7. LAMPIRAN

7.1. Hasil SPSS

Lampiran 1. Hasil Uji Normalitas dan Homogenitas

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
tokoferol	,140	36	,073	,954	36	,137
betakaroten	,120	36	,200*	,934	36	,034
antioksidan	,110	36	,200*	,942	36	,059
rendemen	,120	36	,200*	,934	36	,034

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Levene's Test of Equality of Error Variances[a]

	F	df1	df2	Sig.
betakaroten	3,800	8	45	,002
tokoferol	1,040	8	45	,421
antioksidan	,142	8	45	,997

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + perlakuan + konsentrasi + perlakuan * konsentrasi

Lampiran 2. Hasil Uji Two Way Anova

Multivariate Tests[a]

Effect			Value	F	Hypothesis df	Error df	Sig.
		Pillai's Trace	1,000	39706,685[b]	3,000	43,000	,000
		Wilks' Lambda	,000	39706,685[b]	3,000	43,000	,000
Source	Dep	Hotelling's Trace	2770,234	39706,685[b]	3,000	43,000	,000
	beta						
Corrected Model	toko						
	anti						
	beta						
Intercept	toko						
	anti						
	beta						
perlakuan	toko						
	anti						
	beta						
konsentrasi	toko						
	anti						
	beta						
perlakuan * konsentrasi	toko	Roy's Largest Root	2770,234	39706,685[b]	3,000	43,000	,000
	anti						
	beta						
Error	toko						
	anti						
	beta						
Total	toko						
	anti						
	beta						
Corrected Total	toko						
	anti						
a. R Squared = ,930 (Adjust							
b. R Squared = ,947 (Adjust							
c. R Squared = ,958 (Adjust							
Intercept							
		Pillai's Trace	1,146	19,677	6,000	88,000	,000
perlakuan		Wilks' Lambda	,028	72,087[b]	6,000	86,000	,000
		Hotelling's Trace	29,049	203,343	6,000	84,000	,000
		Roy's Largest Root	28,830	422,846[c]	3,000	44,000	,000
		Pillai's Trace	,972	13,857	6,000	88,000	,000
konsentrasi		Wilks' Lambda	,050	49,610[b]	6,000	86,000	,000

perlakuan * konsentrasi	Hotelling's Trace	18,467	129,272	6,000	84,000	,000
	Roy's Largest Root	18,444	270,509[c]	3,000	44,000	,000
	Pillai's Trace	,302	1,261	12,000	135,000	,249
	Wilks' Lambda	,716	1,281	12,000	114,059	,239
	Hotelling's Trace	,372	1,293	12,000	125,000	,231
	Roy's Largest Root	,291	3,275[c]	4,000	45,000	,019

a. Design: Intercept + perlakuan + konsentrasi + perlakuan * konsentrasi

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

Levene's Test of Equality of Error Variances[a]

	F	df1	df2	Sig.
betakaroten	3,800	8	45	,002
tokoferol	1,040	8	45	,421
antioksidan	,142	8	45	,997

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + perlakuan + konsentrasi + perlakuan * konsentrasi

Grand Mean

Dependent Variable	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
betakaroten	18,533	,053	18,426	18,639
tokoferol	,458	,004	,450	,467
antioksidan	,102	,002	,098	,105

betakaroten

Duncan

perlakuan	N	Subset		
		1	2	3
180watt+4 menit+20%	18	17,3501		
300watt+4 menit+30%	18		18,4053	
450watt+4 menit+40%	18			19,8429

Sig.		1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,150.

a. Uses Harmonic Mean Sample Size = 18,000.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = ,05.

tokoferol

Duncan

perlakuan	N	Subset		
		1	2	3
180watt+4 menit+20%	18	,4124		
300watt+4 menit+30%	18		,4517	
450watt+4 menit+40%	18			,5111
Sig.		1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,001.

a. Uses Harmonic Mean Sample Size = 18,000.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = ,05.

