

Lampiran



Lampiran 1. Data hasil pengamatan dan perhitungan analisis varian kadar asam askorbat buah tomat *Lycopersicum esculentum* Mill. (miligram / 100 gram).

Tabel 6. Data kadar asam askorbat (milligram/100gram) pada perlakuan konsentrasi kalsium klorida dan lama penyimpanan yang berbeda.

KONSENTRASI CaCl ₂ (Molar)		KADAR ASAM ASKORBAT			TOTAL PERLAKUAN	RATA- RATA
		n1	n2	n3		
K0 K1 K2 K3	L1	2.816	2.790	2.816	8.422	2.807
		2.666	2.640	2.614	7.920	2.640
		2.904	2.992	2.904	8.800	2.933
		2.640	2.640	2.728	8.008	2.669
K0 K1 K2 K3	L2	2.218	2.112	2.200	6.530	2.177
		2.464	2.376	2.464	7.304	2.435
		2.578	2.552	2.640	7.770	2.590
		2.288	2.200	2.332	6.820	2.273
K0 K1 K2 K3	L3	1.760	1.760	1.936	5.456	1.819
		2.200	2.174	2.112	6.486	2.162
		2.288	2.288	2.288	6.864	2.288
		1.936	2.024	2.024	5.984	1.995
TOTAL (G)					86.364	

Sumber data primer oleh : Ita SR, 2004

Keterangan :

K0 = Tanpa CaCl₂

K1 = 0.05 M CaCl₂

K2 = 0.1 M CaCl₂

K3 = 0.15 M CaCl₂

L1 = Lama simpan 4 hari

L2 = Lama simpan 8 hari

L3 = Lama simpan 12 hari

Tabel 7. Data kadar asam askorbat total (miligram/100gram)

KONSENTRASI CaCl ₂	KADAR ASAM ASKORBAT			TOTAL K (A)	RATA- RATA
	L1	L2	L3		
K0	8.422	6.530	5.456	20.408	2.268
K1	7.920	7.304	6.486	21.710	2.412
K2	8.800	7.770	6.864	23.434	2.604
K3	8.008	6.820	5.984	20.812	2.312
TOTAL L (B)	33.150	28.424	24.790	86.364	

Sumber data primer oleh : Ita SR, 2004

Descriptives

Kadar Asam Askorbat		konsentrasi		Statistic	Std. Error
Kadar Asam Askorbat	0 M	Mean		2.26756	.145817
		95% Confidence Interval for Mean	Lower Bound	1.93130	
			Upper Bound	2.60381	
		5% Trimmed Mean		2.26528	
		Median		2.20000	
		Variance		.191	
		Std. Deviation		.437450	
		Minimum		1.760	
		Maximum		2.816	
		Range		1.056	
		Interquartile Range		.95500	
		Skewness		.327	.717
		Kurtosis		-1.639	1.400
		0.05 M	0.05 M	Mean	
95% Confidence Interval for Mean	Lower Bound			2.25016	
	Upper Bound			2.57428	
5% Trimmed Mean				2.41480	
Median				2.46400	
Variance				.044	
Std. Deviation				.210830	
Minimum				2.112	
Maximum				2.866	
Range				.554	
Interquartile Range				.44000	
Skewness				-.232	.717
Kurtosis				-1.604	1.400
0.1 M	0.1 M			Mean	
		95% Confidence Interval for Mean	Lower Bound	2.38725	
			Upper Bound	2.82030	
		5% Trimmed Mean		2.59975	
		Median		2.57800	
		Variance		.079	
		Std. Deviation		.281689	
		Minimum		2.288	
		Maximum		2.992	
		Range		.704	
		Interquartile Range		.61600	
		Skewness		.130	.717
		Kurtosis		-1.644	1.400
		0.15 M	0.15 M	Mean	
95% Confidence Interval for Mean	Lower Bound			2.08361	
	Upper Bound			2.54128	
5% Trimmed Mean				2.31027	
Median				2.28800	
Variance				.089	
Std. Deviation				.297701	
Minimum				1.936	
Maximum				2.728	
Range				.792	
Interquartile Range				.61600	
Skewness				.239	.717
Kurtosis				-1.607	1.400

Tabel 9. Uji Normalitas CaCl_2 terhadap kadar asam askorbat.**Tests of Normality**

konsentrasi	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Kadar Asam Askorb 0 M	.217	9	.200*	.854	9	.082
0.05 M	.176	9	.200*	.906	9	.290
0.1 M	.202	9	.200*	.873	9	.134
0.15 M	.198	9	.200*	.904	9	.276

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

a. Lilliefors Significance Correction

Tabel 10. Uji Homogenitas CaCl_2 terhadap kadar asam askorbat.**Test of Homogeneity of Variance**

		Levene Statistic	df1	df2	Sig.
Kadar Asam Askorbat	Based on Mean	2.206	3	32	.106
	Based on Median	1.443	3	32	.249
	Based on Median and with adjusted df	1.443	3	23.377	.256
	Based on trimmed mean	2.170	3	32	.111

LAMA SIMPAN**Tabel 11.** Ringkasan Data dan Deskriptif Lama Penyimpanan terhadap kadar asam askorbat.**Case Processing Summary**

