


**Lampiran 1. Hasil Determinasi Tanaman Kedelai**

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KEMENTERIAN RISET, TEKNOLOGI DAN PENDIDIKAN TINGGI  
UNIVERSITAS DIPONEGORO  
FAKULTAS SAINS DAN MATEMATIKA  
LABORATORIUM EKOLOGI DAN BIOSISTEMATI DEPARTEMEN BIOLOGI  
Jl. Prof. H. Soedarto SH Tembalang Semarang, 024 7474754. 024 76480923

**SURAT KETERANGAN**


Yang bertanda tangan dibawah ini, menyatakan bahwa mahasiswa sbb :

Nama : DIAN BEKTI MURWATI  
NIM : 135010949  
Fakultas / Prodi : FARMASI  
Perguruan Tinggi : UNIVERSITAS HAWID HASYIM SEMARANG  
Judul Skripsi : "Pengaruh Suhu dan Lama Penyimpanan terhadap Kadar Lesitin dalam Susu Kedelai Secara Spektrofotometri UV-Vis"  
Pembimbing : -

Telah melakukan determinasi / identifikasi sampel tumbuhan (satu jenis) di Laboratorium Ekologi dan Biosistemik Departemen Biologi Fakultas Sains dan Matematika Universitas Diponegoro. Hasil determinasi / identifikasi terlampir.

Demikian Surat Keterangan ini dibuat untuk dapat digunakan seperlunya.

Semarang, Agustus 2017  
Laboratorium Ekologi Dan Biosistemik

Kepala  
  
Dr. Mochamad Hadi, M.Si.  
NIP. 196001081987031002

## Lampiran 1. Lanjutan...



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## HASIL DETERMINASI / IDENTIFIKASI

## KLASIFIKASI

Kingdom : Plantae  
Sub kingdom : Tracheobionta (tumbuhan berpembuluh)  
Super divisi : Spermatophyta (tumbuhan menghasilkan biji)  
Divisi : Magnoliophyta (tumbuhan berbunga)  
Class : Magnoliopsida / Dicotyledoneae (tumbuhan berkeping dua)  
Sub class : Rosidae  
Ordo : Fabales  
Famili : Fabaceae = Papilionaceae  
Genus : *Soya*  
Species : *Soya max* Piper. (Kedelai)  
Sinonim : *Glycine soya* S. & Z.  
*Glycine max* Merr.

## IDENTIFIKASI / DETERMINASI

1b, 2b, 3b, 4b, 6b, 7b, 9b, 10b, 11b, 12b, 13b, 14a, 15b, .....  
Golongan 9. Tumbuhan dengan daun majemuk tersebar.... 197b, 208b, 219b, 220b, 224b,  
225b, 227b, 229b, 230b, 234a, ..... Famili 60. Papilionaceae (Fabaceae) .....  
1b, 5a, 6b, 7b, 9b, 10b, 11b, 12b, 13b, 15b, ..... Genus 12. *Soya* .....  
Species : *Soya max* Piper. Sinonim *Glycine max* Merr. *Glycine soya* S. & Z. (Kedelai).

## DESKRIPSI

Kedelai, atau kacang kedelai, adalah salah satu tanaman polong-polongan yang menjadi bahan dasar banyak makanan dari Asia Timur seperti kecap, tahu, dan tempe. Kedelai merupakan sumber utama protein nabati dan minyak nabati dunia.

Semak umur 1 tahun, tinggi 0,2-0,6 m. Batang persegi, dengan rambut coklat yang menjauhi batang atau mengarah ke bawah. Poros daun dengan tangkai 6-19 cm. Anak daun oval bujur telur atau memanjang, tepi rata, kedua belah sisi berambut, 3-15 x 2-7,5 cm. Bunga dalam berkas atau tandan, berkas duduk atau setinggi-tingginya bertangkai yang panjangnya 3 cm, bagian yang mendukung bunga 0,5-2 cm, anak tangkai bunga sangat pendek. Kelopak tinggi 5-7 mm, berambut panjang, bertaju 5, taju sempit, runcing. Mahkota putih atau lila, bendera panjang 6-7 mm, sayap dan lunas berbuku panjang. Benang sari bendera lepas atau mudah lepas, yang lainnya melekat. Bakal buah berambut rapat. Polongan per berkas atau tandan 1-4, mengarah ke bawah, 3-4,5 x 0,8-1,2 cm,

## Lampiran 1. Lanjutan...



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bertangkai pendek di atas sisi kelopak, pipih sekali dengan beberapa sekat antara seperti selaput. Kerap kali ditanam, 5-1000 m.

### PUSTAKA :

- Backer, CA, RCB Van Den Brink, 1963. Flora of Java. Volume I (III). NV. Noordhoff, Groningen, The Netherlands.  
Van Steenis, C.G.G.J. 1981. Flora, Untuk Sekolah Indonesia. P.T. Pradnya Paramita, Jakarta.



