.2956

                          Individual 95% CIs For Mean Based on
                          Pooled StDev
Level                     --------+---------+---------+---------+-
Tekstur Kontrol                             (---------*---------)
Tekstur Lactobacillus ca  (----------*---------)
                          --------+---------+---------+---------+-
                                4.20      4.80      5.40      6.00

Pooled StDev = 0.5111


Grouping Information Using Dunnett Method

Level                        N    Mean  Grouping
Tekstur Kontrol (control)    4  5.1583  A
Tekstur Lactobacillus casei  4  4.3667  A

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


Dunnett's comparisons with a control

Family error rate = 0.05
Individual error rate = 0.0500

Critical value = 2.45

Control = Tekstur Kontrol

Intervals for treatment mean minus control mean

Level                      Lower   Center   Upper
Tekstur Lactobacillus ca  -1.6760  -0.7917  0.0927

Level                     ----+---------+---------+---------+-----
Tekstur Lactobacillus ca  (-----------------*-----------------)
                          ----+---------+---------+---------+-----
                           -1.50     -1.00     -0.50      0.00
```

Lampiran. 14 Analisis Warna Organoleptik

One-way ANOVA: Warna Kontrol, Warna *Lactobacillus casei*

```
Source  DF     SS     MS     F      P
Factor   1  0.211  0.211  1.35  0.290
Error    6  0.941  0.157
Total    7  1.152

S = 0.3960   R-Sq = 18.34%   R-Sq(adj) = 4.73%



Level                     N    Mean   StDev
Warna Kontrol             4  4.8917  0.3948
Warna Lactobacillus case  4  4.5667  0.3972

                          Individual 95% CIs For Mean Based on
                          Pooled StDev
Level                     ---+---------+---------+---------+------
Warna Kontrol                        (-------------*-------------)
Warna Lactobacillus case  (-------------*-------------)
                          ---+---------+---------+---------+------
                           4.20      4.55      4.90      5.25

Pooled StDev = 0.3960


Grouping Information Using Dunnett Method

Level                      N    Mean  Grouping
Warna Kontrol (control)    4  4.8917  A
Warna Lactobacillus casei  4  4.5667  A

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


Dunnett's comparisons with a control

Family error rate = 0.05
Individual error rate = 0.0500

Critical value = 2.45

Control = Warna Kontrol

Intervals for treatment mean minus control mean

Level                       Lower   Center   Upper
Warna Lactobacillus case  -1.0101  -0.3250  0.3601

Level                     ---------+---------+---------+---------+
Warna Lactobacillus case  (-------------------*------------------)
                          ---------+---------+---------+---------+
                                -0.70     -0.35      0.00      0.35
```

Lampiran. 15 Analisis Rasa Organoleptik

One-way ANOVA: Rasa Kontrol, Rasa *Lactobacillus casei*

```
Source  DF     SS     MS     F      P
Factor   1  0.170  0.170  0.95  0.368
Error    6  1.075  0.179
Total    7  1.245

S = 0.4233   R-Sq = 13.66%   R-Sq(adj) = 0.00%



Level                     N    Mean   StDev
Rasa Kontrol              4  4.7083  0.5547
Rasa Lactobacillus casei  4  4.4167  0.2253

                          Individual 95% CIs For Mean Based on
                          Pooled StDev
Level                     ---------+---------+---------+---------+
Rasa Kontrol                       (--------------*-------------)
Rasa Lactobacillus casei  (--------------*--------------)
                          ---------+---------+---------+---------+
                                 4.20      4.55      4.90      5.25

Pooled StDev = 0.4233


Grouping Information Using Dunnett Method

Level                     N    Mean  Grouping
Rasa Kontrol (control)    4  4.7083  A
Rasa Lactobacillus casei  4  4.4167  A

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


Dunnett's comparisons with a control

Family error rate = 0.05
Individual error rate = 0.0500

Critical value = 2.45

Control = Rasa Kontrol

Intervals for treatment mean minus control mean

Level                       Lower   Center   Upper
Rasa Lactobacillus casei  -1.0241  -0.2917  0.4408

Level                     ------+---------+---------+---------+---
Rasa Lactobacillus casei  (-----------------*-----------------)
                          ------+---------+---------+---------+---
                             -0.80     -0.40     -0.00      0.40
```