LAMA SIMPA	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Kadar Asam Askorb 4 hari	12	100.0%	0	.0%	12	100.0%
8 hari	12	100.0%	0	.0%	12	100.0%
12 hari	12	100.0%	0	.0%	12	100.0%

Descriptives

LAMA SIMPAN			Statistic	Std. Error
Kadar Asam Askorbal 4 hari	Mean		2.76250	.036595
	95% Confidence Interval for Mean	Lower Bound	2.68196	
		Upper Bound	2.84304	
	5% Trimmed Mean		2.75800	
	Median		2.75900	
	Variance		.016	
	Std. Deviation		.126767	
	Minimum		2.614	
	Maximum		2.992	
	Range		.378	
	Interquartile Range		.24200	
	Skewness		.447	.637
	Kurtosis		-1.078	1.232
	8 hari	Mean		2.36867
95% Confidence Interval for Mean		Lower Bound	2.25986	
		Upper Bound	2.47748	
5% Trimmed Mean			2.36785	
Median			2.35400	
Variance			.029	
Std. Deviation			.171255	
Minimum			2.112	
Maximum			2.640	
Range			.528	
Interquartile Range			.32550	
Skewness			.142	.637
Kurtosis			-1.257	1.232
12 hari		Mean		2.06583
	95% Confidence Interval for Mean	Lower Bound	1.94404	
		Upper Bound	2.18763	
	5% Trimmed Mean		2.07048	
	Median		2.06800	
	Variance		.037	
	Std. Deviation		.191688	
	Minimum		1.760	
	Maximum		2.288	
	Range		.528	
	Interquartile Range		.33000	
	Skewness		-.388	.637
	Kurtosis		-1.017	1.232

Tabel 12. Uji Normalitas lama penyimpanan terhadap kadar asam askorbat.

		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Kadar Asam Askorbat	4 hari	.193	12	.200*	.907	12	.194
	8 hari	.144	12	.200*	.951	12	.657
	12 hari	.130	12	.200*	.908	12	.199

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

a. Lilliefors Significance Correction

Tabel 13. Uji Homogenitas lama penyimpanan terhadap kadar asam askorbat.

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Kadar Asam Askorbat	Based on Mean	1.293	2	33	.288
	Based on Median	1.276	2	33	.293
	Based on Median and with adjusted df	1.276	2	29.169	.294
	Based on trimmed mean	1.290	2	33	.289

Univariate Analysis of Variance (Analisis Univariat)

Tabel 14. Analisis univariat pelakuan CaCl_2 dan lama penyimpanan terhadap kadar asam askorbat.

Between-Subjects Factors

		Value Label	N
konsentrasi	1	0 M	9
	2	0.05 M	9
	3	0.1 M	9
	4	0.15 M	9
LAMA SIMPAN	1	4 hari	12
	2	8 hari	12
	3	12 hari	12

Tabel 15. Analisis univariat pengaruh perlakuan CaCl_2 dan lama penyimpanan terhadap kadar asam askorbat.

Tests of Between-Subjects Effects

Dependent Variable: Kadar Asam Askorbat

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3.765 ^a	11	.342	123.080	.000
Intercept	207.187	1	207.187	74495.031	.000
CACL2	.602	3	.201	72.139	.000
LAMA	2.929	2	1.464	526.500	.000
CACL2 * LAMA	.235	6	3.915E-02	14.077	.000
Error	6.675E-02	24	2.781E-03		
Total	211.019	36			
Corrected Total	3.832	35			

a. R Squared = .983 (Adjusted R Squared = .975)

Pada perlakuan konsentrasi kalsium klorida dan lama penyimpanan yang berbeda $F_{hit} > F_{tabel}$, berarti perlakuan konsentrasi dan lama penyimpanan berpengaruh nyata terhadap kadar asam askorbat. Interaksi antara konsentrasi CaCl_2 dan lama penyimpanan menunjukkan $F_{hitung} > F_{tabel}$, berarti interaksi antara konsentrasi dan lama penyimpanan berpengaruh nyata terhadap kadar asam askorbat buah tomat. Dengan demikian perlu dilakukan uji lanjut untuk melihat perbandingan antar nilai tengah yang ada. Uji lanjut yang digunakan adalah Uji Wilayah Ganda Duncan.

Post Hoc Tests (Tes Uji Lanjut)

konsentrasi Homogeneous Subsets

Tabel 16. Tes uji lanjut pelakuan CaCl_2 terhadap kadar asam askorbat.

Kadar Asam Askorbat

Duncan ^{a,b}

konsentrasi	N	Subset		
		1	2	3
0 M	9	2.26756		
0.15 M	9	2.31244		
0.05 M	9		2.41222	
0.1 M	9			2.60378
Sig.		.084	1.000	1.000

Means for groups in homogeneous subsets are displayed.

Based on Type III Sum of Squares

The error term is Mean Square(Error) = 2.781E-03.

a. Uses Harmonic Mean Sample Size = 9.000.

b. Alpha = .05.

LAMA SIMPAN Homogeneous Subsets

Tabel 17. Tes uji lanjut pelakuan lama simpan terhadap kadar asam askorbat.

Kadar Asam Askorbat

Duncan ^{a,b}

LAMA SIMPAN	N	Subset		
		1	2	3
12 hari	12	2.06583		
8 hari	12		2.36867	
4 hari	12			2.76250
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

Based on Type III Sum of Squares

The error term is Mean Square(Error) = 2.781E-03.

a. Uses Harmonic Mean Sample Size = 12.000.

b. Alpha = .05.

