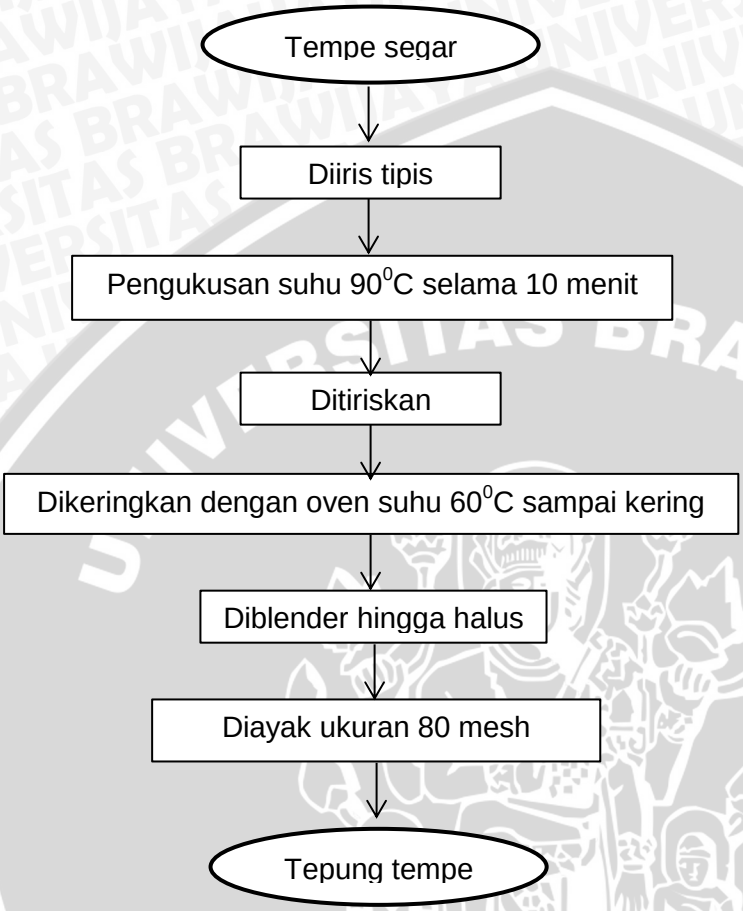
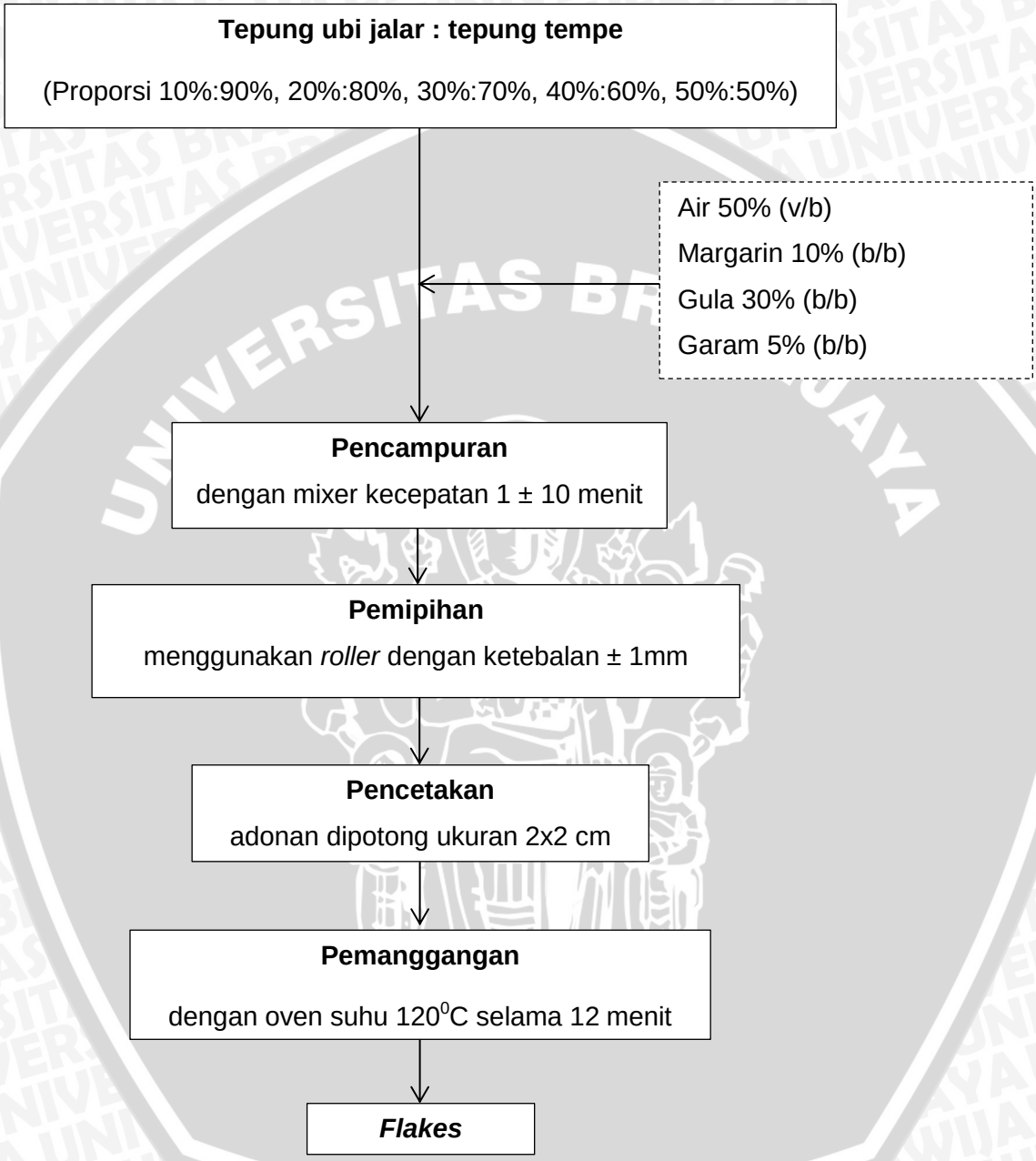
Lampiran 1. Diagram Alir Proses Pembuatan Tepung Tempe



Lampiran 2. Diagram Alir Proses Pembuatan *Flakes*



Lampiran 3. Lembar Informasi Panelis

PENJELASAN UNTUK MENGIKUTI PENELITIAN

1. Saya adalah Desi Silvia Isherlianti mahasiswi Jurusan Ilmu Gizi Kesehatan dengan ini meminta anda untuk berpartisipasi dengan sukarela dalam penelitian yang berjudul Pengaruh Formulasi Tepung Ubi Jalar dan Tepung Tempe terhadap Mutu Gizi, Mutu Organoleptik dan Mutu Gizi pada Flakes.

2. Tujuan dari penelitian ini adalah Untuk mengetahui pengaruh formulasi tepung ubi jalar dan tepung tempe terhadap mutu gizi, mutu organoleptik dan mutu fisik *flakes* yang berbahan dasar tepung ubi jalar dan tepung tempe. Penelitian ini akan berlangsung selama 10-15 menit dengan sampel berupa cookies yang berbahan dasar tepung ubi jalar dan tepung tempe.

3. Prosedur pengambilan sampel adalah 5 sampel flakes hasil pencampuran tepung ubi jalar dan tepung tempe akan disediakan di depan meja anda dan anda diminta untuk mencicipi sampel tersebut satu per satu kemudian menuliskan penilaian anda berupa range angka dari 1-7 pada form uji organoleptik yang sudah disediakan. Setelah itu Anda diminta untuk mengurutkan sampel yang menurut Anda paling baik sampai paling buruk. Anda tidak perlu kuatir karena cara ini tidak akan menimbulkan bahaya bagi kesehatan, karena pembuatan flakes ini sudah sesuai dengan prosedur standard dan menggunakan bahan-bahan yang tidak membahayakan kesehatan seperti tepung ubi jalar, tepung tempe, mentega, gula dan garam.

