

Lampiran 1. Syarat Mutu Roti Tawar

N0	Kriteria Uji	Satuan	Roti Tawar
1.	Keadaan		
	Kenampakan	-	Normal tidak berjamur
	Bau	-	Normal
	Rasa	-	Normal
2.	Air	%bb	Maks.40
3.	Abu dihitung atas dasar bahan kering	%bb	
4.	Abu tidak larut dalam asam	%bb	Maks.3,0
5.	NaCl	%bb	Maks.2,5
6.	Gula Total	%bb	-
7.	Lemak	%bb	-
8.	Serangga/belatung	-	Tidak boleh ada
9.	Bahan Tambahan Makanan		Sesuai SNI 01-0222-1995
	Pengawet		Sesuai SNI 01-0222-1995
	Pewarna		Sesuai SNI 01-0222-1995
	Pemanis buatan		Sesuai SNI 01-0222-1995
	Sakarin, siklamat		
10.	Cemaran Logam		
	Raksa (Hg)	mk/kg	Maks.0,05
	Timbal (Pb)	mk/kg	Maks.1,0
	Tembaga (Cu)	mk/kg	Maks.10,0
	Seng (Zn)	mk/kg	Maks.40,0
	Arsen (As)	mk/kg	Maks.0,5
11.	Cemaran Mikroba		
	Angka lempeng total	koloni/g	Maks.10 ⁶
	E.coli	APM/g	<3
	Kapang	koloni/g	Maks 10 ⁴

Sumber: SNI 01-3840-1995

Lampiran 2. Data Mentah Pembuatan Dan Analisis Roti Tawar

Data Penambahan Air

Ulangan	Perlakuan				
	A	B	C	D	E
1	136	170	170	153	100
2	130	150	175	153	140
3	125	130	180	168	169
Rata2	130	150	175	158	130

Data Kadar Air Roti Tawar

Ulangan	Perlakuan				
	A	B	C	D	E
1	39,32	41,67	42,21	40,92	40,20
2	40,51	41,60	42,33	41,08	40,05
3	40,05	41,47	41,49	41,15	40,20
Rata2	39,96	41,58	42,01	41,05	40,15

Data Aw Roti Tawar

Ulangan	Perlakuan				
	A	B	C	D	E
1	0,954	0,957	0,944	0,946	0,948
2	0,955	0,958	0,946	0,946	0,951
3	0,948	0,958	0,945	0,943	0,949
Rata2	0,952	0,958	0,945	0,945	0,949

Data Rendemen

Ulangan	Perlakuan				
	A	B	C	D	E
1	90.42	85.74	104.00	97.44	113.84
2	85.19	78.57	85.25	84.96	80.70
3	85.42	95.56	95.11	92.76	94.95
Rata2	87.01	86.62	94.79	91.72	96.50

Data Kadar Serat

Ulangan	Perlakuan				
	A	B	C	D	E
1	0.054	0.692	1.228	1.820	2.101
2	0.071	0.541	1.291	1.804	2.095
3	0.121	0.810	1.513	2.012	2.711
4	0.153	0.895	1.480	1.918	2.749
Rata2	0.100	0.735	1.378	1.889	2.414

Data Pengembangan

Ulangan	Perlakuan				
	A	B	C	D	E
1	91,11	121,28	116,33	56,36	100,00
2	93,33	76,00	92,98	107,69	84,00
3	109,52	145,24	105,77	126,00	133,33
Rata2	97,99	114,17	105,03	96,69	105,78

Data Keempukan

Ulangan	Perlakuan				
	A	B	C	D	E
1	134	153	87	89	33
2	114	114	115	117	122
3	80	60	100	55	53
Rata2	109	109	101	87	69

Data Tekstur

Parameter	Ulangan	Perlakuan				
		A	B	C	D	E
Chiwiness	1	954.09	1137.96	753.58	2690.94	012.55