## Lampiran 2. Sertifikat Analisis Lesitin

**SIGMA-ALDRICH**

sigma-aldrich.com

3050 Spruce Street, Saint Louis, MO 63103, USA

Website: www.sigmaldrich.com

Email USA: techserv@sial.com

Outside USA: eurtechserv@sial.com

**Certificate of Analysis**

Product Name:

L- $\alpha$ -Phosphatidylcholine - from egg yolk, Type XVI-E,  $\geq 99\%$  (TLC), lyophilized powder

Product Number:

P3556

Batch Number:

SLBQ7892V

Brand:

SIGMA

CAS Number:

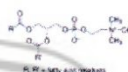
8002-43-5

Storage Temperature:

Store at -20 °C

Quality Release Date:

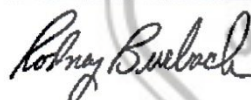
01 APR 2016



Test	Specification	Result
Appearance (Color)	White to Off White	White
Appearance (Form)	Powder	Powder
Solubility (Color)	Colorless to Faint Yellow	Faint Yellow
Solubility (Turbidity)	Clear	Clear
100 mg/mL, CHCl <sub>3</sub>		
Phosphorus (P)	3.4 - 4.4 %	4.0 %
Purity (TLC)	$\geq 99\%$	99 %

**Note**

Natural product, the composition of palmitic, oleic, linoleic and stearic acid will vary.



Rodney Burbach, Manager  
Analytical Services  
St. Louis, Missouri US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.



**Lampiran 3.** Surat Keterangan Telah Melakukan Penelitian di Laboratorium Kimia Fakultas Kedokteran Universitas Islam Sultan Agung Semarang



**LABORATORIUM KIMIA FAKULTAS KEDOKTERAN  
UNIVERSITAS ISLAM SULTAN AGUNG ( UNISSULA )**

**Jl.Raya Kaligawe Km.4 Po Box 1054/SM Telp.(024) 6583584 Ext.519 Semarang 50112**

**SURAT KETERANGAN**  
**242 / L.KIM / SA.FK/2015**

Dengan ini kami menerangkan bahwa :

Nama : **Intan Irawan**  
NIM : 135010936  
Fakultas /Institusi : Farmasi / Universitas Wahid Hasyim Semarang  
Judul Penelitian : Pengaruh Suhu Dan Lama Penyimpanan Terhadap Kadar Lesitin Dalam Soyghurt Secara Spektrofotometri UV-Vis

Nama : **Dian Bekti Murwati**  
NIM : 135010949  
Fakultas /Institusi : Farmasi / Universitas Wahid Hasyim Semarang  
Judul Penelitian : Pengaruh Suhu Dan Lama Penyimpanan Terhadap Kadar Lesitin Dalam Susu Kedelai Secara Spektrofotometri UV-Vis

Benar-benar telah melakukan penelitian dilaboratorium kimia Fakultas Kedokteran Unissula Semarang pada tanggal 11 April 2017 sampai 11 Juli 2017 dengan hasil penelitian terlampir.

Demikian surat keterangan ini kami buat untuk dapat digunakan sebagaimana mestinya.

Semarang, 04 Agustus 2017

Kepala Bagian Kimia.



Dra. Hj. Eni Widayati. M.Si

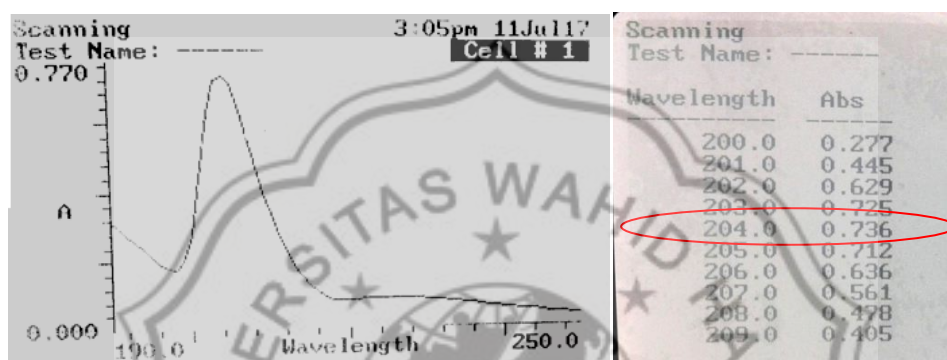
NIK. 210185021

#### Lampiran 4. Hasil Penentuan Panjang Gelombang Maksimal

##### 1. Perhitungan Larutan Stok

10 mg Lesitin pa ad 100 mL = 100 mcg/mL = 100 ppm

##### 2. Penentuan Panjang Gelombang Maksimal



Panjang Gelombang ( $\lambda$ ) Maksimal Lesitin = 204 nm

**Lampiran 5.** Perhitungan Seri Konsentrasi Kurva Baku Lesitin

$$1 \text{ mL lesitin } 100 \text{ ppm} \rightarrow 1 \text{ mL} \cdot 100 \text{ ppm} + 9 \text{ mL} \cdot 0 \text{ ppm} = 10 \text{ mL} \cdot X$$