4. Keuntungan yang anda peroleh dengan keikutsertaan anda adalah anda membantu memberikan wacana baru mengenai pemanfaatan tepung ubi jalar berbasis tanaman lokal yang dapat digunakan sebagai bahan utama pembuatan flakes

5. Seandainya anda tidak menyetujui cara ini maka anda boleh tidak mengikuti penelitian ini sama sekali. Untuk itu anda tidak akan dikenai sanksi apapun

6. Nama dan jati diri anda akan tetap dirahasiakan

Peneliti

Pernyataan Persetujuan

untuk Berpartisipasi dalam Penelitian

Saya yang bertandatangan dibawah ini meyatakan bahwa :

1. Saya telah mengerti tentang apa yang tercantum dalam lembar persetujuan diatas dan telah dijelaskan oleh peneliti Pengaruh Formulasi Tepung Ubi Jalar dan Tepung Tempe terhadap Mutu Gizi, Mutu Organoleptik dan Mutu Gizi pada Flakes

2. Dengan ini saya menyatakan bahwa secara sukarela (bersedia / tidak bersedia*) untuk ikut serta menjadi salah satu subyek penelitian yang berjudul

Malang, 4 Maret 2013

Peneliti	Saksi	Yang membuat pernyataan
(Desi Silvia Isherlianti)	(.....)	(.....)
NIM. 0910730005		

*) Coret yang tidak perlu

Lampiran 4. Lembar Analisis Uji Organoleptik *Flakes*

FORM UJI HEDONIK

***FLAKES* TEPUNG UBI JALAR & TEPUNG TEMPE**

Produk : *Flakes* Tepung Ubi Jalar dan Tepung Tempe

Tanggal : 4 Maret 2013

Nama :

Instruksi :

1. Berikan penilaian terhadap rasa, aroma, warna, dan tekstur dari sampel *flakes* ubi jalar dan tepung tempe ini sesuai dengan tingkat kesukaan Anda.
2. Hasil penilaian Anda akan dinyatakan dalam skala angka. Keterangan lebih jelas tentang skala penilaian dapat dibaca di bawah.

Produk *Flakes*	Parameter			
	Rasa	Aroma	Warna	Tekstur
778				
989				
204				
113				
519				

Skala Penilaian:

1 = Sangat tidak suka

2 = Tidak suka

3 = Kurang suka

4 = Biasa

5 = Agak suka

6 = Suka

7 = Sangat suka

Lampiran 5. Analisis SPSS Mutu Zat Gizi *Flakes*

1.1 Analisis SPSS Mutu Gizi Karbohidrat

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	perlakuan	Statistic	df	Sig.	Statistic	df	Sig.
karbohidrat	1	.147	4	.	.997	4	.990
	2	.353	4	.	.815	4	.132
	3	.284	4	.	.813	4	.127
	4	.263	4	.	.901	4	.437
	5	.233	4	.	.919	4	.533

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

karbohidrat

Levene Statistic	df1	df2	Sig.
4.637	4	15	.012

Uji Kruskal Wallis

Ranks

	perlakuan	N	Mean Rank
karbohidrat	1	4	3.50
	2	4	5.50
	3	4	12.00
	4	4	14.25
	5	4	17.25
	Total	20	

Test Statistics[a,b]

	karbohidrat
Chi-Square	15.529
df	4
Asymp. Sig.	.004

a. Kruskal Wallis Test

b. Grouping Variable: perlakuan

Uji Post Hoc - Mann-Whitney

Test Statistics[b]

	karbohidrat
Mann-Whitney U	.000
Wilcoxon W	10.000
Z	-2.309
Asymp. Sig. (2-tailed)	.021
Exact Sig. [2*(1-tailed Sig.)]	.029[a]

a. Not corrected for ties.

b. Grouping Variable: perlakuan

- **P1 – P2**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
karbohidrat	1	4	3.50	14.00
	2	4	5.50	22.00
	Total	8		

Test Statistics[b]

	karbohidrat
Mann-Whitney U	4.000
Wilcoxon W	14.000
Z	-1.155
Asymp. Sig. (2-tailed)	.248
Exact Sig. [2*(1-tailed Sig.)]	.343[a]

a. Not corrected for ties.

b. Grouping Variable: perlakuan

- **P1 – P3**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
karbohidrat	1	4	2.50	10.00
	3	4	6.50	26.00
	Total	8		

Test Statistics[b]

	karbohidrat
Mann-Whitney U	.000
Wilcoxon W	10.000
Z	-2.309
Asymp. Sig. (2-tailed)	.021
Exact Sig. [2*(1-tailed Sig.)]	.029[a]

a. Not corrected for ties.

b. Grouping Variable: perlakuan

- **P1 – P4**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
karbohidrat	1	4	2.50	10.00
	4	4	6.50	26.00
	Total	8		

Test Statistics[b]

	karbohidrat
Mann-Whitney U	.000
Wilcoxon W	10.000
Z	-2.309
Asymp. Sig. (2-tailed)	.021
Exact Sig. [2*(1-tailed Sig.)]	.029[a]

a. Not corrected for ties.

b. Grouping Variable: perlakuan

- **P1 – P5**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
karbohidrat	1	4	2.50	10.00
	5	4	6.50	26.00
	Total	8		

Test Statistics[b]

	karbohidrat
Mann-Whitney U	.000
Wilcoxon W	10.000
Z	-2.309
Asymp. Sig. (2-tailed)	.021
Exact Sig. [2*(1-tailed Sig.)]	.029[a]

a. Not corrected for ties.

b. Grouping Variable: perlakuan

- **P2 – P3**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
karbohidrat	2	4	2.50	10.00
	3	4	6.50	26.00
	Total	8		

Test Statistics[b]

	karbohidrat
Mann-Whitney U	.000
Wilcoxon W	10.000
Z	-2.309
Asymp. Sig. (2-tailed)	.021
Exact Sig. [2*(1-tailed Sig.)]	.029[a]

a. Not corrected for ties.

b. Grouping Variable: perlakuan

- **P2 – P4**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
karbohidrat	2	4	2.50	10.00
	4	4	6.50	26.00
	Total	8		

Test Statistics[b]

	karbohidrat
Mann-Whitney U	.000
Wilcoxon W	10.000
Z	-2.309
Asymp. Sig. (2-tailed)	.021
Exact Sig. [2*(1-tailed Sig.)]	.029[a]

a. Not corrected for ties.

b. Grouping Variable: perlakuan

- **P2 – P5**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
karbohidrat	2	4	2.50	10.00
	5	4	6.50	26.00
	Total	8		

Test Statistics[b]

	karbohidrat
Mann-Whitney U	.000
Wilcoxon W	10.000
Z	-2.309
Asymp. Sig. (2-tailed)	.021
Exact Sig. [2*(1-tailed Sig.)]	.029[a]

a. Not corrected for ties.

b. Grouping Variable: perlakuan

- **P3 – P4**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
karbohidrat	3	4	3.75	15.00
	4	4	5.25	21.00
	Total	8		

Test Statistics[b]

	karbohidrat
Mann-Whitney U	5.000
Wilcoxon W	15.000
Z	-.866
Asymp. Sig. (2-tailed)	.386
Exact Sig. [2*(1-tailed Sig.)]	.486[a]

a. Not corrected for ties.

b. Grouping Variable: perlakuan

- **P3 – P5**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
karbohidrat	3	4	2.75	11.00
	5	4	6.25	25.00
	Total	8		

Test Statistics[b]

	karbohidrat
Mann-Whitney U	1.000
Wilcoxon W	11.000
Z	-2.021
Asymp. Sig. (2-tailed)	.043
Exact Sig. [2*(1-tailed Sig.)]	.057[a]

a. Not corrected for ties.

b. Grouping Variable: perlakuan

- **P4 – P5**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
karbohidrat	4	4	3.50	14.00
	5	4	5.50	22.00
	Total	8		

Test Statistics[b]

	karbohidrat
Mann-Whitney U	4.000
Wilcoxon W	14.000
Z	-1.155
Asymp. Sig. (2-tailed)	.248
Exact Sig. [2*(1-tailed Sig.)]	.343[a]

a. Not corrected for ties.

b. Grouping Variable: perlakuan

Uji Spearman

Correlations

			perlakuan	karbohidrat
Spearman's rho	perlakuan	Correlation Coefficient	1.000	.889**
		Sig. (2-tailed)	.	.000
		N	20	20
	karbohidrat	Correlation Coefficient	.889**	1.000
		Sig. (2-tailed)	.000	.
		N	20	20

**. Correlation is significant at the 0.01 level (2-tailed).

1.2 Analisis SPSS Mutu Gizi Protein

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	perlakuan	Statistic	df	Sig.	Statistic	df	Sig.
protein	1	.179	4	.	.993	4	.974
	2	.180	4	.	.982	4	.916
	3	.294	4	.	.858	4	.252
	4	.190	4	.	.976	4	.878
	5	.143	4	.	1.000	4	1.000