Parameter	Ulangan	Perlakuan				
		A	B	C	D	E
	2	1050.99	1315.11	1268.47	2681.12	996.68
	Rata2	1002.54	1226.54	1011.03	2686.03	1004.62
Hardness	1	1189.50	875.00	1295.50	2894.50	983.00
	2	1005.50	786.00	1390.50	4652.00	1050.50
	Rata2	1097.50	830.50	1343.00	3773.25	1016.75
Gumminess	1	345.68	269.66	322.04	909.10	292.65
	2	306.41	313.12	407.87	1186.34	302.94
	Rata2	326.05	291.39	364.96	1047.72	297.80
Springiness	1	2.76	4.22	2.34	2.96	3.46
	2	3.43	4.20	3.11	2.26	3.29
	Rata2	3.10	4.21	2.73	2.61	3.38

Data Pengamatan Umur Simpan

Sampel A (0%)

Parameter yang Diamati	Aroma	Warna	Tekstur	Keterangan
Hari 1	fresh	putih tulang	empuk	
Hari 2	fresh	putih tulang	empuk	
Hari 3	agak asam	putih tulang	empuk	
Hari 4	asam	putih tulang	empuk	
Hari 5	asam	putih tulang	agak keras	tumbuh koloni jamur hitam pada hari ke lima

Sampel B (25%)

Parameter yang Diamati	Aroma	Warna	Tekstur	Keterangan
Hari 1	fresh	putih tulang	empuk	
Hari 2	fresh	putih tulang	empuk	
Hari 3	agak asam	putih tulang	empuk	
Hari 4	asam	putih tulang	agak keras	
Hari 5	asam	putih tulang	agak keras	tumbuh koloni jamur putih pada hari ke empat

Sampel C (50%)

Parameter yang Diamati	Aroma	Warna	Tekstur	Keterangan
Hari 1	fresh	Putih	empuk	
Hari 2	fresh	putih tulang	empuk	
Hari 3	agak asam	putih tulang	empuk	
Hari 4	asam	putih tulang	Agak keras	
Hari 5	asam	putih tulang	keras	tumbuh koloni jamur putih dan abu2 pada hari ke enam

Sampel D (75%)

Parameter yang Diamati	Aroma	Warna	Tekstur	Keterangan
Hari 1	fresh	putih	Empuk	
Hari 2	fresh	putih	Agak keras	
Hari 3	agak asam	putih tulang	Agak keras	
Hari 4	asam	putih tulang	agak keras	
Hari 5	asam	putih tulang	Keras	tumbuh koloni jamur kuning pada hari keenam

Sampel E (100%)

Parameter yang Diamati	Aroma	Warna	Tekstur	Keterangan
Hari 1	fresh	putih	Agak keras	
Hari 2	fresh	putih	keras	
Hari 3	agak asam	putih tulang	keras	
Hari 4	asam	putih tulang	keras	
Hari 5	asam	putih tulang	keras	tumbuh koloni jamur kuning dan putih pada hari keempat

Data Daya Terima

Perlakuan A

Parameter	Panelis 1		Panelis 2		Panelis 3		Panelis 4		Panelis 5		Rata2
rasa asam	1.6	0.9	1.3	1.5	1.1	0.1	0.7	0.8	0.6	0.1	0.6
rasa pahit	1.8	1.0	1.7	1.6	0.1	0.1	1.0	0.9	0.1	0.1	0.6
rasa manis	2.8	1.6	3.3	4.1	2.8	4.3	1.8	2.3	1.6	2.4	1.9
rasa asin	2.7	1.5	3.8	3.0	0.1	0.0	2.1	1.7	0.1	0.0	1.1
rasa mentah	1.0	0.6	3.1	3.0	0.2	0.1	1.7	1.7	0.1	0.1	0.8
rasa tepung	3.3	1.8	2.2	3.0	0.2	0.1	1.2	1.7	0.1	0.1	1.0
rasa susu	1.8	1.0	3.5	2.8	4.8	5.5	2.0	1.6	2.7	3.1	2.1
rasa karamel	3.1	1.7	3.9	2.2	0.1	0.1	2.2	1.2	0.1	0.1	1.1
rasa asam	2.0	1.1	3.4	2.8	1.3	0.2	1.9	1.6	0.7	0.1	1.1
aroma roti	6.7	3.8	4.1	2.8	6.5	7.5	2.3	1.6	3.6	4.2	3.1
aroma menyimpang/tidak enak	2.2	1.2	2.4	3.8	0.2	0.1	1.3	2.1	0.1	0.1	1.0
keputihan roti	6.4	3.6	3.4	3.8	7.3	5.1	1.9	2.1	4.1	2.9	2.9
keempukan roti	5.6	3.1	4.2	3.8	7.2	6.6	2.4	2.1	4.0	3.7	3.1
keliatan roti	2.5	1.4	2.7	3.8	7.1	3.7	1.5	2.1	4.0	2.1	2.2
kelengketan roti pada gigi	6.3	3.5	1.8	2.7	2.9	3.6	1.0	1.5	1.6	2.0	1.9

Perlakuan B

Parameter	Panelis 1		Panelis 2		Panelis 3		Panelis 4		Panelis 5		Rata2
rasa asam	1.2	0.7	2.1	2.7	0.9	0.1	1.2	1.5	0.5	0.1	0.8
rasa pahit	1.8	1.0	1.9	2.4	1.0	0.1	1.1	1.3	0.6	0.1	0.8
rasa manis	2.3	1.3	3.2	4.0	2.2	5.1	1.8	2.2	1.2	2.9	1.9
rasa asin	2.9	1.6	2.9	2.1	0.1	0.3	1.6	1.2	0.1	0.2	0.9
rasa mentah	1.4	0.8	2.2	3.8	0.3	0.2	1.2	2.1	0.2	0.1	0.9
rasa tepung	2.7	1.5	2.7	4.2	0.2	0.1	1.5	2.4	0.1	0.1	1.1
rasa susu	1.4	0.8	4.0	3.0	4.0	5.4	2.2	1.7	2.2	3.0	2.0
rasa karamel	2.0	1.1	4.4	1.9	0.2	0.1	2.5	1.1	0.1	0.1	1.0
rasa asam	2.7	1.5	2.7	3.1	1.0	0.1	1.5	1.7	0.6	0.1	1.1
aroma roti	2.2	1.2	3.5	4.0	4.4	6.9	2.0	2.2	2.5	3.9	2.4
aroma menyimpang/tidak enak	1.4	0.8	2.8	4.6	0.3	0.1	1.6	2.6	0.2	0.1	1.1
keputihan roti	5.8	3.2	4.4	3.6	7.2	6.8	2.5	2.0	4.0	3.8	3.1
keempukan roti	4.9	2.7	5.6	3.0	7.2	5.8	3.1	1.7	4.0	3.2	2.9
keliatan roti	2.1	1.2	2.4	3.3	7.2	3.4	1.3	1.8	4.0	1.9	2.0
kelengketan roti pada gigi	2.8	1.6	2.2	4.9	7.3	3.4	1.2	2.7	4.1	1.9	2.3

Perlakuan C

Parameter	Panelis 1		Panelis 2		Panelis 3		Panelis 4		Panelis 5		Rata2
rasa asam	0.9	0.5	2.7	1.6	0.3	0.1	1.5	0.9	0.2	0.1	0.6
rasa pahit	1.4	0.8	2.3	1.8	0.3	0.1	1.3	1.0	0.2	0.1	0.7
rasa manis	2.3	1.3	2.9	2.0	1.7	0.1	1.6	1.1	1.0	0.1	1.0
rasa asin	4.7	2.6	3.8	3.7	0.3	0.1	2.1	2.1	0.2	0.1	1.4
rasa mentah	0.7	0.4	3.4	1.9	0.2	0.1	1.9	1.1	0.1	0.1	0.7
rasa tepung	2.3	1.3	3.1	3.0	0.2	0.1	1.7	1.7	0.1	0.1	1.0
rasa susu	1.8	1.0	2.2	3.7	7.5	1.8	1.2	2.1	4.2	1.0	1.9
rasa karamel	2.6	1.5	2.7	1.6	0.3	0.1	1.5	0.9	0.2	0.1	0.8
rasa asam	1.0	0.6	4.4	1.8	0.3	1.3	2.5	1.0	0.2	0.7	1.0
aroma roti	7.7	4.3	3.8	4.1	8.4	6.9	2.1	2.3	4.7	3.9	3.5
aroma menyimpang/tidak enak	1.2	0.7	5.1	4.5	0.2	0.1	2.9	2.5	0.1	0.1	1.3
keputihan roti	7.8	4.4	7.2	4.7	8.7	7.8	4.0	2.6	4.9	4.4	4.1
keempukan roti	7.8	4.4	7.4	4.6	8.7	7.8	4.1	2.6	4.9	4.4	4.1
keliatan roti	3.4	1.9	4.4	3.2	8.7	1.8	2.5	1.8	4.9	1.0	2.4
kelengketan roti pada gigi	4.0	2.2	3.1	2.2	0.3	1.8	1.7	1.2	0.2	1.0	1.3

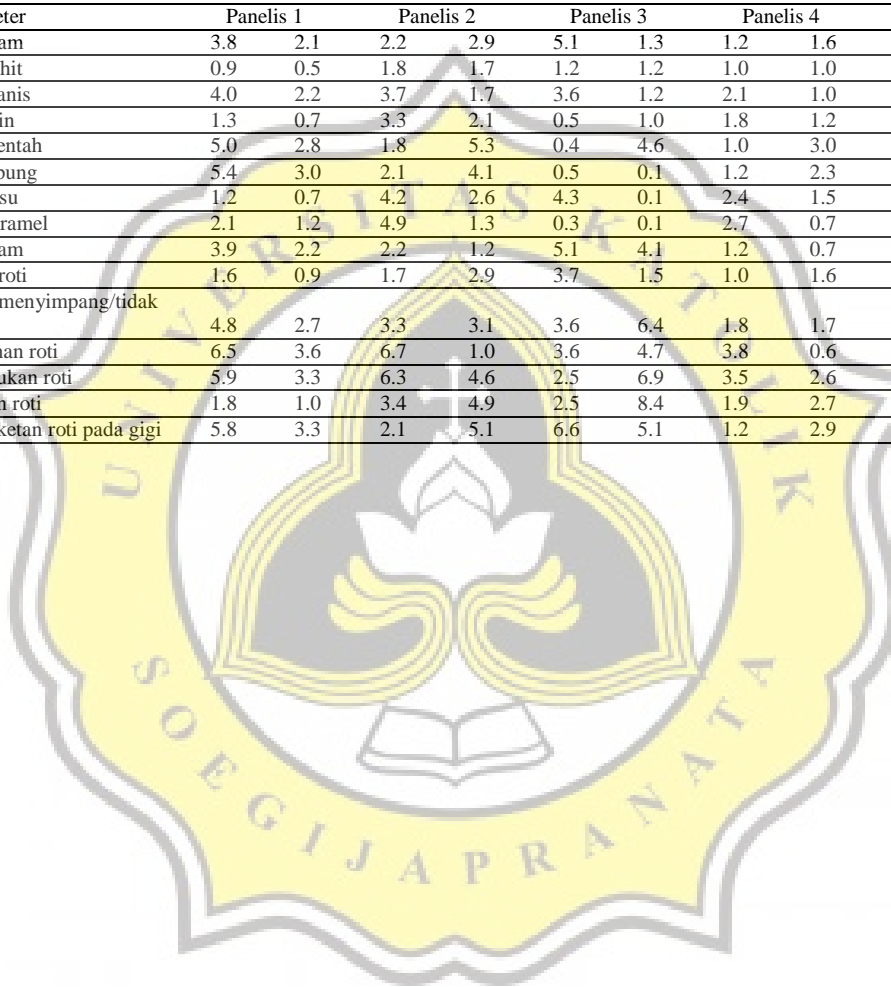
Perlakuan D

Parameter	Panelis 1		Panelis 2		Panelis 3		Panelis 4		Panelis 5		Rata2
rasa asam	3.0	1.7	1.4	1.2	2.8	0.1	0.8	0.7	1.6	0.1	1.0
rasa pahit	2.8	1.6	1.3	1.0	0.6	1.1	0.7	0.6	0.3	0.6	0.8
rasa manis	2.9	1.6	3.2	2.3	3.0	3.9	1.8	1.3	1.7	2.2	1.7
rasa asin	3.5	2.0	3.5	2.4	0.2	0.1	2.0	1.3	0.1	0.1	1.1
rasa mentah	3.1	1.7	3.0	2.8	0.2	0.1	1.7	1.6	0.1	0.1	1.0

Parameter	Panelis 1		Panelis 2		Panelis 3		Panelis 4		Panelis 5		Rata2
rasa tepung	3.8	2.1	1.7	1.4	0.2	3.1	1.0	0.8	0.1	1.7	1.1
rasa susu	1.3	0.7	3.3	3.8	3.1	4.7	1.8	2.1	1.7	2.6	1.8
rasa karamel	2.8	1.6	4.0	1.5	0.1	0.1	2.2	0.8	0.1	0.1	1.0
rasa asam	2.7	1.5	3.5	1.4	2.4	0.1	2.0	0.8	1.3	0.1	1.1
aroma roti	4.9	2.7	3.9	2.8	5.3	6.6	2.2	1.6	3.0	3.7	2.6
aroma menyimpang/tidak enak	2.3	1.3	3.0	2.0	0.1	0.1	1.7	1.1	0.1	0.1	0.9
keputihan roti	3.4	1.9	1.6	2.2	5.7	6.7	0.9	1.2	3.2	3.8	2.2
keempukan roti	2.5	1.4	4.8	3.1	5.7	7.9	2.7	1.7	3.2	4.4	2.7
keliatan roti	2.1	1.2	2.1	2.9	5.7	5.1	1.2	1.6	3.2	2.9	2.0
kelengketan roti pada gigi	5.2	2.9	2.9	4.5	3.8	5.1	1.6	2.5	2.1	2.9	2.4

Perlakuan E

Parameter	Panelis 1		Panelis 2		Panelis 3		Panelis 4		Panelis 5		Rata2
rasa asam	3.8	2.1	2.2	2.9	5.1	1.3	1.2	1.6	2.9	0.7	1.7
rasa pahit	0.9	0.5	1.8	1.7	1.2	1.2	1.0	1.0	0.7	0.7	0.8
rasa manis	4.0	2.2	3.7	1.7	3.6	1.2	2.1	1.0	2.0	0.7	1.6
rasa asin	1.3	0.7	3.3	2.1	0.5	1.0	1.8	1.2	0.3	0.6	0.9
rasa mentah	5.0	2.8	1.8	5.3	0.4	4.6	1.0	3.0	0.2	2.6	1.9
rasa tepung	5.4	3.0	2.1	4.1	0.5	0.1	1.2	2.3	0.3	0.1	1.4
rasa susu	1.2	0.7	4.2	2.6	4.3	0.1	2.4	1.5	2.4	0.1	1.4
rasa karamel	2.1	1.2	4.9	1.3	0.3	0.1	2.7	0.7	0.2	0.1	1.0
rasa asam	3.9	2.2	2.2	1.2	5.1	4.1	1.2	0.7	2.9	2.3	1.9
aroma roti	1.6	0.9	1.7	2.9	3.7	1.5	1.0	1.6	2.1	0.8	1.3
aroma menyimpang/tidak enak	4.8	2.7	3.3	3.1	3.6	6.4	1.8	1.7	2.0	3.6	2.4
keputihan roti	6.5	3.6	6.7	1.0	3.6	4.7	3.8	0.6	2.0	2.6	2.5
keempukan roti	5.9	3.3	6.3	4.6	2.5	6.9	3.5	2.6	1.4	3.9	2.9
keliatan roti	1.8	1.0	3.4	4.9	2.5	8.4	1.9	2.7	1.4	4.7	2.3
kelengketan roti pada gigi	5.8	3.3	2.1	5.1	6.6	5.1	1.2	2.9	3.7	2.9	2.8



Lampiran 3. Data Hasil Analisis Statistik Roti Tawar

Kadar Air Roti Tawar

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Kadarair	15	39.32	42.33	40.9500	.87212
Valid N (listwise)	15				

Test of Homogeneity of Variances

Kadarair

Levene Statistic	df1	df2	Sig.
3.772	4	10	.040

One-Sample Kolmogorov-Smirnov Test

		Kadarair
N		15
Normal Parameters ^{a, b}	Mean	40.9500
	Std. Deviation	.87212
Most Extreme Differences	Absolute	.138
	Positive	.138
	Negative	-.124
Kolmogorov-Smirnov Z		.536
Asymp. Sig. (2-tailed)		.936

a. Test distribution is Normal.

b. Calculated from data.

ANOVA

Kadarair

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9.452	4	2.363	19.751	.000
Within Groups	1.196	10	.120		
Total	10.648	14			

Multiple Comparisons

Kadarair
Tukey HSD

(I) