

Lampiran 1. Uji anova satu arah terhadap absorban minyak goreng tanpa pemberian gas nitrogen

Variable ABSORBAN
By Variable FREKUENSI

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	,0069	,0035	1021,2049	,0000
Within Groups	9	,0000	,0000		
Total	11	,0070			

Group	Count	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean
Grp 1	4	,4185	,0017	,0009	,4157 TO ,4213
Grp 2	4	,4453	,0022	,0011	,4417 TO ,4488
Grp 3	4	,4773	,0015	,0007	,4749 TO ,4796
Total	12	,4470	,0251	,0073	,4310 TO ,4630

GROUP	MINIMUM	MAXIMUM
Grp 1	,4160	,4200
Grp 2	,4430	,4480
Grp 3	,4760	,4790
TOTAL	,4160	,4790

Levene Test for Homogeneity of Variances

Statistic	df1	df2	2-tail Sig.
,5217	2	9	,610

Lampiran 1. (lanjutan)

Multiple Range Tests: Duncan test with significance level ,05

The difference between two means is significant if
 $MEAN(J) - MEAN(I) \geq ,0013 * RANGE * \sqrt{1/N(I) + 1/N(J)}$
 with the following value(s) for RANGE:

Step	2	3
RANGE	3,19	3,34

(*) Indicates significant differences which are shown in the lower triangle

			G G G
			r r r
			p p p
		1 2 3	
Mean	FREK1		
,4185	Grp 1		
,4453	Grp 2	*	
,4773	Grp 3	* *	

Homogeneous Subsets (highest and lowest means are not significantly different)

Subset 1

Group	Grp 1
Mean	,4185

Subset 2

Group	Grp 2
Mean	,4453

Subset 3

Group	Grp 3
Mean	,4773



Lampiran 2. Uji anova satu arah terhadap absorban minyak goreng dengan pemberian gas nitrogen

Variable ABSORBAN
By Variable FREKUENSI

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	,0020	,0010	74,7707	,0000
Within Groups	9	,0001	,0000		
Total	11	,0021			

Group	Count	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean
Grp 1	4	,4185	,0013	,0006	,4164 TO ,4206
Grp 2	4	,4278	,0046	,0023	,4205 TO ,4350
Grp 3	4	,4490	,0041	,0020	,4425 TO ,4555
Total	12	,4318	,0137	,0040	,4230 TO ,4405

GROUP	MINIMUM	MAXIMUM
Grp 1	,4170	,4200
Grp 2	,4220	,4330
Grp 3	,4460	,4550
TOTAL	,4170	,4550

Levene Test for Homogeneity of Variances

Statistic	df1	df2	2-tail Sig.
1,5423	2	9	,265

Lampiran 2. (lanjutan)

Multiple Range Tests: Duncan test with significance level ,05

The difference between two means is significant if
 $MEAN(J) - MEAN(I) \geq ,0026 * RANGE * SQRT(1/N(I) + 1/N(J))$
 with the following value(s) for RANGE:

Step	2	3
RANGE	3,19	3,34

(*) Indicates significant differences which are shown in the lower triangle

			G G G
			r r r
			p p p
		1 2 3	
Mean	FREK1		
,4185	Grp 1		
,4278	Grp 2	*	
,4490	Grp 3	* *	

Homogeneous Subsets (highest and lowest means are not significantly different)