$$X = 100 \text{ mL} \cdot \text{ppm} : 10 \text{ mL} = 10 \text{ ppm}$$

$$2 \text{ mL lesitin } 100 \text{ ppm} \rightarrow 2 \text{ mL} \cdot 100 \text{ ppm} + 8 \text{ mL} \cdot 0 \text{ ppm} = 10 \text{ mL} \cdot X$$

$$X = 200 \text{ mL} \cdot \text{ppm} : 10 \text{ mL} = 20 \text{ ppm}$$

$$4 \text{ mL lesitin } 100 \text{ ppm} \rightarrow 4 \text{ mL} \cdot 100 \text{ ppm} + 6 \text{ mL} \cdot 0 \text{ ppm} = 10 \text{ mL} \cdot X$$

$$X = 400 \text{ mL} \cdot \text{ppm} : 10 \text{ mL} = 40 \text{ ppm}$$

$$6 \text{ mL lesitin } 100 \text{ ppm} \rightarrow 6 \text{ mL} \cdot 100 \text{ ppm} + 4 \text{ mL} \cdot 0 \text{ ppm} = 10 \text{ mL} \cdot X$$

$$X = 600 \text{ mL} \cdot \text{ppm} : 10 \text{ mL} = 60 \text{ ppm}$$

$$8 \text{ mL lesitin } 100 \text{ ppm} \rightarrow 8 \text{ mL} \cdot 100 \text{ ppm} + 2 \text{ mL} \cdot 0 \text{ ppm} = 10 \text{ mL} \cdot X$$

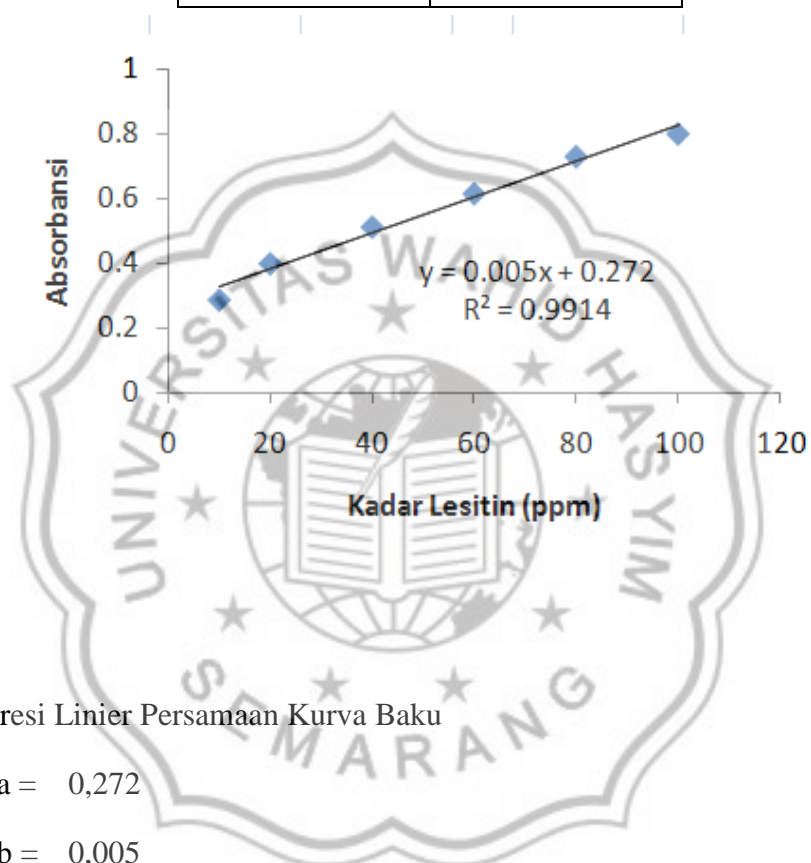
$$X = 800 \text{ mL} \cdot \text{ppm} : 10 \text{ mL} = 80 \text{ ppm}$$

$$10 \text{ mL lesitin } 100 \text{ ppm} \rightarrow 10 \text{ mL} \cdot 100 \text{ ppm} + 0 \text{ mL} \cdot 0 \text{ ppm} = 10 \text{ mL} \cdot X$$

$$X = 1000 \text{ mL} \cdot \text{ppm} : 10 \text{ mL} = 100 \text{ ppm}$$

**Lampiran 6.** Hasil Absorbansi dan Perhitungan Persamaan Kurva Baku Lesitin

Kadar (ppm; x)	Absorbansi (y)
10	0.290
20	0.402
40	0.515
60	0.618
80	0.732
100	0.802



Regresi Linier Persamaan Kurva Baku

$$a = 0,272$$

$$b = 0,005$$

$$\mathbf{R = 0,9914}$$

$$Y = bX + a$$

$$\mathbf{Y = 0,005X + 0,272}$$



### Lampiran 7. Hasil Absorbansi dan Perhitungan Kadar Lesitin Susu Kedelai

$$\text{Kadar Lesitin} = ((Y-0,272):5,56.10^{-3}) \times \text{FP}$$

suhu lama	dingin			sejuk			kamar			rata-rata
	serapan	FP	kadar (ppm)	serapan	FP	kadar (ppm)	serapan	FP	kadar (ppm)	
0							0.455	4	131.270	131.987
							0.464	4	137.740	
							0.449	4	126.950	
rata-rata							<b>131.987</b>			
1	0.513	3	129.74	0.872	1	107.80	0.384	5	100.25	105.671
	0.481	3	112.47	0.842	1	102.40	0.383	5	99.35	
	0.478	3	110.86	0.863	1	106.80	0.363	5	81.37	
rata-rata	<b>117.69</b>			<b>105.67</b>			<b>93.66</b>			
2	0.616	2	123.53	0.871	1	107.62	0.551	1	50.08	87.769
	0.571	2	107.53	0.834	1	100.96	0.525	1	45.40	
	0.568	2	106.27	0.857	1	105.10	0.514	1	43.43	
rata-rata	<b>112.44</b>			<b>104.56</b>			<b>46.30</b>			
5	0.542	2	96.92	0.419	4	105.37	0.458	1	33.36	75.5322
	0.519	2	88.65	0.388	4	83.08	0.490	1	39.11	
	0.556	2	101.95	0.407	4	96.74	0.465	1	34.61	
rata-rata	<b>95.84</b>			<b>95.06</b>			<b>35.69</b>			
7	0.339	4	47.83	0.33	4	41.36	0.441	1	30.30	40.37
	0.359	4	62.22	0.315	4	30.57	0.389	1	20.95	
	0.356	4	60.06	0.332	4	42.80	0.424	1	27.24	
rata-rata	<b>56.70</b>			<b>38.24</b>			<b>26.16</b>			
	95.669			85.883			50.454			

0 hari tanpa merk			bermerk X		
serapan	FP	kadar (ppm)	serapan	FP	kadar (ppm)
0.455	4	131.270	0.712	2	158.060
0.464	4	137.740	0.681	2	146.910
0.449	4	126.950	0.665	2	141.150
Rata-rata		<b>131.987</b>	Rata-rata		<b>148.707</b>

## Lampiran 8. Hasil Analisis Statistik Pengaruh Suhu Dan Lama Penyimpanan Terhadap Kadar Lesitin

### 1. UJI HOMOGENITAS

#### Test of Homogeneity of Variances

kadar lesitin

Levene Statistic	df1	df2	Sig.
1.977	12	26	.071

Signifikansi lebih dari 0,05 => data homogen

### 2. UJI NORMALITAS

Tests of Normality							
kadar lesitin	penyimpanan	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
	kontrol 0 hari	.219	3	.987	.3	3	.781
	dingin 1 hari	.358	3	.813	.6	3	.147
	sejuk 1 hari	.320	3	.883	.3	3	.334
	kamar 1 hari	.370	3	.786	.3	3	.081
	dingin 2 hari	.362	3	.804	.3	3	.125
	sejuk 2 hari	.230	3	.981	.3	3	.734
	kamar 2 hari	.271	3	.948	.3	3	.559
	dingin 5 hari	.231	3	.981	.3	3	.733
	sejuk 5 hari	.226	3	.983	.3	3	.753
	kamar 5 hari	.307	3	.904	.3	3	.398
	dingin 7 hari	.334	3	.860	.3	3	.267
	sejuk 7 hari	.346	3	.837	.3	3	.206
	kamar 7 hari	.256	3	.962	.3	3	.624

a. Lilliefors Significance Correction

Signifikansi > 0,05 => data normal

### 3. UJI ANOVA 2 JALAN

#### Tests of Between-Subjects Effects

Dependent Variable: kadar lesitin

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	46063.444 <sup>a</sup>	12	3838.620	72.907	.000
Intercept	279075.378	1	279075.378	5.300E3	.000
lama	36487.279	4	9121.820	173.251	.000
suhu	13581.538	2	6790.769	128.977	.000
lama * suhu	3677.760	6	612.960	11.642	.000
Error	1368.922	26	52.651		
Total	306731.197	39			
Corrected Total	47432.366	38			

a. R Squared = .971 (Adjusted R Squared = .958)

Signifikansi <0,05 => terdapat perbedaan yang signifikan

## Lampiran 8. Lanjutan

### 4. POST HOC

#### Multiple Comparisons

kadar lesitin  
Tukey HSD

(I) suhu penyimpanan	(J) suhu penyimpanan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
suhu dingin	suhu sejuk	9.78583 <sup>*</sup>	2.962286	.008	2.42487	17.14680
	suhu kamar	28.90850 <sup>*</sup>	2.810271	.000	21.92527	35.89173
suhu sejuk	suhu dingin	-9.78583 <sup>*</sup>	2.962286	.008	-17.14680	-2.42487
	suhu kamar	19.12267 <sup>*</sup>	2.810271	.000	12.13944	26.10589
suhu kamar	suhu dingin	-28.90850 <sup>*</sup>	2.810271	.000	-35.89173	-21.92527
	suhu sejuk	-19.12267 <sup>*</sup>	2.810271	.000	-26.10589	-12.13944

Based on observed means.  
The error term is Mean Square(Error) = 52.651.

\*. The mean difference is significant at the .05 level.

#### Multiple Comparisons

kadar lesitin  
Tukey HSD

(I) lama penyimpanan	(J) lama penyimpanan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
kontrol 0 hari	1 hari	26.31556 <sup>*</sup>	4.837393	.000	12.14949	40.48162
	2 hari	44.21778 <sup>*</sup>	4.837393	.000	30.05171	58.38385
	5 hari	56.45444 <sup>*</sup>	4.837393	.000	42.28838	70.62051
	7 hari	91.61667 <sup>*</sup>	4.837393	.000	77.45060	105.78273
1 hari	kontrol 0 hari	-26.31556 <sup>*</sup>	4.837393	.000	-40.48162	-12.14949
	2 hari	17.90222 <sup>*</sup>	3.420553	.000	7.88530	27.91914
	5 hari	30.13889 <sup>*</sup>	3.420553	.000	20.12197	40.15581
	7 hari	65.30111 <sup>*</sup>	3.420553	.000	55.28419	75.31803
2 hari	kontrol 0 hari	-44.21778 <sup>*</sup>	4.837393	.000	-58.38385	-30.05171
	1 hari	-17.90222 <sup>*</sup>	3.420553	.000	-27.91914	-7.88530
	5 hari	12.23667 <sup>*</sup>	3.420553	.011	2.21974	22.25359
	7 hari	47.39889 <sup>*</sup>	3.420553	.000	37.38197	57.41581
5 hari	kontrol 0 hari	-56.45444 <sup>*</sup>	4.837393	.000	-70.62051	-42.28838
	1 hari	-30.13889 <sup>*</sup>	3.420553	.000	-40.15581	-20.12197
	2 hari	-12.23667 <sup>*</sup>	3.420553	.011	-22.25359	-2.21974
	7 hari	35.16222 <sup>*</sup>	3.420553	.000	25.14530	45.17914
7 hari	kontrol 0 hari	-91.61667 <sup>*</sup>	4.837393	.000	-105.78273	-77.45060
	1 hari	-65.30111 <sup>*</sup>	3.420553	.000	-75.31803	-55.28419
	2 hari	-47.39889 <sup>*</sup>	3.420553	.000	-57.41581	-37.38197
	5 hari	-35.16222 <sup>*</sup>	3.420553	.000	-45.17914	-25.14530

Based on observed means.  
The error term is Mean Square(Error) = 52.651.

\*. The mean difference is significant at the .05 level.

Terdapat perbedaan yang signifikan dari tiap kelompok perlakuan

## Lampiran 9. Analisis Statistik Kadar Lesitin berdasarkan Suhu Penyimpanan

### a. Dingin

#### Test of Homogeneity of Variances

kadar lesitin

Levene Statistic	df1	df2	Sig.
.939	4	10	.480

#### ANOVA

kadar lesitin

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10931.346	4	2732.836	36.929	.000
Within Groups	740.020	10	74.002		
Total	11671.365	14			

#### Multiple Comparisons

kadar lesitin

Tukey HSD

(I) dingin	(J) dingin	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1 hari	2 hari	5.875667	7.023863	.913	-17.24044	28.99178
	5 hari	23.189333*	7.023863	.049	.07222	46.30444
	7 hari	63.501333*	7.023863	.000	40.38522	86.61744
	kontrol	-15.284333	7.023863	.263	-38.40044	7.83178
2 hari	1 hari	-5.875667	7.023863	.913	-28.99178	17.24044
	5 hari	17.312667	7.023863	.175	-5.80344	40.42878
	7 hari	57.625667*	7.023863	.000	34.50956	80.74178
	kontrol	-21.160000	7.023863	.077	-44.27611	1.95611
5 hari	1 hari	-23.188333*	7.023863	.049	-46.30444	-.07222
	2 hari	-17.312667	7.023863	.175	-40.42878	5.80344
	7 hari	40.313000*	7.023863	.001	17.19689	63.42911
	kontrol	-38.472667*	7.023863	.002	-61.58878	-15.35656
7 hari	1 hari	-63.501333*	7.023863	.000	-86.61744	-40.38522
	2 hari	-57.625667*	7.023863	.000	-80.74178	-34.50956
	5 hari	-40.313000*	7.023863	.001	-63.42911	-17.19689
	kontrol	-78.785667*	7.023863	.000	-101.90178	-55.66956
kontrol	1 hari	15.284333	7.023863	.263	-7.83178	38.40044
	2 hari	21.160000	7.023863	.077	-1.95611	44.27611
	5 hari	38.472667*	7.023863	.002	15.35656	61.58878
	7 hari	78.785667*	7.023863	.000	55.66956	101.90178

\*. The mean difference is significant at the 0.05 level.

## Lampiran 9. Lanjutan...

## b. Sejuk

## Test of Homogeneity of Variances

kadar lesitin

Levene Statistic	df1	df2	Sig.
1.834	4	10	.199

## ANOVA

kadar lesitin

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	15621.580	4	3905.395	81.226	.000
Within Groups	480.806	10	48.081		
Total	16102.386	14			

## Multiple Comparisons

kadar lesitin  
Tukey HSD

(I) sejuk	(J) sejuk	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1 hari	2 hari	.940667	5.661602	1.000	-17.69213	19.57346
	5 hari	-9.911000	5.661602	.449	-8.72180	28.54380
	7 hari	69.377000*	5.661602	.000	50.74420	88.00980
	kontrol	-28.729000*	5.661602	.003	-47.36180	-10.09620
2 hari	1 hari	-.940667	5.661602	1.000	-19.57346	17.69213
	5 hari	8.970333	5.661602	.537	-9.68246	27.60313
	7 hari	68.436333*	5.661602	.000	49.80354	87.06913
	kontrol	-29.669667*	5.661602	.003	-48.30246	-11.03687
5 hari	1 hari	-9.911000	5.661602	.449	-28.54380	8.72180
	2 hari	-8.970333	5.661602	.537	-27.60313	9.66246
	7 hari	59.466000*	5.661602	.000	40.83320	78.09880
	kontrol	-38.640000*	5.661602	.000	-57.27280	-20.00720
7 hari	1 hari	-69.377000*	5.661602	.000	-88.00980	-50.74420
	2 hari	-68.436333*	5.661602	.000	-87.06913	-49.80354
	5 hari	-59.466000*	5.661602	.000	-78.09880	-40.83320
	kontrol	-98.106000*	5.661602	.000	-116.73880	-79.47320
kontrol	1 hari	28.729000*	5.661602	.003	10.09620	47.36180
	2 hari	29.669667*	5.661602	.003	11.03687	48.30246
	5 hari	38.640000*	5.661602	.000	20.00720	57.27280
	7 hari	98.106000*	5.661602	.000	79.47320	116.73880

\*. The mean difference is significant at the 0.05 level.



## Lampiran 9. Lanjutan

### c. Suhu kamar

#### Test of Homogeneity of Variances

kadar lesitin

Levene Statistic	df1	df2	Sig.
3.046	4	10	.070

#### ANOVA

kadar lesitin

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	26937.827	4	6734.457	164.867	.000
Within Groups	408.477	10	40.848		
Total	27346.304	14			

#### Multiple Comparisons

kadar lesitin  
Tukey HSD

(I) kamar	(J) kamar	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1 hari	2 hari	50.851000 <sup>*</sup>	5.218411	.000	33.67678	68.02522
	5 hari	61.953667 <sup>*</sup>	5.218411	.000	44.77945	79.12788
	7 hari	71.927333 <sup>*</sup>	5.218411	.000	54.75312	89.10155
	kontrol	-39.790333 <sup>*</sup>	5.218411	.000	-56.96455	-22.61612
2 hari	1 hari	-50.851000 <sup>*</sup>	5.218411	.000	-68.02522	-33.67678
	5 hari	11.102667	5.218411	.281	-6.07155	28.27688
	7 hari	21.076333 <sup>*</sup>	5.218411	.016	3.90212	38.25055
	kontrol	-90.641333 <sup>*</sup>	5.218411	.000	-107.81555	-73.46712
5 hari	1 hari	-61.953667 <sup>*</sup>	5.218411	.000	-79.12788	-44.77945
	2 hari	-11.102667	5.218411	.281	-28.27688	6.07155
	7 hari	9.973667	5.218411	.371	-7.20055	27.14788
	kontrol	-101.744000 <sup>*</sup>	5.218411	.000	-118.91822	-84.56978
7 hari	1 hari	-71.927333 <sup>*</sup>	5.218411	.000	-89.10155	-54.75312
	2 hari	-21.076333 <sup>*</sup>	5.218411	.016	-38.25055	-3.90212
	5 hari	-9.973667	5.218411	.371	-27.14788	7.20055
	kontrol	-111.717667 <sup>*</sup>	5.218411	.000	-128.89188	-94.54345
kontrol	1 hari	39.790333 <sup>*</sup>	5.218411	.000	22.61612	56.96455
	2 hari	90.641333 <sup>*</sup>	5.218411	.000	73.46712	107.81555
	5 hari	101.744000 <sup>*</sup>	5.218411	.000	84.56978	118.91822
	7 hari	111.717667 <sup>*</sup>	5.218411	.000	94.54345	128.89188

\*. The mean difference is significant at the 0.05 level.