antioksidan

Duncan

perlakuan	N	Subset		
		1	2	3
180watt+4 menit+20%	18	,0304		
300watt+4 menit+30%	18		,1091	
450watt+4 menit+40%	18			,1658
Sig.		1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,000.

a. Uses Harmonic Mean Sample Size = 18,000.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = ,05.

betakaroten

Duncan

konsentrasi	N	Subset		
		1	2	3
20%	18	17,5909		
30%	18		18,5277	
40%	18			19,4797
Sig.		1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,150.

a. Uses Harmonic Mean Sample Size = 18,000.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = ,05.

tokoferol

Duncan

konsentrasi	N	Subset		
		1	2	3
20%	18	,3158		
30%	18		,4658	
40%	18			,5936
Sig.		1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,001.

a. Uses Harmonic Mean Sample Size = 18,000.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = ,05.

antioksidan

Duncan

konsentrasi	N	Subset		
		1	2	3
20%	18	,0854		
30%	18		,1005	
40%	18			,1194
Sig.		1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,000.

a. Uses Harmonic Mean Sample Size = 18,000.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = ,05.

Descriptive Statistics

	perlakuan	waktu	Mean	Std. Deviation	N
betakaroten	180watt+4 menit+20%	3 menit	16,4477	,23587	6
		4 menit	16,9317	,18277	6
		5 menit	17,9250	,29452	6
		Total	17,1014	,67239	18
	300watt+4 menit+30%	3 menit	17,7980	,53687	6
		4 menit	18,3550	,14931	6
		5 menit	18,8280	,20156	6
		Total	18,3270	,53936	18
	450watt+4 menit+40%	3 menit	18,1698	,13515	6
		4 menit	18,8780	,11330	6
		5 menit	19,4648	,21599	6
		Total	18,8376	,56540	18
	Total	3 menit	17,4718	,82838	18
		4 menit	18,0549	,85811	18
		5 menit	18,7393	,68831	18
		Total	18,0887	,93895	54
tokoferol	180watt+4 menit+20%	3 menit	,2395	,00927	6
		4 menit	,2683	,00869	6
		5 menit	,3208	,01127	6
		Total	,2762	,03585	18
	300watt+4 menit+30%	3 menit	,4033	,01224	6
		4 menit	,4403	,01424	6

antioksidan	450watt+4 menit+40%	5 menit	,5107	,02095	6
		Total	,4514	,04828	18
	Total	3 menit	,5958	,01379	6
		4 menit	,6510	,01401	6
		5 menit	,7070	,03469	6
		Total	,6513	,05146	18
		3 menit	,4129	,15027	18
		4 menit	,4532	,16146	18
		5 menit	,5128	,16383	18
		Total	,4596	,16103	54
	180watt+4 menit+20%	3 menit	,0302	,00542	6
		4 menit	,0435	,00686	6
		5 menit	,0755	,00418	6
		Total	,0497	,02027	18
	300watt+4 menit+30%	3 menit	,0905	,00831	6
		4 menit	,1000	,00681	6
		5 menit	,1137	,00753	6
		Total	,1014	,01210	18
	450watt+4 menit+40%	3 menit	,1242	,01379	6
		4 menit	,1455	,00824	6
		5 menit	,1620	,01212	6
		Total	,1439	,01931	18
	Total	3 menit	,0816	,04106	18
		4 menit	,0963	,04348	18
		5 menit	,1171	,03730	18
		Total	,0983	,04253	54

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	1,000	109854,191[b]	3,000	43,000	,000
	Wilks' Lambda	,000	109854,191[b]	3,000	43,000	,000
	Hotelling's Trace	7664,246	109854,191[b]	3,000	43,000	,000
	Roy's Largest Root	7664,246	109854,191[b]	3,000	43,000	,000
perlakuan	Pillai's Trace	1,401	34,343	6,000	88,000	,000
	Wilks' Lambda	,005	195,591[b]	6,000	86,000	,000
	Hotelling's Trace	126,385	884,695	6,000	84,000	,000
	Roy's Largest Root	125,692	1843,482[c]	3,000	44,000	,000
waktu	Pillai's Trace	,950	13,276	6,000	88,000	,000
	Wilks' Lambda	,059	44,488[b]	6,000	86,000	,000