Subset 1

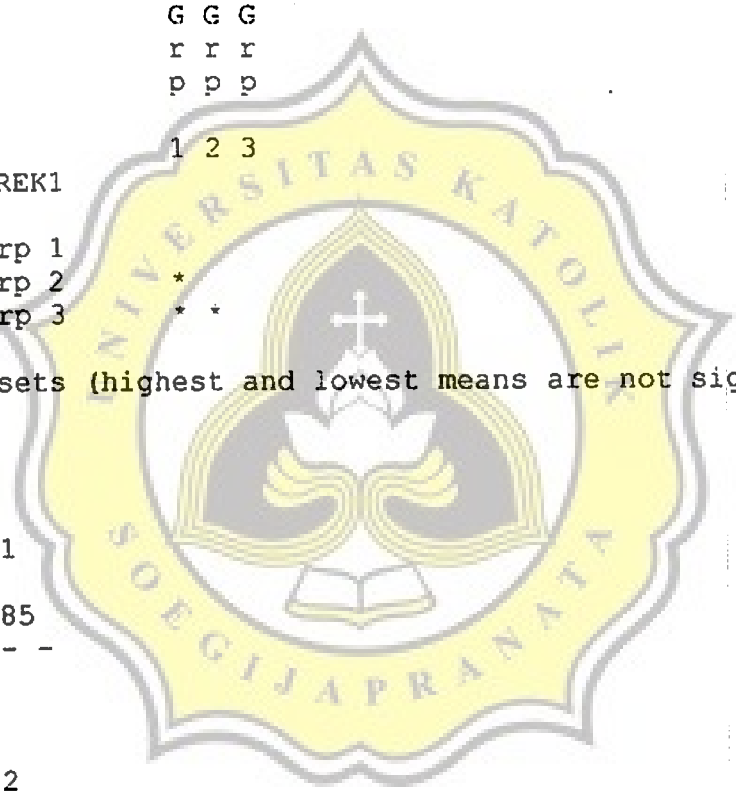
Group	Grp 1
Mean	,4185

Subset 2

Group	Grp 2
Mean	,4278

Subset 3

Group	Grp 3
Mean	,4490



Lampiran 3. Uji T absorban minyak goreng

1. Uji T untuk frekuensi penggorengan ke-0

Variable	Number of Cases	Mean	SD	SE of Mean
ABS				
KONTROL,	4	,4185	,002	,001
NITROGEN,	4	,4185	,001	,001

Mean Difference = ,0000

Levene's Test for Equality of Variances: F= ,200 P= ,670

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	,00	6	1,000	,001	(-,003; ,003)
Unequal	,00	5,55	1,000	,001	(-,003; ,003)

2. Uji T untuk frekuensi penggorengan ke-5

Variable	Number of Cases	Mean	SD	SE of Mean
ABS				
KONTROL,	4	,4453	,002	,001
NITROGEN,	4	,4278	,005	,002

Mean Difference = ,0175

Levene's Test for Equality of Variances: F= 1,174 P= ,320

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	6,89	6	,000	,003	(,011; ,024)
Unequal	6,89	4,34	,002	,003	(,010; ,025)

3. Uji T untuk frekuensi penggorengan ke-25

Variable	Number of Cases	Mean	SD	SE of Mean
ABS				
KONTROL,	4	,4773	,001	,001
NITROGEN,	4	,4490	,004	,002

Mean Difference = ,0283

Levene's Test for Equality of Variances: F= 2,534 P= ,162

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	12,99	6	,000	,002	(,023; ,034)
Unequal	12,99	3,80	,000	,002	(,022; ,034)

Lampiran 4. Uji Kruskal - Wallis terhadap angka peroksida minyak goreng tanpa penambahan gas nitrogen

	N	Mean	Std Dev	Minimum	Maximum
PER	12	5.50917	2.67754	2.39	9.40
FREK	24	3.50000	1.74456	1.00	6.00