## Lampiran 10. Analisis Statistik Kadar Lesitin Berdasarkan Lama Penyimpanan

### a. 1 hari

#### ANOVA

kadar lesitin					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2432.801	3	810.934	10.749	.005
Within Groups	528.083	7	75.440		
Total	2960.884	10			

### Post Hoc

#### Multiple Comparisons

kadar lesitin Tukey HSD						
(I) 1 hari	(J) 1 hari	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
dingin	sejuk	13.444667	7.091798	.310	-10.03033	36.91967
	kamar	24.506000 <sup>*</sup>	7.091798	.041	1.03100	47.98100
	kontrol	-17.919000	7.928872	.197	-44.16485	8.32685
sejuk	dingin	-13.444667	7.091798	.310	-36.91967	10.03033
	kamar	11.061333	7.091798	.456	-12.41367	34.53633
	kontrol	-31.363667 <sup>*</sup>	7.928872	.022	-57.60951	-5.11782
kamar	dingin	-24.506000 <sup>*</sup>	7.091798	.041	-47.98100	-1.03100
	sejuk	-11.061333	7.091798	.456	-34.53633	12.41367
	kontrol	-42.425000 <sup>*</sup>	7.928872	.005	-68.67085	-16.17915
kontrol	dingin	17.919000	7.928872	.197	-8.32685	44.16485
	sejuk	31.363667 <sup>*</sup>	7.928872	.022	5.11782	57.60951
	kamar	42.425000 <sup>*</sup>	7.928872	.005	16.17915	68.67085

\*. The mean difference is significant at the 0.05 level.

### b. 2 hari

#### ANOVA

kadar lesitin					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	13621.125	3	4540.375	113.609	.000
Within Groups	319.721	8	39.965		
Total	13940.846	11			

### Post Hoc

#### Multiple Comparisons

kadar lesitin Tukey HSD						
(I) 2 hari	(J) 2 hari	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
dingin	sejuk	8.509667	5.161723	.407	-8.01999	25.03932
	kamar	69.481333 <sup>*</sup>	5.161723	.000	52.95168	86.01099
	kontrol	-21.160000 <sup>*</sup>	5.161723	.015	-37.68965	-4.63035
sejuk	dingin	-8.509667	5.161723	.407	-25.03932	8.01999
	kamar	60.971667 <sup>*</sup>	5.161723	.000	44.44201	77.50132
	kontrol	-29.669667 <sup>*</sup>	5.161723	.002	-46.19932	-13.14001
kamar	dingin	-69.481333 <sup>*</sup>	5.161723	.000	-86.01099	-52.95168
	sejuk	-60.971667 <sup>*</sup>	5.161723	.000	-77.50132	-44.44201
	kontrol	-90.641333 <sup>*</sup>	5.161723	.000	-107.17099	-74.11168
kontrol	dingin	21.160000 <sup>*</sup>	5.161723	.015	4.63035	37.68965
	sejuk	29.669667 <sup>*</sup>	5.161723	.002	13.14001	46.19932
	kamar	90.641333 <sup>*</sup>	5.161723	.000	74.11168	107.17099

\*. The mean difference is significant at the 0.05 level.

## Lampiran 10. Lanjutan

### c. 5 hari

#### ANOVA

kadar lesitin					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	15982.831	3	5327.610	92.577	.000
Within Groups	460.384	8	57.548		
Total	16443.215	11			

### Post Hoc

#### Multiple Comparisons

kadar lesitin Tukey HSD						
(I) 5 hari	(J) 5 hari	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
dingin	sejuk	.167333	6.193976	1.000	-19.66796	20.00263
	kamar	63.271333 <sup>*</sup>	6.193976	.000	43.43604	83.10663
	kontrol	-38.472667 <sup>*</sup>	6.193976	.001	-58.30796	-18.63737
sejuk	dingin	-.167333	6.193976	1.000	-20.00263	19.66796
	kamar	63.104000 <sup>*</sup>	6.193976	.000	43.26871	82.93929
	kontrol	-38.640000 <sup>*</sup>	6.193976	.001	-58.47529	-18.80471
kamar	dingin	-63.271333 <sup>*</sup>	6.193976	.000	-83.10663	-43.43604
	sejuk	-63.104000 <sup>*</sup>	6.193976	.000	-82.93929	-43.26871
	kontrol	-101.744000 <sup>*</sup>	6.193976	.000	-121.57929	-81.90871
kontrol	dingin	38.472667 <sup>*</sup>	6.193976	.001	18.63737	58.30796
	sejuk	38.640000 <sup>*</sup>	6.193976	.001	18.80471	58.47529
	kamar	101.744000 <sup>*</sup>	6.193976	.000	81.90871	121.57929

\*. The mean difference is significant at the 0.05 level.

### d. 7 hari

#### ANOVA

kadar lesitin					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	22466.906	3	7488.969	174.132	.000
Within Groups	344.059	8	43.007		
Total	22810.965	11			

### Post Hoc

#### Multiple Comparisons

kadar lesitin Tukey HSD						
(I) 7 hari	(J) 7 hari	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
dingin	sejuk	19.320333 <sup>*</sup>	5.354584	.028	2.17307	36.46760
	kamar	32.932000 <sup>*</sup>	5.354584	.001	15.78474	50.07926
	kontrol	-78.785667 <sup>*</sup>	5.354584	.000	-95.93293	-61.63840
sejuk	dingin	-19.320333 <sup>*</sup>	5.354584	.028	-36.46760	-2.17307
	kamar	13.611667	5.354584	.127	-3.53560	30.75893
	kontrol	-98.106000 <sup>*</sup>	5.354584	.000	-115.25326	-80.95874
kamar	dingin	-32.932000 <sup>*</sup>	5.354584	.001	-50.07926	-15.78474
	sejuk	-13.611667	5.354584	.127	-30.75893	3.53560
	kontrol	-111.717667 <sup>*</sup>	5.354584	.000	-128.86493	-94.57040
kontrol	dingin	78.785667 <sup>*</sup>	5.354584	.000	61.63840	95.93293
	sejuk	98.106000 <sup>*</sup>	5.354584	.000	80.95874	115.25326
	kamar	111.717667 <sup>*</sup>	5.354584	.000	94.57040	128.86493

\*. The mean difference is significant at the 0.05 level.

## Lampiran 11. Analisis Statistik Kadar Lesitin Susu Kedelai Kontrol Dan Susu Kedelai Yang Sedang Beredar di Pasaran

### T-Test

[DataSet1]

Group Statistics

susu kedelai	N	Mean	Std. Deviation	Std. Error Mean
kadar lesitin tanpa merk	3	1.3942E2	5.682972	3.281066
bermerk	3	1.5627E2	8.993369	5.192324

Independent Samples Test

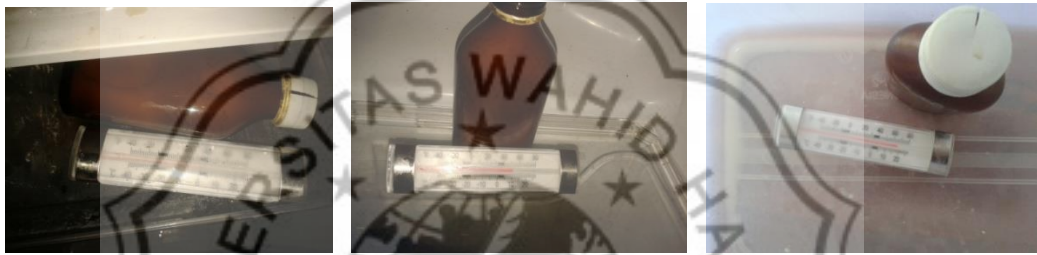
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
kadar lesitin	Equal variances assumed	.750	.435	-2.744	4	.052	-16.853333	6.142118	-33.906588	.199921
	Equal variances not assumed			-2.744	3.378	.062	-16.853333	6.142118	-35.220421	1.513755



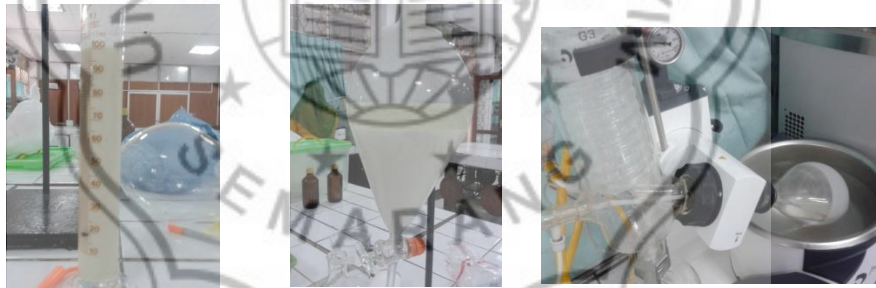
## Lampiran 12. Dokumentasi Penelitian



Pembuatan Susu Kedelai



Penyimpanan Susu Kedelai pada Suhu Dingin, Sejuk, dan Kamar



100 mL susu kedelai, dicampur kloroform-metanol (2:1) lalu di RE I



Hasil RE I kemudian dipartisi dengan solven A dan B di RE kembali



**Lampiran 12. Lanjutan...**

Hasil RE kemudian dilarutkan dalam aseton dan difiltrasi



Lesitin pa (Sigma Aldrich) dibuat larutan stok dan seri konsentrasi kurva baku kemudian diukur serapannya dengan spektrofotometer



Susu Kedelai bermerk X yang digunakan sebagai pembanding