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

protein

Levene Statistic	df1	df2	Sig.
2.101	4	15	.131

Uji One Way ANOVA

protein

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	501.693	4	125.423	20.371	.000
Within Groups	92.355	15	6.157		
Total	594.048	19			

Uji Post Hoc - Tukey

Multiple Comparisons

protein

Tukey HSD

(I) perlakuan	(J) perlakuan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	3.96500	1.75457	.211	-1.4530	9.3830
	3	9.44000*	1.75457	.001	4.0220	14.8580
	4	10.82000*	1.75457	.000	5.4020	16.2380
	5	13.98000*	1.75457	.000	8.5620	19.3980
2	1	-3.96500	1.75457	.211	-9.3830	1.4530
	3	5.47500*	1.75457	.047	.0570	10.8930
	4	6.85500*	1.75457	.010	1.4370	12.2730
	5	10.01500*	1.75457	.000	4.5970	15.4330
3	1	-9.44000*	1.75457	.001	-14.8580	-4.0220
	2	-5.47500*	1.75457	.047	-10.8930	-.0570
	4	1.38000	1.75457	.931	-4.0380	6.7980
	5	4.54000	1.75457	.123	-.8780	9.9580
4	1	-10.82000*	1.75457	.000	-16.2380	-5.4020
	2	-6.85500*	1.75457	.010	-12.2730	-1.4370

	3	-1.38000	1.75457	.931	-6.7980	4.0380
	5	3.16000	1.75457	.408	-2.2580	8.5780
5	1	-13.98000*	1.75457	.000	-19.3980	-8.5620
	2	-10.01500*	1.75457	.000	-15.4330	-4.5970
	3	-4.54000	1.75457	.123	-9.9580	.8780
	4	-3.16000	1.75457	.408	-8.5780	2.2580

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

Uji Pearson

Correlations

		perlakuan	protein
perlakuan	Pearson Correlation	1	-.903**
	Sig. (2-tailed)		.000
	N	20	20
protein	Pearson Correlation	-.903**	1
	Sig. (2-tailed)	.000	
	N	20	20

**. Correlation is significant at the 0.01 level (2-tailed).

1.3 Analisis SPSS Mutu Gizi Lemak

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	perlakuan	Statistic	df	Sig.	Statistic	df	Sig.
lemak	1	.236	4	.	.902	4	.441
	2	.314	4	.	.798	4	.099
	3	.269	4	.	.887	4	.369
	4	.256	4	.	.916	4	.513
	5	.259	4	.	.957	4	.759

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

lemak

Levene Statistic	df1	df2	Sig.
3.108	4	15	.048

Uji Kruskal Wallis

Ranks

	perlakuan	N	Mean Rank
lemak	1	4	16.75
	2	4	16.00
	3	4	8.75
	4	4	7.75
	5	4	3.25
	Total	20	

Test Statistics[a,b]

	lemak
Chi-Square	15.143
df	4
Asymp. Sig.	.004

a. Kruskal Wallis Test

b. Grouping Variable: perlakuan

Uji Post Hoc – Mann Whitney

- **P1 – P2**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
lemak	1	4	5.00	20.00
	2	4	4.00	16.00
	Total	8		

Test Statistics[b]

	lemak
Mann-Whitney U	6.000
Wilcoxon W	16.000
Z	-.577
Asymp. Sig. (2-tailed)	.564
Exact Sig. [2*(1-tailed Sig.)]	.686[a]

a. Not corrected for ties.

b. Grouping Variable: perlakuan

- **P1 – P3**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
lemak	1	4	6.50	26.00
	3	4	2.50	10.00
	Total	8		

Test Statistics[b]

	lemak
Mann-Whitney U	.000
Wilcoxon W	10.000
Z	-2.309
Asymp. Sig. (2-tailed)	.021
Exact Sig. [2*(1-tailed Sig.)]	.029[a]

a. Not corrected for ties.

b. Grouping Variable: perlakuan

- **P1 – P4**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
lemak	1	4	6.25	25.00
	4	4	2.75	11.00
	Total	8		

Test Statistics[b]

	lemak
Mann-Whitney U	1.000
Wilcoxon W	11.000
Z	-2.021
Asymp. Sig. (2-tailed)	.043
Exact Sig. [2*(1-tailed Sig.)]	.057[a]

a. Not corrected for ties.

b. Grouping Variable: perlakuan

- **P1 – P5**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
lemak	1	4	6.50	26.00
	5	4	2.50	10.00
	Total	8		

Test Statistics[b]

	lemak
Mann-Whitney U	.000
Wilcoxon W	10.000
Z	-2.309
Asymp. Sig. (2-tailed)	.021
Exact Sig. [2*(1-tailed Sig.)]	.029[a]

a. Not corrected for ties.

b. Grouping Variable: perlakuan

- **P2 – P3**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
lemak	2	4	6.50	26.00
	3	4	2.50	10.00
	Total	8		

Test Statistics[b]

	lemak
Mann-Whitney U	.000
Wilcoxon W	10.000
Z	-2.309
Asymp. Sig. (2-tailed)	.021
Exact Sig. [2*(1-tailed Sig.)]	.029[a]

a. Not corrected for ties.

b. Grouping Variable: perlakuan

- **P2 – P4**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
lemak	2	4	6.50	26.00
	4	4	2.50	10.00
	Total	8		

Test Statistics[b]

	lemak
Mann-Whitney U	.000
Wilcoxon W	10.000
Z	-2.309
Asymp. Sig. (2-tailed)	.021
Exact Sig. [2*(1-tailed Sig.)]	.029[a]

a. Not corrected for ties.

b. Grouping Variable: perlakuan

- **P2 – P5**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
lemak	2	4	6.50	26.00
	5	4	2.50	10.00
	Total	8		

Test Statistics[b]

	lemak
Mann-Whitney U	.000
Wilcoxon W	10.000
Z	-2.309
Asymp. Sig. (2-tailed)	.021
Exact Sig. [2*(1-tailed Sig.)]	.029[a]

a. Not corrected for ties.

b. Grouping Variable: perlakuan

- **P3 – P4**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
lemak	3	4	4.75	19.00
	4	4	4.25	17.00
	Total	8		

Test Statistics[b]

	lemak
Mann-Whitney U	7.000
Wilcoxon W	17.000
Z	-.289
Asymp. Sig. (2-tailed)	.773
Exact Sig. [2*(1-tailed Sig.)]	.886[a]

a. Not corrected for ties.

b. Grouping Variable: perlakuan

- **P3 – P5**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
lemak	3	4	6.50	26.00
	5	4	2.50	10.00
	Total	8		

Test Statistics[b]

	lemak
Mann-Whitney U	.000
Wilcoxon W	10.000
Z	-2.309
Asymp. Sig. (2-tailed)	.021
Exact Sig. [2*(1-tailed Sig.)]	.029[a]

a. Not corrected for ties.

b. Grouping Variable: perlakuan

- **P4 – P5**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
lemak	4	4	5.75	23.00
	5	4	3.25	13.00
	Total	8		

Test Statistics[b]

	lemak
Mann-Whitney U	3.000
Wilcoxon W	13.000
Z	-1.443
Asymp. Sig. (2-tailed)	.149
Exact Sig. [2*(1-tailed Sig.)]	.200[a]

a. Not corrected for ties.

b. Grouping Variable: perlakuan

Uji Spearman

Correlations

			perlakuan	lemak
Spearman's rho	perlakuan	Correlation Coefficient	1.000	-.865**
		Sig. (2-tailed)	.	.000
		N	20	20
	lemak	Correlation Coefficient	-.865**	1.000
		Sig. (2-tailed)	.000	.
		N	20	20

**. Correlation is significant at the 0.01 level (2-tailed).

1.4 Analisis SPSS Mutu Gizi Energi

Tests of Normality

	perlakuan	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
energi	1	.291	4	.	.813	4	.127
	2	.194	4	.	.968	4	.830
	3	.314	4	.	.910	4	.482
	4	.289	4	.	.817	4	.137
	5	.248	4	.	.930	4	.592

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

energi

Levene Statistic	df1	df2	Sig.
.849	4	15	.516

Uji One Way ANOVA

energi

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5592.132	4	1398.033	10.665	.000
Within Groups	1966.218	15	131.081		
Total	7558.349	19			