	Hotelling's Trace	15,680	109,757	6,000	84,000	,000
	Roy's Largest Root	15,669	229,817[c]	3,000	44,000	,000
perlakuan * waktu	Pillai's Trace	,481	2,146	12,000	135,000	,018
	Wilks' Lambda	,565	2,289	12,000	114,059	,012
	Hotelling's Trace	,690	2,394	12,000	125,000	,008
	Roy's Largest Root	,546	6,145[c]	4,000	45,000	,000

a. Design: Intercept + perlakuan + waktu + perlakuan * waktu

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

Levene's Test of Equality of Error Variances[a]

	F	df1	df2	Sig.
betakaroten	3,979	8	45	,001
tokoferol	1,683	8	45	,129
antioksidan	1,643	8	45	,139

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + perlakuan + waktu + perlakuan * waktu

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	betakaroten	43,703[a]	8	5,463	81,307	,000
	tokoferol	1,361[b]	8	,170	573,507	,000
	antioksidan	,093[c]	8	,012	155,114	,000
Intercept	betakaroten	17668,793	1	17668,793	262976,087	,000
	tokoferol	11,409	1	11,409	38461,378	,000
	antioksidan	,522	1	,522	7003,502	,000
perlakuan	betakaroten	28,660	2	14,330	213,286	,000
	tokoferol	1,268	2	,634	2137,011	,000
	antioksidan	,080	2	,040	536,904	,000
waktu	betakaroten	14,489	2	7,244	107,821	,000
	tokoferol	,091	2	,046	153,413	,000
	antioksidan	,011	2	,006	76,552	,000
perlakuan * waktu	betakaroten	,554	4	,138	2,061	,102
	tokoferol	,002	4	,001	1,802	,145
	antioksidan	,001	4	,000	3,500	,014
Error	betakaroten	3,023	45	,067		
	tokoferol	,013	45	,000		

	antioksidan	,003	45	7,456E-005		
	betakaroten	17715,519	54			
Total	tokoferol	12,783	54			
	antioksidan	,618	54			
	betakaroten	46,726	53			
Corrected Total	tokoferol	1,374	53			
	antioksidan	,096	53			

a. R Squared = ,935 (Adjusted R Squared = ,924)

b. R Squared = ,990 (Adjusted R Squared = ,989)

c. R Squared = ,965 (Adjusted R Squared = ,959)

Grand Mean

Dependent Variable	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
betakaroten	18,089	,035	18,018	18,160
tokoferol	,460	,002	,455	,464
antioksidan	,098	,001	,096	,101

betakaroten

Duncan

perlakuan	N	Subset		
		1	2	3
180watt+4 menit+20%	18	17,1014		
300watt+4 menit+30%	18		18,3270	
450watt+4 menit+40%	18			18,8376
Sig.		1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,067.

a. Uses Harmonic Mean Sample Size = 18,000.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = ,05.

tokoferol

Duncan

perlakuan	N	Subset		
		1	2	3
180watt+4 menit+20%	18	,2762		
300watt+4 menit+30%	18		,4514	
450watt+4 menit+40%	18			,6513
Sig.		1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,000.

a. Uses Harmonic Mean Sample Size = 18,000.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = ,05.

antioksidan

Duncan

perlakuan	N	Subset		
		1	2	3
180watt+4 menit+20%	18	,0497		
300watt+4 menit+30%	18		,1014	
450watt+4 menit+40%	18			,1439
Sig.		1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 7,456E-005.

a. Uses Harmonic Mean Sample Size = 18,000.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = ,05.

betakaroten

Duncan

waktu	N	Subset		
		1	2	3
3 menit	18	17,4718		
4 menit	18		18,0549	
5 menit	18			18,7393
Sig.		1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,067.