Uji Wilayah Ganda Duncan

1. Pengujian pengaruh rata-rata perlakuan

$$S_y = \sqrt{\frac{KTG}{n}} = \sqrt{\frac{0.002781}{3}} = 0.03$$

$$db = 24$$

P =	2	3	4	5	6	7	8	9
	10	12	14					
R (dbg;5%)=	2.92	3.07	3.15	3.22	3.28	3.31	3.34	3.37
	3.38	3.41	3.44					

D (dbg;5%)=	0.0876	0.0921	0.0945	0.0966
	0.0984	0.0993	0.1002	0.1011
	0.1014	0.1023	0.1032	

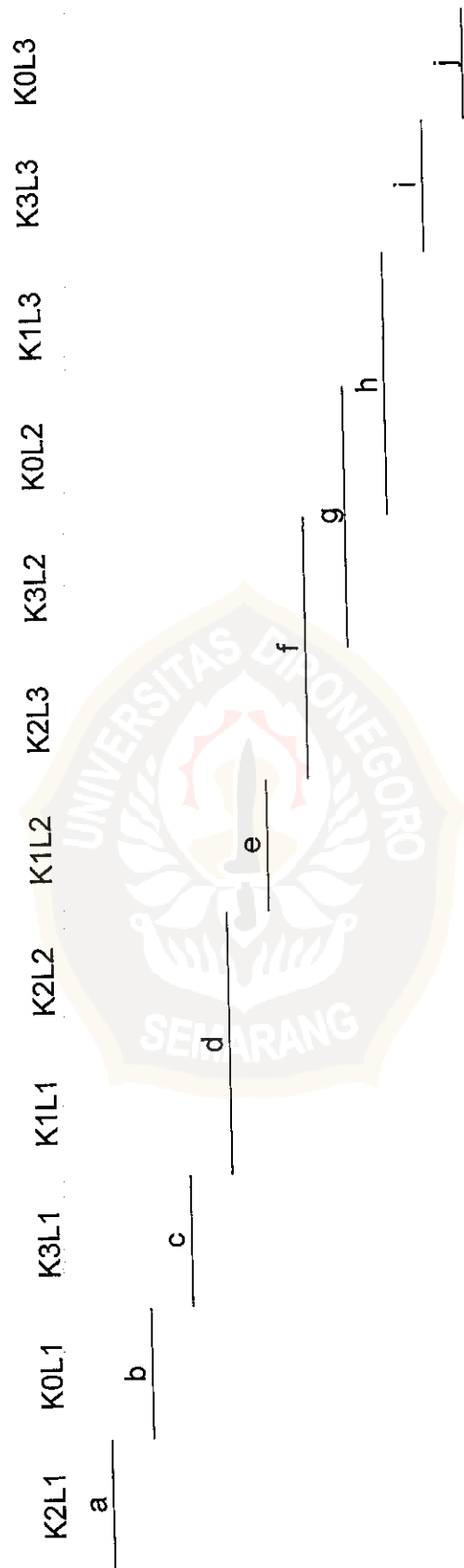


Tabel 18. Perbandingan pengaruh rata-rata kadar asam askorbat tiap perlakuan

Perlakuan	Rata-rata	K0L3	K3L3	K1L3	K0L2	K3L2	K2L3	K1L2	K2L2	K1L1	K3L1	K0L1	K2L1
K2L1	2.933	1.114*	0.938*	0.771*	0.756*	0.660*	0.645*	0.498*	0.343*	0.293*	0.264*	0.126*	0
K0L1	2.807	0.988*	0.812*	0.645*	0.630*	0.660*	0.519*	0.372*	0.217*	0.167*	0.138*	0	0
K3L1	2.669	0.850*	0.674*	0.507*	0.492*	0.396*	0.381*	0.234*	0.079*	0.029*	0	0	0
K1L1	2.640	0.821*	0.645*	0.478*	0.463*	0.367*	0.352*	0.205*	0.050	0	0	0	0
K2L2	2.590	0.771*	0.595*	0.428*	0.413*	0.317*	0.302*	0.155*	0	0	0	0	0
K1L2	2.435	0.616*	0.440*	0.273*	0.258*	0.162*	0.147*	0	0	0	0	0	0
K2L3	2.288	0.469*	0.293*	0.126*	0.111*	0.015	0	0	0	0	0	0	0
K3L2	2.273	0.454*	0.278*	0.111*	0.096	0	0	0	0	0	0	0	0
K0L2	2.177	0.358*	0.182*	0.015	0	0	0	0	0	0	0	0	0
K1L3	2.162	0.343*	0.167*	0	0	0	0	0	0	0	0	0	0
K3L3	1.995	0.176*	0	0	0	0	0	0	0	0	0	0	0
K0L3	1.819	0	0	0	0	0	0	0	0	0	0	0	0

Keterangan : Angka yang diikuti oleh tanda * menunjukkan berbeda nyata pada taraf signifikansi 95 %.

Hasil pengujian antar kombinasi perlakuan terhadap rata-rata kadar asam askorbat dapat diringkas sebagai berikut :



Lampiran 2. Data hasil pengamatan dan perhitungan analisis varian susut berat (gram) buah tomat *Lycopersicum esculentum* Mill.

Tabel 19. Data susut berat (gram) pada perlakuan konsentrasi kalsium klorida dan lama yang berbeda.

Konsentrasi CaCl ₂ (M)	Ulangan	Lama Umur Simpan (hari)			Total	Rata-rata
		L1 (4 hr)	L2 (8 hr)	L3 (12 hr)		
K0	I	2.11	2.88	4.11		
	II	1.87	3.02	4.10		
	III	1.92	2.91	4.23		
Jumlah		5.90	8.81	12.44	27.15	9.05
	Rata-rata	1.97	2.94	4.15		
K1	I	1.73	2.52	4.01		
	II	1.83	2.64	3.98		
	III	1.62	2.44	3.92		
Jumlah		5.18	7.60	11.91	24.69	8.23
	Rata-rata	1.73	2.53	3.97		
K2	I	1.62	2.38	3.51		
	II	1.48	2.41	3.66		
	III	1.50	2.52	3.48		
Jumlah		4.60	7.31	10.65	22.56	7.52
	Rata-rata	1.53	2.44	3.55		
K3	I	1.83	3.02	4.09		
	II	1.78	2.90	4.12		
	III	1.80	2.82	4.15		
Jumlah		5.41	8.74	12.36	26.51	8.84
	Rata-rata	1.80	2.91	4.12		
Total		21.09	32.46	47.36	100.91	
Rata-rata		5.27	8.12	11.84		

Sumber data primer oleh : Ita SR, 2004

Menentukan Normalitas dan Homogenitas Susut Berat Buah

Konsentrasi CaCl₂ (Molar)

Tabel 20. Ringkasan Data dan Deskriptif CaCl₂ terhadap susut berat buah.

Case Processing Summary

	Konsentrasi CaCl ₂ (Molar)	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Susut Berat Buah (gr)	0 M CaCl ₂	9	100.0%	0	.0%	9	100.0%
	0.05 M CaCl ₂	9	100.0%	0	.0%	9	100.0%
	0.1 M CaCl ₂	9	100.0%	0	.0%	9	100.0%
	0.15 M CaCl ₂	9	100.0%	0	.0%	9	100.0%



Descriptives

Konsentrasi		Statistic	Std. Error		
Susut Berat Buah (gram)	0 M CaCl ₂	Mean	3.0167	.31646	
		95% Confidence Interval for Mean	2.2869		
		Lower Bound			
		Upper Bound	3.7464		
		5% Trimmed Mean	3.0130		
		Median	2.9100		
		Variance	.901		
		Std. Deviation	.94939		
		Minimum	1.87		
		Maximum	4.23		
		Range	2.36		
		Interquartile Range	2.0900		
		Skewness	.148		.717
		Kurtosis	-1.662		1.400
	0.05 M CaCl ₂	Mean	2.7433	.32901	
		95% Confidence Interval for Mean	1.9846		
		Lower Bound			
		Upper Bound	3.5020		
		5% Trimmed Mean	2.7354		
		Median	2.5200		
		Variance	.974		
		Std. Deviation	.98703		
		Minimum	1.62		
		Maximum	4.01		
		Range	2.39		
		Interquartile Range	2.1700		
		Skewness	.383		.717
		Kurtosis	-1.697		1.400
	0.1 M CaCl ₂	Mean	2.5067	.29258	
		95% Confidence Interval for Mean	1.8320		
		Lower Bound			
		Upper Bound	3.1814		
		5% Trimmed Mean	2.4996		
		Median	2.4100		
		Variance	.770		
		Std. Deviation	.87774		
		Minimum	1.48		
		Maximum	3.66		
		Range	2.18		
		Interquartile Range	1.9350		
		Skewness	.158		.717
		Kurtosis	-1.667		1.400
	0.15 M CaCl ₂	Mean	2.9456	.33496	
		95% Confidence Interval for Mean	2.1731		
		Lower Bound			
		Upper Bound	3.7180		
		5% Trimmed Mean	2.9434		
		Median	2.9000		
		Variance	1.010		
		Std. Deviation	1.00489		
		Minimum	1.78		
		Maximum	4.15		
		Range	2.37		
		Interquartile Range	2.2900		
		Skewness	.062		.717
		Kurtosis	-1.724		1.400

Tabel 21. Uji Normalitas CaCl₂ terhadap susut berat buah.

		Tests of Normality ^a			Shapiro-Wilk		
	Konsentrasi CaCl ₂ (Mola)	Kolmogorov-Smirnov			Statistic		
		Statistic	df	Sig.	Statistic	df	Sig.
Susut Berat Buah (gr)	0 M CaCl ₂	.206	9	.200*	.872	9	.128
	0.05 M CaCl	.217	9	.200*	.847	9	.070
	0.1 M CaCl ₂	.200	9	.200*	.871	9	.126
	0.15 M CaCl	.206	9	.200*	.846	9	.067

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

a. Lilliefors Significance Correction

Tabel 22. Uji homogenitas CaCl₂ terhadap susut berat buah.

Test of Homogeneity of Variance					
		Levene Statistic	df1	df2	Sig.
Susut Berat Buah (gram)	Based on Mean	.102	3	32	.958
	Based on Median	.063	3	32	.979
	Based on Median and with adjusted df	.063	3	31.428	.979
	Based on trimmed mean	.100	3	32	.960

Lama Penyimpanan (hari)

Tabel 23. Ringkasan Data dan Deskriptif lama penyimpanan terhadap susut berat buah.

Lama Penyimpanan (hari)	Case Processing Summary					
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Susut Berat Buah (4 hari)	12	100.0%	0	.0%	12	100.0%
8 hari	12	100.0%	0	.0%	12	100.0%
12 hari	12	100.0%	0	.0%	12	100.0%

Descriptives

Lama Penyimpanan		Statistic	Std. Error	
Susut Berat Buah (gra 4 hari)	Mean	1.7575	.05208	
	95% Confidence Interval for Mean	Lower Bound	1.6429	
		Upper Bound	1.8721	
	5% Trimmed Mean	1.7533		
	Median	1.7900		
	Variance	.033		
	Std. Deviation	.18041		
	Minimum	1.48		
	Maximum	2.11		
	Range	.63		
	Interquartile Range	.2400		
	Skewness	.125	.637	
	Kurtosis	.042	1.232	
	8 hari	Mean	2.7050	.07060
95% Confidence Interval for Mean		Lower Bound	2.5496	
		Upper Bound	2.8604	
5% Trimmed Mean		2.7056		
Median		2.7300		
Variance		.060		
Std. Deviation		.24456		
Minimum		2.38		
Maximum		3.02		
Range		.64		
Interquartile Range		.4475		
Skewness		-.046	.637	
Kurtosis		-1.829	1.232	
12 hari		Mean	3.9467	.07380
	95% Confidence Interval for Mean	Lower Bound	3.7842	
		Upper Bound	4.1091	
	5% Trimmed Mean	3.9569		
	Median	4.0500		
	Variance	.065		
	Std. Deviation	.25564		
	Minimum	3.48		
	Maximum	4.23		
	Range	.75		
	Interquartile Range	.3925		
	Skewness	-1.051	.637	
	Kurtosis	-.296	1.232	

Tabel 24. Uji Normalitas lama penyimpanan terhadap susut berat buah.

Lama Penyimpanan (hari)	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Susut Berat Buah (4 hari)	.133	12	.200*	.960	12	.791
8 hari	.192	12	.200*	.884	12	.098
12 hari	.219	12	.118	.836	12	.024

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

a. Lilliefors Significance Correction

Tabel 25. Uji Normalitas lama penyimpanan terhadap susut berat buah.

		Levene Statistic	df1	df2	Sig.
Susut Berat Buah (gram)	Based on Mean	1.664	2	33	.205
	Based on Median	1.073	2	33	.353
	Based on Median and with adjusted df	1.073	2	22.645	.359
	Based on trimmed mean	1.533	2	33	.231

Univariate Analysis of Variance (Analisis Univariat)

Tabel 26. Analisis univariat pelakuan CaCl_2 dan lama penyimpanan terhadap susut berat buah.

Between-Subjects Factors			Value Label	N
Konsentrasi CaCl_2 (Molar)	1	0 M CaCl_2		9
	2	0.05 M CaCl_2		9
	3	0.1 M CaCl_2		9
	4	0.15 M CaCl_2		9
Lama Penyimpanan (hari)	1	4 hari		12
	2	8 hari		12
	3	12 hari		12

Tabel 27. Analisis univariat pengaruh perlakuan CaCl_2 dan lama penyimpanan terhadap susut berat buah.

Tests of Between-Subjects Effects

Dependent Variable: Susut Berat Buah (gram)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	30.498 ^a	11	2.773	405.249	.000
Intercept	282.856	1	282.856	41343.192	.000
CACL2	1.416	3	.472	68.996	.000
LAMA	28.928	2	14.464	2114.088	.000
CACL2 * LAMA	.154	6	2.574E-02	3.762	.009
Error	.164	24	6.842E-03		
Total	313.519	36			
Corrected Total	30.663	35			

a. R Squared = .995 (Adjusted R Squared = .992)

Pada perlakuan konsentrasi kalsium klorida dan lama penyimpanan yang berbeda $F_{hit} > F_{tabel}$, berarti perlakuan konsentrasi dan lama penyimpanan berpengaruh nyata terhadap susut berat buah. Interaksi antara konsentrasi CaCl_2 dan lama penyimpanan menunjukkan $F_{hitung} > F_{tabel}$, berarti interaksi antara konsentrasi dan lama penyimpanan berpengaruh nyata terhadap susut berat buah tomat. Dengan demikian perlu dilakukan uji lanjut untuk melihat perbandingan antar nilai tengah yang ada. Uji lanjut yang digunakan adalah Uji Wilayah Ganda Duncan.

Post Hoc Tests (Tes Uji Lanjut)

Konsentrasi CaCl₂ (Molar) Homogeneous Subsets

Tabel 28. Tes uji lanjut pelakuan CaCl₂ terhadap susut berat buah.

Susut Berat Buah (gram)

Duncan^{a,b}

Konsentrasi CaCl ₂ (Molar)	N	Subset		
		1	2	3
0.1 M CaCl ₂	9	2.5067		
0.05 M CaCl ₂	9		2.7433	
0.15 M CaCl ₂	9			2.9456
0 M CaCl ₂	9			3.0167
Sig.		1.000	1.000	.081

Means for groups in homogeneous subsets are displayed.