Uji Post Hoc – Tukey

Multiple Comparisons

energi

Tukey HSD

(I) perlakuan	(J) perlakuan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	7.64500	8.09571	.875	-17.3540	32.6440
	3	30.42750*	8.09571	.014	5.4285	55.4265
	4	29.77250*	8.09571	.016	4.7735	54.7715
	5	46.07500*	8.09571	.000	21.0760	71.0740

2	1	-7.64500	8.09571	.875	-32.6440	17.3540
	3	22.78250	8.09571	.083	-2.2165	47.7815
	4	22.12750	8.09571	.095	-2.8715	47.1265
	5	38.43000*	8.09571	.002	13.4310	63.4290
3	1	-30.42750*	8.09571	.014	-55.4265	-5.4285
	2	-22.78250	8.09571	.083	-47.7815	2.2165
	4	-.65500	8.09571	1.000	-25.6540	24.3440
	5	15.64750	8.09571	.343	-9.3515	40.6465
4	1	-29.77250*	8.09571	.016	-54.7715	-4.7735
	2	-22.12750	8.09571	.095	-47.1265	2.8715
	3	.65500	8.09571	1.000	-24.3440	25.6540
	5	16.30250	8.09571	.306	-8.6965	41.3015
5	1	-46.07500*	8.09571	.000	-71.0740	-21.0760
	2	-38.43000*	8.09571	.002	-63.4290	-13.4310
	3	-15.64750	8.09571	.343	-40.6465	9.3515
	4	-16.30250	8.09571	.306	-41.3015	8.6965

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

Uji Pearson

Correlations

		perlakuan	energi
perlakuan	Pearson Correlation	1	-.831**
	Sig. (2-tailed)		.000
	N	20	20
energi	Pearson Correlation	-.831**	1
	Sig. (2-tailed)	.000	
	N	20	20

**. Correlation is significant at the 0.01 level (2-tailed).

Lampiran 6. Hasil Analisis SPSS Mutu Organoleptik *Flakes*

1.1 Analisis SPSS Mutu Organoleptik Rasa

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	perlakuan	Statistic	df	Sig.	Statistic	df	Sig.
recode rasa	X1	.496	25	.000	.456	25	.000
	X2	.253	25	.000	.795	25	.000
	X3	.257	25	.000	.779	25	.000
	X4	.367	25	.000	.704	25	.000
	X5	.326	25	.000	.731	25	.000

a. Lilliefors Significance Correction

Uji Kruskal Wallis

Ranks

	perlakuan	N	Mean Rank
recode rasa	X1	25	35.90
	X2	25	59.56
	X3	25	62.48
	X4	25	82.42
	X5	25	74.64
	Total	125	

Test Statistics[a,b]

	recode rasa
Chi-Square	27.505
df	4
Asymp. Sig.	.000

a. Kruskal Wallis Test

b. Grouping Variable: perlakuan

Uji Post Hoc - Mann Whitney

- **P1 – P2**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode rasa	X1	25	20.12	503.00
	X2	25	30.88	772.00
	Total	50		

Test Statistics[a]

	recode rasa
Mann-Whitney U	178.000
Wilcoxon W	503.000
Z	-3.019
Asymp. Sig. (2-tailed)	.003

a. Grouping Variable: perlakuan

- **P1 – P3**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode rasa	X1	25	19.96	499.00
	X3	25	31.04	776.00
	Total	50		

Test Statistics[a]

	recode rasa
Mann-Whitney U	174.000
Wilcoxon W	499.000
Z	-3.107
Asymp. Sig. (2-tailed)	.002

a. Grouping Variable: perlakuan

- **P1 – P4**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode rasa	X1	25	16.64	416.00
	X4	25	34.36	859.00
	Total	50		

Test Statistics[a]

	recode rasa
Mann-Whitney U	91.000
Wilcoxon W	416.000
Z	-4.712
Asymp. Sig. (2-tailed)	.000

a. Grouping Variable: perlakuan

- **P1 – P5**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode rasa	X1	25	18.18	454.50
	X5	25	32.82	820.50
	Total	50		

Test Statistics[a]

	recode rasa
Mann-Whitney U	129.500
Wilcoxon W	454.500
Z	-3.982
Asymp. Sig. (2-tailed)	.000

a. Grouping Variable: perlakuan

- **P2 – P3**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode rasa	X2	25	24.90	622.50
	X3	25	26.10	652.50
	Total	50		

Test Statistics[a]

	recode rasa
Mann-Whitney U	297.500
Wilcoxon W	622.500
Z	-.310
Asymp. Sig. (2-tailed)	.757

a. Grouping Variable: perlakuan

- **P2 – P4**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode rasa	X2	25	20.52	513.00
	X4	25	30.48	762.00
	Total	50		

Test Statistics[a]

	recode rasa
Mann-Whitney U	188.000
Wilcoxon W	513.000
Z	-2.579
Asymp. Sig. (2-tailed)	.010

a. Grouping Variable: perlakuan

- **P2 – P5**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode rasa	X2	25	22.26	556.50
	X5	25	28.74	718.50
	Total	50		

Test Statistics[a]

	recode rasa
Mann-Whitney U	231.500
Wilcoxon W	556.500
Z	-1.671
Asymp. Sig. (2-tailed)	.095

a. Grouping Variable: perlakuan

- **P3 – P4**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode rasa	X3	25	21.36	534.00
	X4	25	29.64	741.00
	Total	50		

Test Statistics[a]

	recode rasa
Mann-Whitney U	209.000
Wilcoxon W	534.000
Z	-2.161
Asymp. Sig. (2-tailed)	.031

a. Grouping Variable: perlakuan

- **P3 – P5**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode rasa	X3	25	22.98	574.50
	X5	25	28.02	700.50
	Total	50		

Test Statistics[a]

	recode rasa
Mann-Whitney U	249.500
Wilcoxon W	574.500
Z	-1.308
Asymp. Sig. (2-tailed)	.191

a. Grouping Variable: perlakuan

- **P4 – P5**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode rasa	X4	25	26.94	673.50
	X5	25	24.06	601.50
	Total	50		

Test Statistics[a]

	recode rasa
Mann-Whitney U	276.500
Wilcoxon W	601.500
Z	-.779
Asymp. Sig. (2-tailed)	.436

a. Grouping Variable: perlakuan

1.2 Analisis SPSS Mutu Organoleptik Aroma

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	perlakuan	Statistic	df	Sig.	Statistic	df	Sig.
recode aroma	X1	.322	25	.000	.752	25	.000
	X2	.222	25	.003	.811	25	.000
	X3	.233	25	.001	.793	25	.000
	X4	.251	25	.000	.799	25	.000
	X5	.253	25	.000	.797	25	.000

a. Lilliefors Significance Correction

Uji Kruskal Wallis

Ranks

	perlakuan	N	Mean Rank
recode aroma	X1	25	45.84
	X2	25	59.86
	X3	25	65.08
	X4	25	72.12
	X5	25	72.10
	Total	125	

Test Statistics[a,b]

	recode aroma
Chi-Square	10.250
df	4
Asymp. Sig.	.036

a. Kruskal Wallis Test

b. Grouping Variable: perlakuan

Uji Post Hoc - Mann Whitney

- **P1 – P2**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode aroma	X1	25	22.58	564.50
	X2	25	28.42	710.50
	Total	50		

Test Statistics[a]

	recode aroma
Mann-Whitney U	239.500
Wilcoxon W	564.500
Z	-1.531
Asymp. Sig. (2-tailed)	.126

a. Grouping Variable: perlakuan

- **P1 – P3**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode aroma	X1	25	21.86	546.50
	X3	25	29.14	728.50
	Total	50		

Test Statistics[a]

	recode aroma
Mann-Whitney U	221.500
Wilcoxon W	546.500
Z	-1.890
Asymp. Sig. (2-tailed)	.059

a. Grouping Variable: perlakuan

- **P1 – P4**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode aroma	X1	25	20.10	502.50
	X4	25	30.90	772.50
	Total	50		

Test Statistics[a]

	recode aroma
Mann-Whitney U	177.500
Wilcoxon W	502.500
Z	-2.803
Asymp. Sig. (2-tailed)	.005

a. Grouping Variable: perlakuan

- **P1 – P5**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode aroma	X1	25	20.30	507.50
	X5	25	30.70	767.50
	Total	50		