a. Uses Harmonic Mean Sample Size = 18,000.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = ,05.

tokoferol

Duncan

waktu	N	Subset		
		1	2	3
3 menit	18	,4129		
4 menit	18		,4532	
5 menit	18			,5128
Sig.		1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,000.

a. Uses Harmonic Mean Sample Size = 18,000.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = ,05.

antioksidan

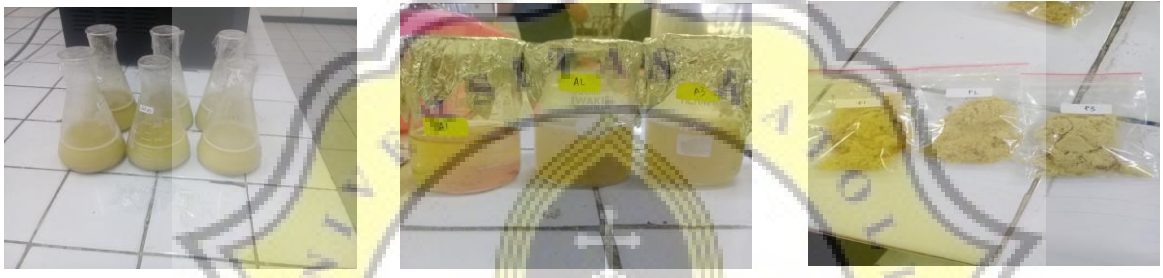
Duncan

waktu	N	Subset		
		1	2	3
3 menit	18	,0816		
4 menit	18		,0963	
5 menit	18			,1171
Sig.		1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 7,456E-005.
a. Uses Harmonic Mean Sample Size = 18,000.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c. Alpha = ,05.

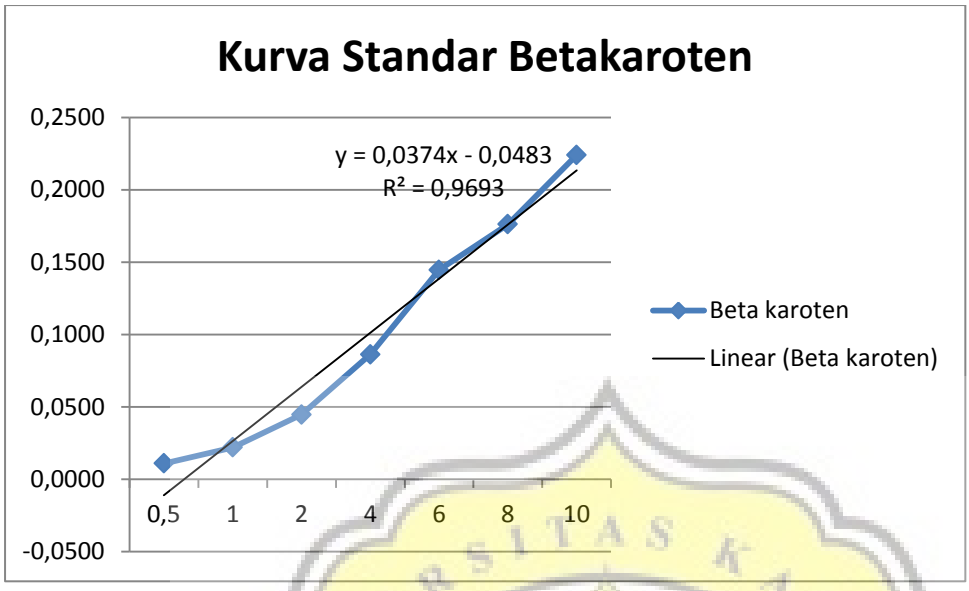
7.2. Dokumentasi Penelitian

Lampiran 3. Dokumentasi Penelitian



7.3. Kurva Standart

7.3.1. Kurva standart Betakaroten



7.3.2. Kurva Standart Alfa-Tokoferol