Based on Type III Sum of Squares

The error term is Mean Square(Error) = 6.842E-03.

a. Uses Harmonic Mean Sample Size = 9.000.

b. Alpha = .05.

Lama Penyimpanan (hari) Homogeneous Subsets

Tabel 29. Tes uji lanjut pelakuan lama penyimpanan terhadap susut berat buah.

Susut Berat Buah (gram)

Duncan^{a,b}

Lama Penyimpanan (hari)	N	Subset		
		1	2	3
4 hari	12	1.7575		
8 hari	12		2.7050	
12 hari	12			3.9467
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

Based on Type III Sum of Squares

The error term is Mean Square(Error) = 6.842E-03.

a. Uses Harmonic Mean Sample Size = 12.000.

b. Alpha = .05.

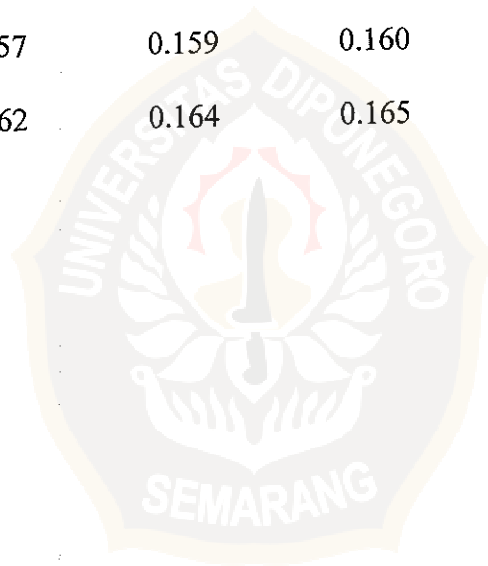
Uji Wilayah Ganda Duncan

1. Pengujian pengaruh rata-rata perlakuan

$$S_y = \sqrt{\frac{KTG}{n}} = \sqrt{\frac{0.006842}{3}} = 0.048$$

$$db = 24$$

P =	2	3	4	5	6	7	8	9
	10	12	14					
R (dbg;5%)=	2.92	3.07	3.15	3.22	3.28	3.31	3.34	3.37
	3.38	3.41	3.44					
D (dbg;5%)=	0.140		0.147		0.151		0.155	
	0.157		0.159		0.160		0.162	
	0.162		0.164		0.165			



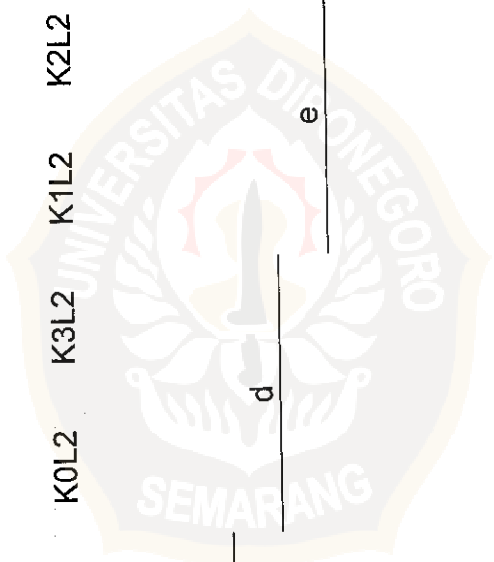
Tabel 30. Perbandingan pengaruh rata-rata susut berat tiap perlakuan

Perlakuan	Rata-rata	K2L1	K1L1	K3L1	K0L1	K2L2	K1L2	K3L2	K0L2	K2L3	K1L3	K0L3	K3L3
K3L3	4.21	2.68*	2.48*	2.41*	2.24*	1.77*	1.68*	1.30*	1.27*	0.66*	0.24*	0.06	0
K0L3	4.15	2.62*	2.42*	2.35*	2.18*	1.71*	1.62*	1.24*	1.21*	0.60*	0.18*	0	0
K1L3	3.97	2.44*	2.24*	2.17*	2.00*	1.53*	1.44*	1.06*	1.03*	0.42*	0	0	0
K2L3	3.55	2.02*	1.82*	1.75*	1.58*	1.11*	1.02*	0.64*	0.61*	0	0	0	0
K0L2	2.94	1.41*	1.21*	1.14*	0.97*	0.50*	0.41*	0.03	0	0	0	0	0
K3L2	2.91	1.38*	1.18*	1.11*	0.94*	0.47*	0.38*	0	0	0	0	0	0
K1L2	2.53	1.00*	0.80*	0.73*	0.56*	0.09	0	0	0	0	0	0	0
K2L2	2.44	0.91*	0.71*	0.64*	0.47*	0	0	0	0	0	0	0	0
K0L1	1.97	0.44*	0.24*	0.17*	0	0	0	0	0	0	0	0	0
K3L1	1.80	0.27*	0.07	0	0	0	0	0	0	0	0	0	0
K1L1	1.73	0.20*	0	0	0	0	0	0	0	0	0	0	0
K2L1	1.53	0	0	0	0	0	0	0	0	0	0	0	0

Keterangan : Angka yang diikuti oleh tanda * menunjukkan berbeda nyata pada taraf signifikansi 95 %.