Test Statistics[a]

	recode aroma
Mann-Whitney U	182.500
Wilcoxon W	507.500
Z	-2.687
Asymp. Sig. (2-tailed)	.007

a. Grouping Variable: perlakuan

- **P2 – P3**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode aroma	X2	25	24.48	612.00
	X3	25	26.52	663.00
	Total	50		

Test Statistics[a]

	recode aroma
Mann-Whitney U	287.000
Wilcoxon W	612.000
Z	-.526
Asymp. Sig. (2-tailed)	.599

a. Grouping Variable: perlakuan

- **P2 – P4**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode aroma	X2	25	22.96	574.00
	X4	25	28.04	701.00
	Total	50		

Test Statistics[a]

	recode aroma
Mann-Whitney U	249.000
Wilcoxon W	574.000
Z	-1.327
Asymp. Sig. (2-tailed)	.185

a. Grouping Variable: perlakuan

- **P2 – P5**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode aroma	X2	25	23.00	575.00
	X5	25	28.00	700.00
	Total	50		

Test Statistics[a]

	recode aroma
Mann-Whitney U	250.000
Wilcoxon W	575.000
Z	-1.296
Asymp. Sig. (2-tailed)	.195

a. Grouping Variable: perlakuan

- **P3 – P4**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode aroma	X3	25	24.22	605.50
	X4	25	26.78	669.50
	Total	50		

Test Statistics[a]

	recode aroma
Mann-Whitney U	280.500
Wilcoxon W	605.500
Z	-.663
Asymp. Sig. (2-tailed)	.507

a. Grouping Variable: perlakuan

- **P3 – P5**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode aroma	X3	25	24.20	605.00
	X5	25	26.80	670.00
	Total	50		

Test Statistics[a]

	recode aroma
Mann-Whitney U	280.000
Wilcoxon W	605.000
Z	-.672
Asymp. Sig. (2-tailed)	.502

a. Grouping Variable: perlakuan

- **P4 – P5**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode aroma	X4	25	25.40	635.00
	X5	25	25.60	640.00
	Total	50		

Test Statistics[a]

	recode aroma
Mann-Whitney U	310.000
Wilcoxon W	635.000
Z	-.052
Asymp. Sig. (2-tailed)	.958

a. Grouping Variable: perlakuan

1.3 Analisis SPSS Mutu Organoleptik Warna

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	perlakuan	Statistic	df	Sig.	Statistic	df	Sig.
recode warna	X1	.344	25	.000	.731	25	.000
	X2	.275	25	.000	.785	25	.000
	X3	.257	25	.000	.779	25	.000
	X4	.276	25	.000	.781	25	.000
	X5	.322	25	.000	.749	25	.000

a. Lilliefors Significance Correction

Uji Kruskal Wallis

Ranks

	perlakuan	N	Mean Rank
recode warna	X1	25	69.38
	X2	25	62.24
	X3	25	56.34
	X4	25	60.92
	X5	25	66.12
	Total	125	

Test Statistics[a,b]

	recode warna
Chi-Square	2.220
df	4
Asymp. Sig.	.695

a. Kruskal Wallis Test

b. Grouping Variable: perlakuan

Uji Post Hoc - Mann Whitney

- **P1 – P2**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode warna	X1	25	26.98	674.50
	X2	25	24.02	600.50
	Total	50		

Test Statistics[a]

	recode warna
Mann-Whitney U	275.500
Wilcoxon W	600.500
Z	-.785
Asymp. Sig. (2-tailed)	.433

a. Grouping Variable: perlakuan

- **P1 – P3**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode warna	X1	25	28.06	701.50
	X3	25	22.94	573.50
	Total	50		

Test Statistics[a]

	recode warna
Mann-Whitney U	248.500
Wilcoxon W	573.500
Z	-1.344
Asymp. Sig. (2-tailed)	.179

a. Grouping Variable: perlakuan

- **P1 – P4**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode warna	X1	25	27.20	680.00
	X4	25	23.80	595.00
	Total	50		

Test Statistics[a]

	recode warna
Mann-Whitney U	270.000
Wilcoxon W	595.000
Z	-.900
Asymp. Sig. (2-tailed)	.368

a. Grouping Variable: perlakuan

- **P1 – P5**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode warna	X1	25	26.14	653.50
	X5	25	24.86	621.50
	Total	50		

Test Statistics[a]

	recode warna
Mann-Whitney U	296.500
Wilcoxon W	621.500
Z	-.344
Asymp. Sig. (2-tailed)	.731

a. Grouping Variable: perlakuan

- **P2 – P3**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode warna	X2	25	26.74	668.50
	X3	25	24.26	606.50
	Total	50		

Test Statistics[a]

	recode warna
Mann-Whitney U	281.500
Wilcoxon W	606.500
Z	-.643
Asymp. Sig. (2-tailed)	.520

a. Grouping Variable: perlakuan

- **P2 – P4**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode warna	X2	25	25.78	644.50
	X4	25	25.22	630.50
	Total	50		

Test Statistics[a]

	recode warna
Mann-Whitney U	305.500
Wilcoxon W	630.500
Z	-.146
Asymp. Sig. (2-tailed)	.884

a. Grouping Variable: perlakuan

- **P2 – P5**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode warna	X2	25	24.70	617.50
	X5	25	26.30	657.50
	Total	50		

Test Statistics[a]

	recode warna
Mann-Whitney U	292.500
Wilcoxon W	617.500
Z	-.421
Asymp. Sig. (2-tailed)	.674

a. Grouping Variable: perlakuan

- **P3 – P4**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode warna	X3	25	24.56	614.00
	X4	25	26.44	661.00
	Total	50		

Test Statistics[a]

	recode warna
Mann-Whitney U	289.000
Wilcoxon W	614.000
Z	-.487
Asymp. Sig. (2-tailed)	.626

a. Grouping Variable: perlakuan

- **P3 – P5**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode warna	X3	25	23.58	589.50
	X5	25	27.42	685.50
	Total	50		

Test Statistics[a]

	recode warna
Mann-Whitney U	264.500
Wilcoxon W	589.500
Z	-1.002
Asymp. Sig. (2-tailed)	.316

a. Grouping Variable: perlakuan

- **P4 – P5**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode warna	X4	25	24.46	611.50
	X5	25	26.54	663.50
	Total	50		

Test Statistics[a]

	recode warna
Mann-Whitney U	286.500
Wilcoxon W	611.500
Z	-.547
Asymp. Sig. (2-tailed)	.585

a. Grouping Variable: perlakuan

1.4 Analisis SPSS Mutu Organoleptik Tekstur

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	perlakuan	Statistic	df	Sig.	Statistic	df	Sig.
recode tekstur	X1	.302	25	.000	.754	25	.000
	X2	.326	25	.000	.731	25	.000
	X3	.322	25	.000	.749	25	.000
	X4	.483	25	.000	.502	25	.000
	X5	.278	25	.000	.773	25	.000

a. Lilliefors Significance Correction

Uji Kruskal Wallis

Ranks

	perlakuan	N	Mean Rank
recode tekstur	X1	25	46.46
	X2	25	63.36
	X3	25	65.80
	X4	25	79.62
	X5	25	59.76
	Total	125	

Test Statistics[a,b]

	recode tekstur
Chi-Square	12.965
df	4
Asymp. Sig.	.011

a. Kruskal Wallis Test

b. Grouping Variable: perlakuan

Uji Post Hoc - Mann Whitney

- **P1 – P2**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode tekstur	X1	25	22.14	553.50
	X2	25	28.86	721.50
	Total	50		

Test Statistics[a]

	recode tekstur
Mann-Whitney U	228.500
Wilcoxon W	553.500
Z	-1.747
Asymp. Sig. (2-tailed)	.081

a. Grouping Variable: perlakuan

- **P1 – P3**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode tekstur	X1	25	21.42	535.50
	X3	25	29.58	739.50
	Total	50		

Test Statistics[a]

	recode tekstur
Mann-Whitney U	210.500
Wilcoxon W	535.500
Z	-2.110
Asymp. Sig. (2-tailed)	.035

a. Grouping Variable: perlakuan

- **P1 – P4**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode tekstur	X1	25	19.24	481.00
	X4	25	31.76	794.00
	Total	50		

Test Statistics[a]

	recode tekstur
Mann-Whitney U	156.000
Wilcoxon W	481.000
Z	-3.379
Asymp. Sig. (2-tailed)	.001

a. Grouping Variable: perlakuan

- **P1 – P5**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode tekstur	X1	25	22.66	566.50
	X5	25	28.34	708.50
	Total	50		