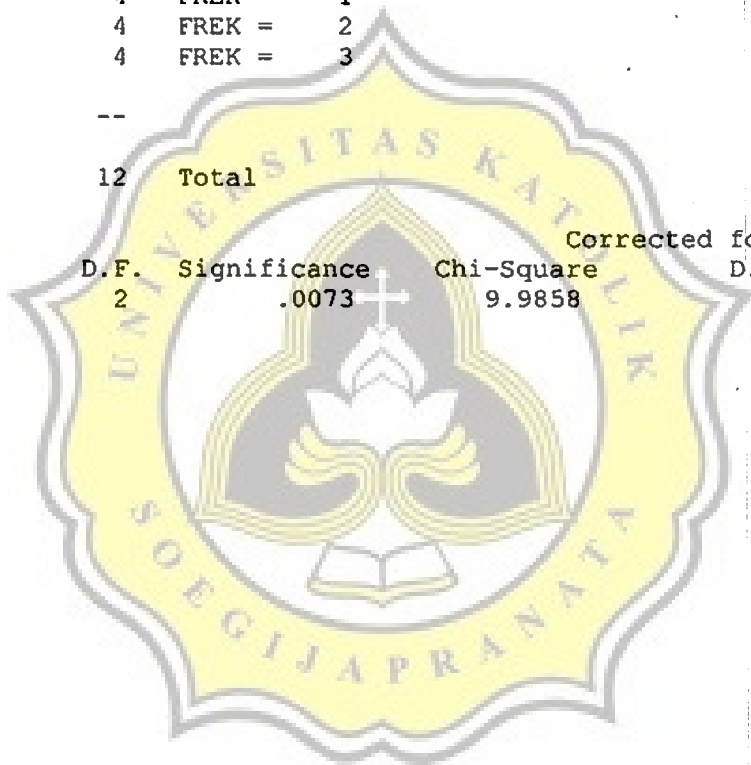
ANGKA PEROKSIDA
by FREKUENSI

Mean Rank	Cases	
2.50	4	FREK = 1
6.50	4	FREK = 2
10.50	4	FREK = 3

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12 Total

Chi-Square	D.F.	Significance	Chi-Square	D.F.	Significance
9.8462	2	.0073	9.9858	2	.0068

Corrected for ties

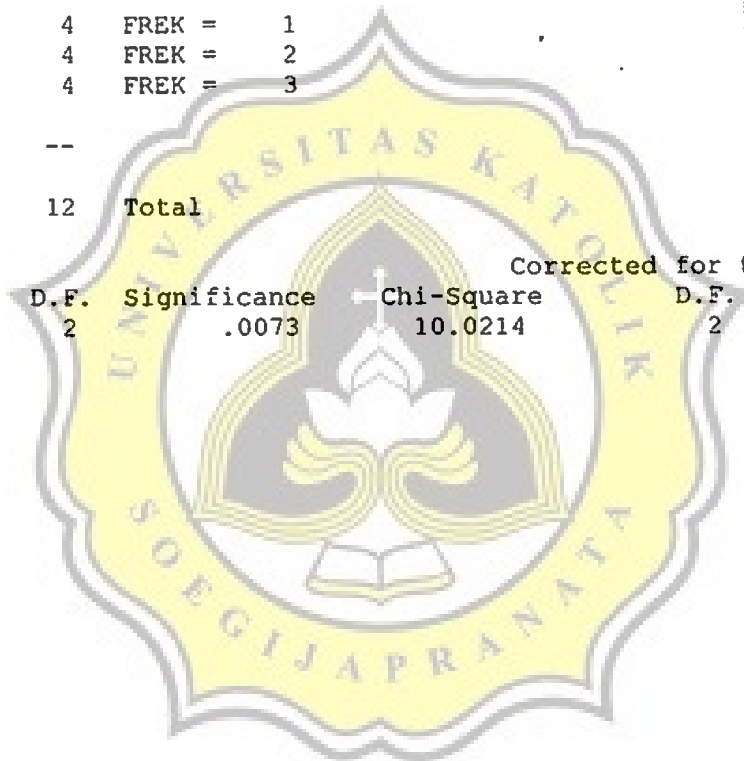


Lampiran 5. Uji Kruskal - Wallis terhadap angka peroksida minyak goreng dengan penambahan gas nitrogen

	N	Mean	Std Dev	Minimum	Maximum
PERN2	12	4.09750	1.92265	2.39	7.33
FREK	24	3.50000	1.74456	1.00	6.00

ANGKA PEROKSIDA
by FREKUENSI

Mean Rank	Cases				
2.50	4	FREK =	1		
6.50	4	FREK =	2		
10.50	4	FREK =	3		
--					
	12	Total			
Chi-Square	D.F.	Significance	Chi-Square	D.F.	Significance
9.8462	2	.0073	10.0214	2	.0067



Lampiran 6. Uji T peroksida minyak goreng

1. Uji T peroksida minyak goreng frekuensi penggorengan ke-0

Variable	Number of Cases	Mean	SD	SE of Mean
Minyak Goreng				
Kontrol	4	2.3975	.005	.002
Nitrogen	4	2.3925	.005	.002

Mean Difference = .0050

Levene's Test for Equality of Variances: F= .000 P= 1.000

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	1.41	6	.207*	.004	(-.004, .014)
Unequal	1.41	6.00	.207	.004	(-.004, .014)

2. Uji T peroksida minyak goreng frekuensi penggorengan ke-5

Variable	Number of Cases	Mean	SD	SE of Mean
Minyak Goreng				
Kontrol	4	5.4875	.175	.088
Nitrogen	4	3.2875	.372	.186

Mean Difference = 2.2000

Levene's Test for Equality of Variances: F= 3.229 P= .122

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	10.70	6	.000	.206	(1.697, 2.703)
Unequal	10.70	4.27	.000	.206	(1.629, 2.771)

3. Uji T peroksida minyak goreng frekuensi penggorengan ke-25

Variable	Number of Cases	Mean	SD	SE of Mean
Minyak Goreng				
Kontrol	4	8.6425	.505	.253
Nitrogen	4	6.6125	.481	.240

Mean Difference = 2.0300

Levene's Test for Equality of Variances: F= .013 P= .913

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	5.82	6	.001	.349	(1.176, 2.884)
Unequal	5.82	5.98	.001	.349	(1.176, 2.884)

Lampiran 7. Uji anova satu arah terhadap % FFA minyak goreng tanpa pemberian gas nitrogen

Variable % FFA
By Variable FREKUENSI

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	,0004	,0002	8,0642	,0098
Within Groups	9	,0002	,0000		
Total	11	,0006			

Group	Count	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean	
Grp 1	4	,0385	,0031	,0016	,0336	TO ,0434
Grp 2	4	,0465	,0060	,0030	,0370	TO ,0560
Grp 3	4	,0518	,0046	,0023	,0445	TO ,0590
Total	12	,0456	,0071	,0021	,0411	TO ,0501

GROUP	MINIMUM	MAXIMUM
Grp 1	,0360	,0430
Grp 2	,0400	,0540
Grp 3	,0460	,0570
TOTAL	,0360	,0570

Levene Test for Homogeneity of Variances

Statistic	df1	df2	2-tail Sig.
,8281	2	9	,468

Lampiran 7. (lanjutan)

Multiple Range Tests: Duncan test with significance level ,05

The difference between two means is significant if

$$\text{MEAN}(J) - \text{MEAN}(I) \geq ,0033 * \text{RANGE} * \text{SQRT}(1/N(I) + 1/N(J))$$

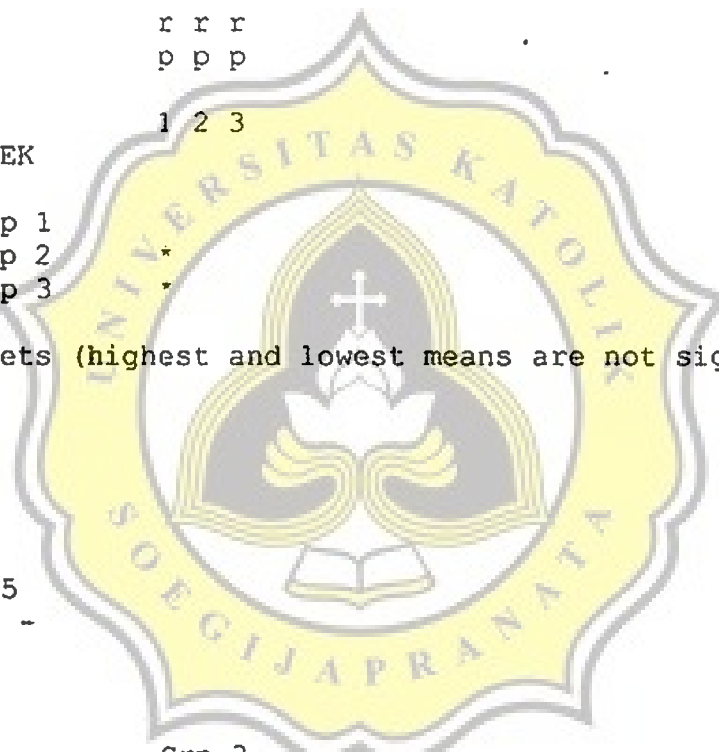
with the following value(s) for RANGE:

Step	2	3
RANGE	3,19	3,34

(*) Indicates significant differences which are shown in the lower triangle

			G G G
			r r r
			p p p
			1 2 3
Mean	FREK		
,0385	Grp 1		
,0465	Grp 2	*	
,0518	Grp 3	*	
Homogeneous Subsets (highest and lowest means are not significantly different)			
Subset 1			
Group	Grp 1		
Mean	,0385		

Subset 2			
Group	Grp 2	Grp 3	
Mean	,0465	,0518	



Lampiran 8. Uji anova satu arah terhadap % FFA minyak goreng dengan pemberian nitrogen

Variable % FFA
By Variable FREKUENSI

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	,0000	,0000	,0248	,9755
Within Groups	9	,0004	,0000		
Total	11	,0004			

Group	Count	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean
Grp 1	4	,0383	,0074	,0037	,0265 TO ,0500
Grp 2	4	,0392	,0065	,0033	,0289 TO ,0496
Grp 3	4	,0388	,0049	,0024	,0310 TO ,0465
Total	12	,0388	,0058	,0017	,0351 TO ,0424

GROUP	MINIMUM	MAXIMUM
Grp 1	,0320	,0490
Grp 2	,0360	,0490
Grp 3	,0360	,0460
TOTAL	,0320	,0490

Levene Test for Homogeneity of Variances

Statistic	df1	df2	2-tail Sig.
,2953	2	9	,751

Lampiran 8. (lanjutan)

Multiple Range Tests: Duncan test with significance level ,05

The difference between two means is significant if
 $MEAN(J) - MEAN(I) \geq ,0045 * RANGE * \sqrt{1/N(I) + 1/N(J)}$
with the following value(s) for RANGE:

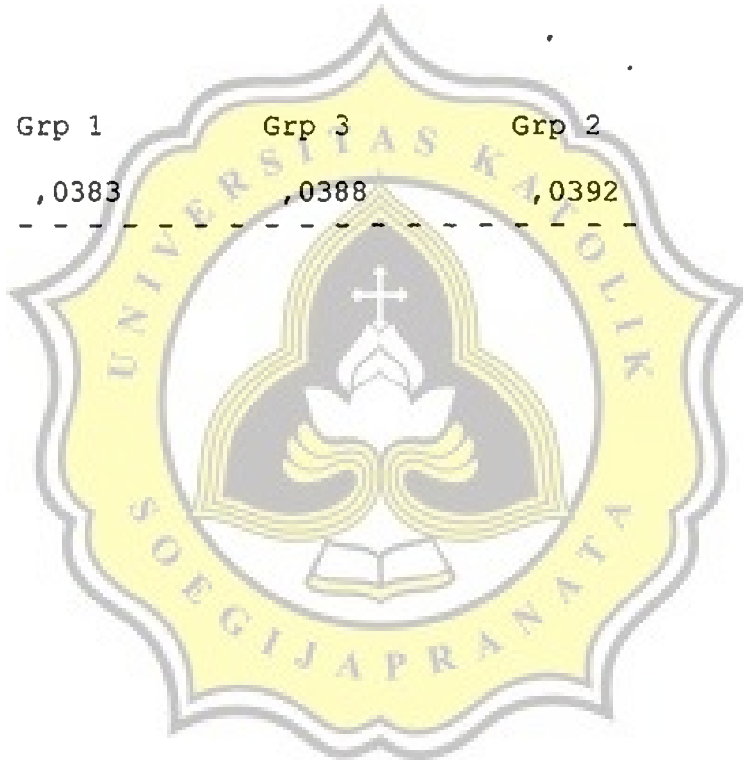
Step	2	3
RANGE	3,19	3,34

- No two groups are significantly different at the ,050 level

Homogeneous Subsets (highest and lowest means are not significantly different)

Subset 1

Group	Grp 1	Grp 3	Grp 2
Mean	,0383	,0388	,0392



Lampiran 9. Uji T %FFA minyak goreng

1. Uji T untuk frekuensi penggorengan ke-0

Variable	Number of Cases	Mean	SD	SE of Mean
% FFA				
KONTROL,	4	,0385	,003	,002
NITROGEN,	4	,0383	,007	,004

Mean Difference = ,0002

Levene's Test for Equality of Variances: F= 2,023 P= ,205

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	,06	6	,952	,004	(-,010; ,010)
Unequal	,06	4,02	,953	,004	(-,011; ,011)

2. Uji T untuk frekuensi penggorengan ke-5

Variable	Number of Cases	Mean	SD	SE of Mean
% FFA				
KONTROL,	4	,0465	,006	,003
NITROGEN,	4	,0392	,007	,003

Mean Difference = ,0073

Levene's Test for Equality of Variances: F= ,029 P= ,870

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	1,64	6	,152	,004	(-,004; ,018)
Unequal	1,64	5,96	,152	,004	(-,004; ,018)

3. Uji T untuk frekuensi penggorengan ke-25

Variable	Number of Cases	Mean	SD	SE of Mean
% FFA				
KONTROL,	4	,0518	,005	,002
NITROGEN,	4	,0388	,005	,002

Mean Difference = ,0130

Levene's Test for Equality of Variances: F= ,044 P= ,841

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	3,90	6	,008	,003	(,005; ,021)
Unequal	3,90	5,98	,008	,003	(,005; ,021)

Lampiran 10. Uji anova satu arah angka peroksida krupuk antar frekuensi penggorengan tanpa pemberian gas nitrogen

Variable PEROKSIDA KRUPUK
By Variable FREKUENSI

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	.5338	.2669	7.3179	.0130
Within Groups	9	.3083	.0365		
Total	11	.8621			

Group	Count	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean		
Grp 1	4	1.8837	.2429	.1215	1.4971	TO	2.2702
Grp 2	4	1.4034	.1751	.0876	1.1247	TO	1.6821
Grp 3	4	1.8084	.1405	.0702	1.5848	TO	2.0319
Total	12	1.6985	.2799	.0808	1.5206	TO	1.8763

GROUP	MINIMUM	MAXIMUM
Grp 1	1.6703	2.0952
Grp 2	1.1832	1.5460
Grp 3	1.6125	1.9468
TOTAL	1.1832	2.0952

Levene Test for Homogeneity of Variances

Statistic	df1	df2	2-tail Sig.
3.4678	2	9	.076

Keterangan : transformasi data dilakukan dengan sqrt.

Lampiran 10. (lanjutan)

Multiple Range Tests: Duncan test with significance level .05
 The difference between two means is significant if
 $MEAN(J) - MEAN(I) \geq .1350 * RANGE * \sqrt{1/N(I) + 1/N(J)}$
 with the following value(s) for RANGE:

Step	2	3
RANGE	3.19	3.34

(*) Indicates significant differences which are shown in the lower triangle

G G G
 r r r
 p p p
 2 3 1

Mean	FREK
1.4034	Grp 2
1.8084	Grp 3
1.8837	Grp 1

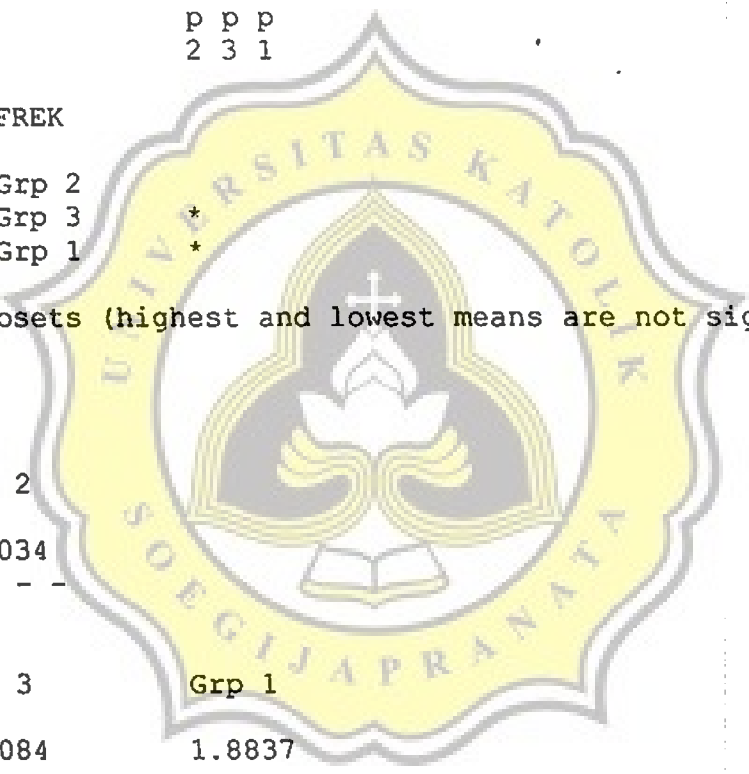
Homogeneous Subsets (highest and lowest means are not significantly different)

Subset 1

Group	Grp 2
Mean	1.4034

Subset 2

Group	Grp 3	Grp 1
Mean	1.8084	1.8837



Lampiran 11. Uji anova satu arah angka peroksida krupuk antar frekuensi penggorengan dengan pemberian gas nitrogen

Variable PEROKSIDA KRUPUK
By Variable FREKUENSI

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	1.2694	.6347	10.7411	.0041
Within Groups	9	.5318	.0591		
Total	11	1.8012			

Group	Count	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean
Grp 1	4	1.8837	.2429	.1215	1.4971 TO 2.2702
Grp 2	4	1.1013	.3308	.1654	.5750 TO 1.6277
Grp 3	4	1.6228	.0940	.0470	1.4732 TO 1.7723
Total	12	1.5359	.4047	.1168	1.2788 TO 1.7930

GROUP	MINIMUM	MAXIMUM
Grp 1	1.6703	2.0952
Grp 2	.6325	1.4107
Grp 3	1.5427	1.7321
TOTAL	.6325	2.0952

Levene Test for Homogeneity of Variances

Statistic	df1	df2	2-tail Sig.
2.3013	2	9	.156

Keterangan : transformasi data dilakukan dengan sqrt.

Lampiran 11. (lanjutan)

Multiple Range Tests: Duncan test with significance level .05
 The difference between two means is significant if
 $MEAN(J) - MEAN(I) \geq .1719 * RANGE * \sqrt{1/N(I) + 1/N(J)}$
 with the following value(s) for RANGE:

Step	2	3
RANGE	3.19	3.34

(*) Indicates significant differences which are shown in the lower triangle

		G G G
		r r r.
		p p p
		2 3 1
Mean	FREK	
1.1013	Grp 2	
1.6228	Grp 3	*
1.8837	Grp 1	*

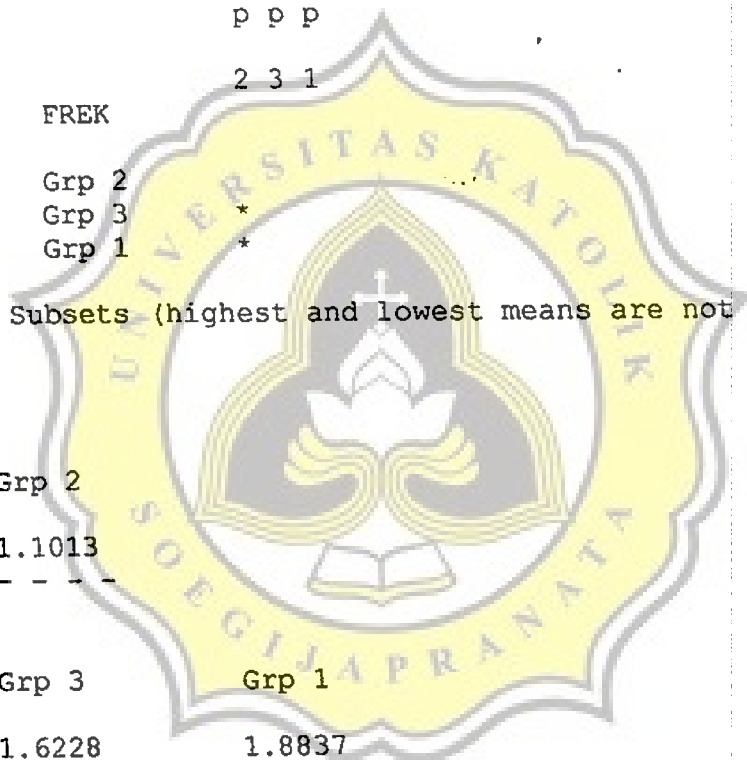
Homogeneous Subsets (highest and lowest means are not significantly different)

Subset 1

Group	Grp 2
Mean	1.1013

Subset 2

Group	Grp 3	Grp 1
Mean	1.6228	1.8837



Lampiran 12. Uji T peroksida krupuk

1. Uji T peroksida krupuk frekuensi penggorengan ke-0

Variable	Number of Cases	Mean	SD	SE of Mean
Krupuk				
Kontrol	4	3.5925	.915	.458
Nitrogen	4	3.5925	.915	.458

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .000 P= 1.000

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.00	6	1.000	.647	(-1.584, 1.584)
Unequal	.00	6.00	1.000	.647	(-1.584, 1.584)

2. Uji T peroksida krupuk frekuensi penggorengan ke-5

Variable	Number of Cases	Mean	SD	SE of Mean
Krupuk				
Kontrol	4	1.9925	.482	.241
Nitrogen	4	1.2950	.659	.330

Mean Difference = .6975

Levene's Test for Equality of Variances: F= .062 P= .811

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	1.71	6	.138	.408	(-.302, 1.697)
Unequal	1.71	5.49	.143	.408	(-.352, 1.747)

3. Uji T peroksida krupuk frekuensi penggorengan ke-25

Variable	Number of Cases	Mean	SD	SE of Mean
Krupuk				
Kontrol	4	3.2850	.497	.248
Nitrogen	4	2.6400	.307	.153

Mean Difference = .6450

Levene's Test for Equality of Variances: F= .313 P= .596

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	2.21	6	.069	.292	(-.070, 1.369)
Unequal	2.21	5.00	.078	.292	(-.106, 1.396)