Hasil pengujian antar kombinasi perlakuan terhadap susut berat buah dapat diringkas sebagai berikut :

K3L3	K0L3	K1L3	K2L3	K3L2	K1L2	K2L2	K0L1	K3L1	K1L1	K2L1
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
a	b	c	d	e	f	g	h			



Lampiran 3. Data hasil pengamatan dan perhitungan analisis varian lama umur simpan (hari) buah tomat *Lycopersicum esculentum* Mill.

Tabel 31. Data lama umur simpan (hari) buah tomat pada perlakuan konsentrasi kalsium klorida yang berbeda.

Konsentrasi CaCl ₂	Ulangan	LamaUmur Simpan (hari)	Jumlah	Rata-rata
K0	1	35		
	2	35		
	3	35		
	4	30		
	5	34		
			169	33.8
K1	1	35		
	2	47		
	3	42		
	4	41		
	5	42		
			207	41.4
K2	1	35		
	2	36		
	3	47		
	4	47		
	5	41		
			206	41.2
K3	1	35		
	2	42		
	3	40		
	4	39		
	5	40		
			196	39.2
Total Rata-rata			778	
				38.9

Sumber data primer oleh : Ita SR, 2004

Menentukan Normalitas dan Homogenitas Lama Umur Simpan

Konsentrasi CaCl₂

Tabel 32. Ringkasan Data dan Deskriptif CaCl₂ terhadap lama umur simpan.

Case Processing Summary

	Konsentrasi Ca	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Lama Umur Simpan	0 M CaCl ₂	5	100.0%	0	.0%	5	100.0%
	0.05 M CaCl ₂	5	100.0%	0	.0%	5	100.0%
	0.1 M CaCl ₂	5	100.0%	0	.0%	5	100.0%
	0.15 M CaCl ₂	5	100.0%	0	.0%	5	100.0%



Descriptives

Konsentrasi CaCl ₂		Statistic	Std. Error		
Lama Umur Simpan	0 M CaCl ₂	Mean	33.8000	.96954	
		95% Confidence Interval for Mean	31.1081		
		Lower Bound			
		Upper Bound	36.4919		
		5% Trimmed Mean	33.9444		
		Median	35.0000		
		Variance	4.700		
		Std. Deviation	2.16795		
		Minimum	30.00		
		Maximum	35.00		
		Range	5.00		
		Interquartile Range	3.0000		
		Skewness	-2.032		.913
		Kurtosis	4.151		2.000
	0.05 M CaCl ₂	Mean	41.4000	1.91311	
		95% Confidence Interval for Mean	36.0883		
		Lower Bound			
		Upper Bound	46.7117		
		5% Trimmed Mean	41.4444		
		Median	42.0000		
		Variance	18.300		
		Std. Deviation	4.27785		
		Minimum	35.00		
		Maximum	47.00		
		Range	12.00		
		Interquartile Range	6.5000		
		Skewness	-.459		.913
		Kurtosis	1.934		2.000
	0.1 M CaCl ₂	Mean	41.2000	2.57682	
		95% Confidence Interval for Mean	34.0456		
		Lower Bound			
		Upper Bound	48.3544		
		5% Trimmed Mean	41.2222		
		Median	41.0000		
		Variance	33.200		
		Std. Deviation	5.76194		
		Minimum	35.00		
		Maximum	47.00		
		Range	12.00		
		Interquartile Range	11.5000		
		Skewness	.025		.913
		Kurtosis	-2.928		2.000
	0.15 M CaCl ₂	Mean	39.2000	1.15758	
		95% Confidence Interval for Mean	35.9860		
		Lower Bound			
		Upper Bound	42.4140		
		5% Trimmed Mean	39.2778		
		Median	40.0000		
		Variance	6.700		
		Std. Deviation	2.58844		
		Minimum	35.00		
		Maximum	42.00		
		Range	7.00		
		Interquartile Range	4.0000		
		Skewness	-1.228		.913
		Kurtosis	2.399		2.000

Tabel 33. Uji normalitas CaCl_2 terhadap lama umur simpan

		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Lama Umur Simpan	0 M CaCl_2	.337	5	.066	.676	5	.005
	0.05 M CaCl_2	.263	5	.200*	.922	5	.546
	0.1 M CaCl_2	.243	5	.200*	.851	5	.198
	0.15 M CaCl_2	.269	5	.200*	.894	5	.376

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

a. Lilliefors Significance Correction

Tabel 34. Uji homogenitas CaCl_2 terhadap lama umur simpan

		Levene	df1	df2	Sig.
		Statistic			
Lama Umur Simpan	Based on Mean	2.013	3	16	.153
	Based on Median	1.768	3	16	.194
	Based on Median and with adjusted df	1.768	3	14.125	.199
	Based on trimmed mean	2.051	3	16	.147

Oneway

Tabel 35. Deskriptif CaCl_2 terhadap lama umur simpan

Lama Umur Simpan		Descriptives						
	N	Mean	Std. Deviation	Std. Error	5% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
0 M CaCl_2	5	33.8000	2.16795	.96954	31.1081	36.4919	30.00	35.00
0.05 M CaCl_2	5	41.4000	4.27785	1.91311	36.0883	46.7117	35.00	47.00
0.1 M CaCl_2	5	41.2000	5.76194	2.57682	34.0456	48.3544	35.00	47.00
0.15 M CaCl_2	5	39.2000	2.58844	1.15758	35.9860	42.4140	35.00	42.00
Total	20	38.9000	4.81117	1.07581	36.6483	41.1517	30.00	47.00

Tabel 36. Uji homogenitas Lama Umur Simpan**Test of Homogeneity of Variances**

Lama Umur Simpan			
Levene Statistic	df1	df2	Sig.
2.013	3	16	.153

Tabel 37. Anova Lama Umur Simpan**ANOVA**

Lama Umur Simpan					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	188.200	3	62.733	3.989	.027
Within Groups	251.600	16	15.725		
Total	439.800	19			

Post Hoc Tests (Tes Uji Lanjut)**Homogeneous Subsets****Tabel 38.** Tes uji lanjut perlakuan CaCl_2 terhadap lama umur simpan**Lama Umur Simpan**Duncan ^a

Konsentrasi CaCl_2	N	Subset for alpha = .05	
		1	2
0 M CaCl_2	5	33.8000	
0.15 M CaCl_2	5		39.2000
0.1 M CaCl_2	5		41.2000
0.05 M CaCl_2	5		41.4000
Sig.		1.000	.419

Means for groups in homogeneous subsets are displayed.

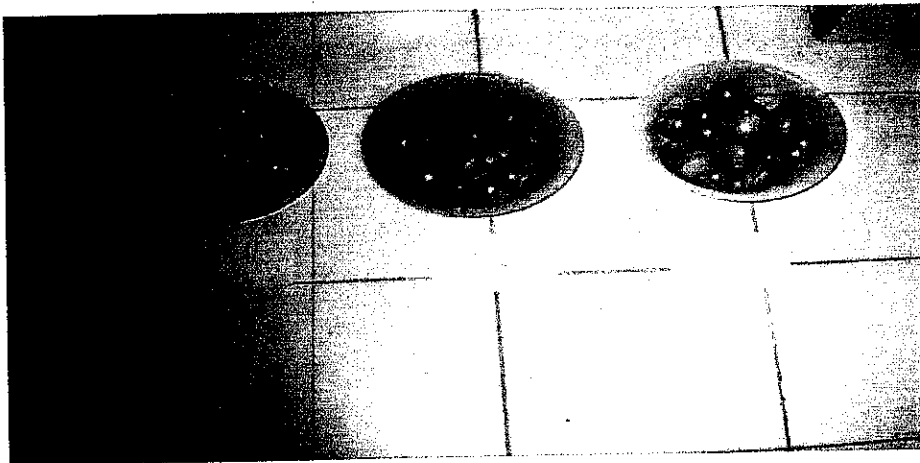
a. Uses Harmonic Mean Sample Size = 5.000.

Lampiran 4. Data rata-rata suhu di Lab Kimia Organik Jurusan Kimia Undip.**Tabel 39.** Rata-rata suhu selama penelitian (3 Juni – 18 Juli 2004) di Laboratorium Kimia Organik Jurusan Kimia Undip.

Tanggal / bulan 2004	Suhu °C		
	07.00 WIB	12.00 WIB	17.00 WIB
3 - 6 Juni	25.5	28.25	27.38
7 - 13 Juni	25.71	28.57	27.71
14 - 20 Juni	25.14	28	26.79
21 - 27 Juni	25.57	28.29	27.14
28 Juni - 4 Juli	25.71	28.57	27.43
5 - 11 Juli	25.42	28.57	26.85
12 - 18 Juli	25.14	27.57	26.29



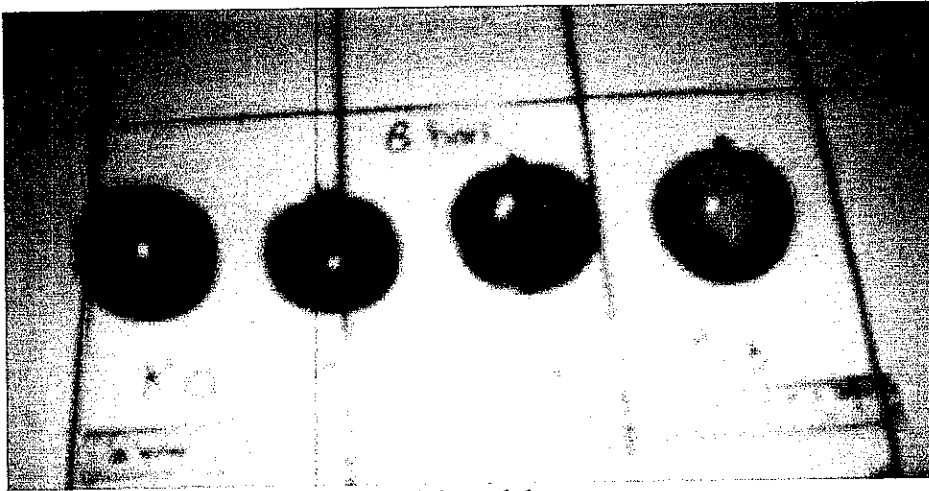
Lampiran 5. Foto hasil penelitian



A. Buah tomat 0 hari perlakuan



B. Buah tomat 4 hari setelah perlakuan



C. Buah tomat 8 hari setelah perlakuan



D. Buah tomat 12 hari setelah perlakuan