Test Statistics[a]

	recode tekstur
Mann-Whitney U	241.500
Wilcoxon W	566.500
Z	-1.467
Asymp. Sig. (2-tailed)	.142

a. Grouping Variable: perlakuan

- **P2 – P3**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode tekstur	X2	25	25.02	625.50
	X3	25	25.98	649.50
	Total	50		

Test Statistics[a]

	recode tekstur
Mann-Whitney U	300.500
Wilcoxon W	625.500
Z	-.255
Asymp. Sig. (2-tailed)	.799

a. Grouping Variable: perlakuan

- **P2 – P4**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode tekstur	X2	25	22.26	556.50
	X4	25	28.74	718.50
	Total	50		

Test Statistics[a]

	recode tekstur
Mann-Whitney U	231.500
Wilcoxon W	556.500
Z	-1.878
Asymp. Sig. (2-tailed)	.060

a. Grouping Variable: perlakuan

- **P2 – P5**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode tekstur	X2	25	26.22	655.50
	X5	25	24.78	619.50
	Total	50		

Test Statistics[a]

	recode tekstur
Mann-Whitney U	294.500
Wilcoxon W	619.500
Z	-.378
Asymp. Sig. (2-tailed)	.705

a. Grouping Variable: perlakuan

- **P3 – P4**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode tekstur	X3	25	22.46	561.50
	X4	25	28.54	713.50
	Total	50		

Test Statistics[a]

	recode tekstur
Mann-Whitney U	236.500
Wilcoxon W	561.500
Z	-1.759
Asymp. Sig. (2-tailed)	.079

a. Grouping Variable: perlakuan

- **P3 – P5**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode tekstur	X3	25	26.78	669.50
	X5	25	24.22	605.50
	Total	50		

Test Statistics[a]

	recode tekstur
Mann-Whitney U	280.500
Wilcoxon W	605.500
Z	-.672
Asymp. Sig. (2-tailed)	.502

a. Grouping Variable: perlakuan

- **P4 – P5**

Ranks

	perlakuan	N	Mean Rank	Sum of Ranks
recode tekstur	X4	25	29.58	739.50
	X5	25	21.42	535.50
	Total	50		

Test Statistics[a]

	recode tekstur
Mann-Whitney U	210.500
Wilcoxon W	535.500
Z	-2.289
Asymp. Sig. (2-tailed)	.022

a. Grouping Variable: perlakuan

Lampiran 7. Hasil Analisis SPSS Tingkat Kekerasan *Flakes*

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	perlakuan	Statistic	df	Sig.	Statistic	df	Sig.
kekerasan	1	.240	4	.	.908	4	.472
	2	.265	4	.	.876	4	.322
	3	.249	4	.	.920	4	.536
	4	.206	4	.	.953	4	.738
	5	.178	4	.	.979	4	.894

a. Lilliefors Significance Correction

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
kekerasan	Based on Mean	3.931	4	15	.022
	Based on Median	3.603	4	15	.030
	Based on Median and with adjusted df	3.603	4	9.157	.050
	Based on trimmed mean	3.927	4	15	.022

Uji Kruskal Wallis

Ranks

	perlakuan	N	Mean Rank
kekerasan	1	4	10.38
	2	4	8.62
	3	4	9.00
	4	4	15.88
	5	4	8.62
	Total	20	

Test Statistics[a,b]

	kekerasan
Chi-Square	4.374
df	4
Asymp. Sig.	.358

a. Kruskal Wallis Test

b. Grouping Variable: perlakuan

Lampiran 8. Laporan Hasil Analisis Mutu Gizi *Flakes* Tepung Ubi Jalar dan Tepung Tempe

KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN
UNIVERSITAS BRAWIJAYA
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SERTIFIKAT HASIL ANALISA
(CERTIFICATE OF ANALYSIS)

No: 030/LSIH-UB/3-COA/III/2013

Nama Pemilik *(Name)* : Desi Silvia Isherlianti
Tgl. Diterima *Date Received* : 05 Maret 2013

Alamat *(Address)* : Jl. Sumbersari IV/ 261 E Malang
Tgl. Penerbitan Sertifikat *Date of Certificate Issued* : 28 Maret 2013

Telp./ HP. *(Phone/HP.)* : 0856 3545 150

Jenis Uji *(Type of Analysis)* : Proksimat

Hasil *(Result)* :

Jenis sampel *(Sample Name)*	No. Rujukan *(Reference Number)*	Jenis Uji *(Analysis)*	Hasil Analisa *(Analysis Result)* Nilai *(Value)*	Satuan *(Unit)*	Metode Analisis *(Analysis Method)*
Flakes Ubi Jalar dan Tempe X-11	137/S-UJ/LSIH-UB/III/2013	Kadar Protein	33,68	%	Inhouse Method (IKP/1.0.4.03/LSIH)
		Kadar Lemak	21,50	%	SNI 01-2891-1992 Butir 6.1
		Kadar Air	5,25	%	SNI 01-2891-1992 Butir 5.1
		Kadar Abu	2,23	%	SNI 01-2891-1992 Butir 6.1
		Karbohidrat (by different)	37,34	%	Karbohidrat (by different)
Flakes Ubi Jalar dan Tempe X-12	138/S-UJ/LSIH-UB/III/2013	Kadar Protein	30,56	%	Inhouse Method (IKP/1.0.4.03/LSIH)
		Kadar Lemak	21,06	%	SNI 01-2891-1992 Butir 6.1
		Kadar Air	4,39	%	SNI 01-2891-1992 Butir 5.1
		Kadar Abu	2,34	%	SNI 01-2891-1992 Butir 6.1
		Karbohidrat (by different)	41,65	%	Karbohidrat (by different)

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http://lsih.ub.ac.id Email: labsentralub@ub.ac.id ; labsentralub@gmail.com

Flakes Ubi Jalar dan Tempe X-13	139/S-UJ/LSIH-UB/III/2013	Kadar Protein	28,77	%	Inhouse Method (IKP/1.0.4.03/LSIH)
		Kadar Lemak	19,56	%	SNI 01-2891-1992 Butir 8.1
		Kadar Air	4,81	%	SNI 01-2891-1992 Butir 5.1
		Kadar Abu	2,47	%	SNI 01-2891-1992 Butir 6.1
		Karbohidrat (by different)	44,39	%	Karbohidrat (by different)
Flakes Ubi Jalar dan Tempe X-14	140/S-UJ/LSIH-UB/III/2013	Kadar Protein	24,74	%	Inhouse Method (IKP/1.0.4.03/LSIH)
		Kadar Lemak	16,98	%	SNI 01-2891-1992 Butir 8.1
		Kadar Air	7,91	%	SNI 01-2891-1992 Butir 5.1
		Kadar Abu	2,47	%	SNI 01-2891-1992 Butir 6.1
		Karbohidrat (by different)	47,9	%	Karbohidrat (by different)
Flakes Ubi Jalar dan Tempe X-21	141/S-UJ/LSIH-UB/III/2013	Kadar Protein	26,05	%	Inhouse Method (IKP/1.0.4.03/LSIH)
		Kadar Lemak	21,20	%	SNI 01-2891-1992 Butir 8.1
		Kadar Air	4,60	%	SNI 01-2891-1992 Butir 5.1
		Kadar Abu	4,08	%	SNI 01-2891-1992 Butir 6.1
		Karbohidrat (by different)	42,37	%	Karbohidrat (by different)
Flakes Ubi Jalar dan Tempe X-22	142/S-UJ/LSIH-UB/III/2013	Kadar Protein	24,92	%	Inhouse Method (IKP/1.0.4.03/LSIH)
		Kadar Lemak	18,78	%	SNI 01-2891-1992 Butir 8.1
		Kadar Air	4,76	%	SNI 01-2891-1992 Butir 5.1
		Kadar Abu	2,78	%	SNI 01-2891-1992 Butir 6.1
		Karbohidrat (by different)	48,76	%	Karbohidrat (by different)
Flakes Ubi Jalar dan Tempe X-23	143/S-UJ/LSIH-UB/III/2013	Kadar Protein	25,80	%	Inhouse Method (IKP/1.0.4.03/LSIH)
		Kadar Lemak	18,10	%	SNI 01-2891-1992 Butir 8.1
		Kadar Air	6,00	%	SNI 01-2891-1992 Butir 5.1
		Kadar Abu	2,26	%	SNI 01-2891-1992 Butir 6.1
		Karbohidrat (by different)	47,84	%	Karbohidrat (by different)

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Flakes Ubi Jalar dan Tempe X-24	144/S-UJ/LSIH-UB/III/2013	Kadar Protein	24,22	%	Inhouse Method (IKP/1.0.4.03/LSIH)
		Kadar Lemak	18,00	%	SNI 01-2891-1992 Butir 8.1
		Kadar Air	7,70	%	SNI 01-2891-1992 Butir 5.1
		Kadar Abu	2,76	%	SNI 01-2891-1992 Butir 6.1
		Karbohidrat (by different)	47,32	%	Karbohidrat (by different)
Flakes Ubi Jalar dan Tempe X-31	145/S-UJ/LSIH-UB/III/2013	Kadar Protein	23,46	%	Inhouse Method (IKP/1.0.4.03/LSIH)
		Kadar Lemak	16,28	%	SNI 01-2891-1992 Butir 8.1
		Kadar Air	4,42	%	SNI 01-2891-1992 Butir 5.1
		Kadar Abu	3,69	%	SNI 01-2891-1992 Butir 6.1
		Karbohidrat (by different)	52,15	%	Karbohidrat (by different)
Flakes Ubi Jalar dan Tempe X-32	146/S-UJ/LSIH-UB/III/2013	Kadar Protein	17,58	%	Inhouse Method (IKP/1.0.4.03/LSIH)
		Kadar Lemak	13,03	%	SNI 01-2891-1992 Butir 8.1
		Kadar Air	4,92	%	SNI 01-2891-1992 Butir 5.1
		Kadar Abu	2,70	%	SNI 01-2891-1992 Butir 6.1
		Karbohidrat (by different)	61,77	%	Karbohidrat (by different)
Flakes Ubi Jalar dan Tempe X-33	147/S-UJ/LSIH-UB/III/2013	Kadar Protein	17,61	%	Inhouse Method (IKP/1.0.4.03/LSIH)
		Kadar Lemak	12,66	%	SNI 01-2891-1992 Butir 8.1
		Kadar Air	6,02	%	SNI 01-2891-1992 Butir 5.1
		Kadar Abu	2,92	%	SNI 01-2891-1992 Butir 6.1
		Karbohidrat (by different)	60,79	%	Karbohidrat (by different)
Flakes Ubi Jalar dan Tempe X-34	148/S-UJ/LSIH-UB/III/2013	Kadar Protein	21,34	%	Inhouse Method (IKP/1.0.4.03/LSIH)
		Kadar Lemak	15,34	%	SNI 01-2891-1992 Butir 8.1
		Kadar Air	8,25	%	SNI 01-2891-1992 Butir 5.1
		Kadar Abu	2,14	%	SNI 01-2891-1992 Butir 6.1
		Karbohidrat (by different)	52,93	%	Karbohidrat (by different)

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Flakes Ubi Jalar dan Tempe X-41	149/S-UJ/LSIH-UB/III/2013	Kadar Protein	21,86	%	Inhouse Method (IKP/1.0.4.03/LSIH)
		Kadar Lemak	17,04	%	SNI 01-2891-1992 Butir 8.1
		Kadar Air	4,29	%	SNI 01-2891-1992 Butir 5.1
		Kadar Abu	2,68	%	SNI 01-2891-1992 Butir 6.1
		Karbohidrat (by different)	54,13	%	Karbohidrat (by different)
Flakes Ubi Jalar dan Tempe X-42	150/S-UJ/LSIH-UB/III/2013	Kadar Protein	17,58	%	Inhouse Method (IKP/1.0.4.03/LSIH)
		Kadar Lemak	12,64	%	SNI 01-2891-1992 Butir 8.1
		Kadar Air	5,94	%	SNI 01-2891-1992 Butir 5.1
		Kadar Abu	2,79	%	SNI 01-2891-1992 Butir 6.1
		Karbohidrat (by different)	61,05	%	Karbohidrat (by different)
Flakes Ubi Jalar dan Tempe X-43	151/S-UJ/LSIH-UB/III/2013	Kadar Protein	16,04	%	Inhouse Method (IKP/1.0.4.03/LSIH)
		Kadar Lemak	12,01	%	SNI 01-2891-1992 Butir 8.1
		Kadar Air	5,30	%	SNI 01-2891-1992 Butir 5.1
		Kadar Abu	2,85	%	SNI 01-2891-1992 Butir 6.1
		Karbohidrat (by different)	63,8	%	Karbohidrat (by different)
Flakes Ubi Jalar dan Tempe X-44	152/S-UJ/LSIH-UB/III/2013	Kadar Protein	18,99	%	Inhouse Method (IKP/1.0.4.03/LSIH)
		Kadar Lemak	15,44	%	SNI 01-2891-1992 Butir 8.1
		Kadar Air	8,03	%	SNI 01-2891-1992 Butir 5.1
		Kadar Abu	2,30	%	SNI 01-2891-1992 Butir 6.1
		Karbohidrat (by different)	55,24	%	Karbohidrat (by different)
Flakes Ubi Jalar dan Tempe X-51	153/S-UJ/LSIH-UB/III/2013	Kadar Protein	15,72	%	Inhouse Method (IKP/1.0.4.03/LSIH)
		Kadar Lemak	12,60	%	SNI 01-2891-1992 Butir 8.1
		Kadar Air	5,72	%	SNI 01-2891-1992 Butir 5.1
		Kadar Abu	2,88	%	SNI 01-2891-1992 Butir 6.1
		Karbohidrat (by different)	63,08	%	Karbohidrat (by different)

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Flakes Ubi Jalar dan Tempe X-52	154/S-UJ/LSIH-UB/III/2013	Kadar Protein	16,59	%	Inhouse Method (IKP/1.0.4.03/LSIH)
		Kadar Lemak	12,12	%	SNI 01-2891-1992 Butir 8.1
		Kadar Air	6,37	%	SNI 01-2891-1992 Butir 5.1
		Kadar Abu	2,93	%	SNI 01-2891-1992 Butir 6.1
		Karbohidrat (by different)	61,99	%	Karbohidrat (by different)
Flakes Ubi Jalar dan Tempe X-53	155/S-UJ/LSIH-UB/III/2013	Kadar Protein	15,20	%	Inhouse Method (IKP/1.0.4.03/LSIH)
		Kadar Lemak	12,18	%	SNI 01-2891-1992 Butir 8.1
		Kadar Air	7,82	%	SNI 01-2891-1992 Butir 5.1
		Kadar Abu	3,22	%	SNI 01-2891-1992 Butir 6.1
		Karbohidrat (by different)	61,58	%	Karbohidrat (by different)
Flakes Ubi Jalar dan Tempe X-54	156/S-UJ/LSIH-UB/III/2013	Kadar Protein	14,32	%	Inhouse Method (IKP/1.0.4.03/LSIH)
		Kadar Lemak	11,54	%	SNI 01-2891-1992 Butir 8.1
		Kadar Air	7,75	%	SNI 01-2891-1992 Butir 5.1
		Kadar Abu	2,93	%	SNI 01-2891-1992 Butir 6.1
		Karbohidrat (by different)	63,46	%	Karbohidrat (by different)

Dr. Ir. Nur Hidayat, MP.
Manajer Teknis/ *Technical Manager*

HASIL PENGUJIAN INI HANYA BERLAKU UNTUK SAMPEL-SAMPEL TERSEBUT DI ATAS.
(THE RESULTS OF THESE TESTS RELATE ONLY TO THE SAMPLE(S) SUBMITTED)

Lampiran 9. Laporan Hasil Analisis Mutu Fisik *Flakes* Tepung Ubi Jalar dan Tepung Tempe

LABORATORIUM PENGUJIAN MUTU DAN KEAMANAN PANGAN
(TESTING LABORATORY OF FOOD QUALITY AND FOOD SAFETY)
JURUSAN TEKNOLOGI HASIL PERTANIAN
FAKULTAS TEKNOLOGI PERTANIAN
UNIVERSITAS BRAWIJAYA
Jl. Veteran, Malang 65145, Telp/Fax. (0341) 573358
E-mail : labujipangan_thpub@yahoo.com

KEPADA : Desi Silvia
TO ***FK - UB***
MALANG

LAPORAN HASIL UJI
REPORT OF ANALYSIS

Nomor / *Number* : 3621/THP/LAB/2013
Nomor Analisis / *Analysis Number* : 3621
Tanggal penerbitan / *Date of issue* : 28 Maret 2013

Yang bertanda tangan di bawah ini menerangkan, bahwa hasil pengujian
The undersigned ratifies that examination

Dari contoh / *of the sample (s) of* : Flakes Ubi Jalar + Tempe
Untuk analisis / *For analysis* :
Keterangan contoh / *Description of sample* :
Diambil dari / *Taken from* : -
Oleh / *By* : -
Tanggal penerimaan contoh / *Received* : 15 Maret 2013
Tanggal pelaksanaan analisis / *Date of analysis* : 15 Maret 2013

Hasil adalah sebagai berikut / *Resulted as follows* :

Kode	Kekerasan (N)
X.1,1	6,8
X.1,2	8,5
X.1,3	13,6
X.1,4	15,2
X.2,1	8,6
X.2,2	8,7
X.2,3	11,5
X.2,4	9,9
X.3,1	11,7
X.3,2	11,2
X.3,3	9,1
X.3,4	6,8
X.4,1	11,2
X.4,2	19,3
X.4,3	15,3
X.4,4	12,7
X.5,1	6,0
X.5,2	2,0
X.5,3	15,6
X.5,4	11,5

HASIL PENGUJIAN INI HANYA BERLAKU UNTUK CONTOH-CONTOH TERSEBUT DI ATAS. PENGAMBIL CONTOH BERTANGGUNG JAWAB ATAS KEBENARAN *TANDING BARANG*

Ketua,

Lampiran 10. Analisis Penentuan Perlakuan Terbaik

Panelis	NILAI KESUKAAN																			
	Rasa					Aroma					Warna					Tekstur				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
1	3	4	4	6	5	3	5	4	5	5	7	6	4	5	5	6	5	4	5	5
2	3	4	5	5	3	4	4	4	4	4	5	4	3	4	3	4	4	4	5	4
3	2	5	3	3	1	3	3	3	4	4	4	4	6	6	5	2	5	6	6	5
4	2	3	3	3	2	2	2	3	4	3	2	3	4	4	4	2	2	3	4	4
5	3	3	5	3	5	6	6	6	6	5	6	6	3	3	3	5	6	6	6	6
6	2	5	2	4	5	4	4	4	4	5	3	3	2	3	5	3	4	3	5	4
7	2	3	4	5	4	3	5	5	2	3	3	4	4	4	5	2	2	3	3	3
8	5	5	4	6	6	4	4	5	5	5	6	6	6	6	6	6	5	5	5	6
9	3	4	5	2	3	3	3	3	5	5	5	5	4	5	5	4	4	4	3	4
10	3	3	3	4	5	3	4	4	4	5	5	6	6	6	6	3	3	4	6	4
11	3	4	4	4	4	4	5	5	4	4	5	5	5	3	3	4	4	4	5	4
12	3	4	5	5	5	4	4	4	4	4	4	3	4	4	4	3	3	4	5	4
13	3	3	3	4	5	4	4	6	5	5	4	3	3	3	5	6	6	6	6	5
14	3	4	5	5	4	3	4	4	5	4	5	5	5	5	5	3	4	4	5	3
15	2	4	3	5	5	3	4	5	4	4	5	4	3	2	2	3	5	5	5	5
16	3	5	3	5	5	6	6	6	6	6	6	6	6	6	6	4	5	5	5	5
17	2	2	3	4	1	2	2	2	2	3	2	1	2	1	2	2	1	2	1	2

Panelis	NILAI KESUKAAN																			
	Rasa					Aroma					Warna					Tekstur				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
18	4	5	5	6	6	3	3	3	3	3	4	4	4	4	4	5	6	5	6	5
19	3	4	4	5	4	4	4	4	4	4	4	5	6	6	4	3	5	5	5	3
20	4	3	4	5	6	4	4	5	5	5	5	4	5	5	5	3	3	5	6	3
21	3	3	4	5	5	3	3	4	4	5	6	6	6	6	6	6	6	6	6	6
22	2	3	3	5	4	3	3	3	3	3	4	4	3	4	4	6	6	5	6	6
23	3	4	5	6	3	2	4	3	4	4	6	4	3	5	4	4	5	5	5	2
24	5	5	6	6	5	6	6	6	6	4	6	5	6	4	5	4	5	5	6	5
25	2	1	2	4	3	4	3	2	4	4	4	4	4	4	4	3	1	2	3	3
Jumlah	73	93	97	115	104	90	99	103	106	106	116	110	107	108	110	96	105	110	123	106
Rata-rata	2,92	3,72	3,88	4,6	4,16	3,6	3,96	4,12	4,24	4,24	4,64	4,4	4,28	4,32	4,4	3,84	4,2	4,4	4,92	4,24

Data Nilai Terbaik Dan Terjelek Dari Masing-Masing Variabel Untuk Masing Masing Perlakuan

Variabel	Perlakuan					Terbaik	Terjelek	Selisih
	P1	P2	P3	P4	P5			
Energi	467.00	459.36	436.58	437.23	420.93	467.00	420.93	46,07
Karbohidrat	41.82	46.57	56.91	58.56	62.53	62.53	41.82	20,71
Protein	29.44	25.47	19.99	18.62	15.46	29.44	15.46	13,98
Lemak	19.78	19.02	14.32	14.28	12.11	19.78	12.11	7,67
Warna	4,64	4,40	4,28	4,32	4,40	4,64	4,28	0,36
Rasa	2,92	3,72	3,88	4,60	4,16	4,60	2,92	1,68
Aroma	3,60	3,96	4,12	4,24	4,24	4,24	3,60	0,64
Tekstur	3,84	4,20	4,40	4,92	4,24	4,92	3,84	1,08

Daftar Nilai Untuk Menentukan Perlakuan Terbaik

Parameter	Bobot	P1		P2		P3		P4		P5	
		NE	NP	NE	NP	NE	NP	NE	NP	NE	NP
Rasa	0,2	0	0	0,47619048	0,0952381	0,57142857	0,11428571	1	0,2	0,73809524	0,147619048
Warna	0,05	1	0,05	0,33333333	0,01666667	0	0	0,111111111	0,005555556	0,33333333	0,016666667
Aroma	0,05	0	0	0,5625	0,028125	0,8125	0,040625	1	0,05	1	0,05
Tekstur	0,2	0	0	0,33333333	0,06666667	0,51851852	0,1037037	1	0,2	0,37037037	0,074074074
Energi	0,15	1	0,15	0,8341654	0,12512481	0,33970046	0,05095507	0,35380942	0,053071413	0	0
Karbohidrat	0,1	0	0	0,2293578	0,02293578	0,72863351	0,07286335	0,808305167	0,080830517	1	0,1
Protein	0,15	1	0,15	0,71602289	0,10740343	0,32403433	0,04860515	0,226037196	0,033905579	0	0
Lemak	0,1	1	0,1	0,90091265	0,09009126	0,28813559	0,02881356	0,282920469	0,028292047	0	0
Jumlah	1		0,45		0,55225172		0,45985155		0,651655112		0,388359788
Perlakuan Terbaik									****		

Lampiran 11. Dokumentasi Kegiatan

1. Proses Pembuatan *Flakes*

	
Persiapan Bahan	**Adonan yang Telah Dicampur**
	
Pemipihan Adonan	**Pemotongan Adonan**
	
Adonan Siap Dioven	**Adonan Dioven**

2. **Produk *Flakes***

3. **Proses Analisis Mutu organoleptik**

Lampiran 12. Surat Pernyataan Keaslian Tulisan

PERNYATAAN KEASLIAN TULISAN

Saya yang bertanda tangan di bawah ini :

Nama : Desi Silvia Isherlianti

NIM : 0910730005

Jurusan : Gizi Kesehatan Fakultas Kedokteran Universitas Brawijaya

Menyatakan dengan sebenanya bahwa Tugas Akhir yang saya tulis ini benar-benar hasil karya saya sendiri, bukan merupakan pengambilalihan tulisan atau pikiran orang lain yang saya akui sebagai tulisan atau pikiran saya sendiri. Apabila di kemudian hari dapat dibuktikan bahwa Tugas Akhir ini adalah hasil plagiat, maka saya bersedia menerima sanksi atas perbuatan tersebut.

Malang,
Yang membuat pernyataan

Desi Silvia Isherlianti
NIM. 0910730005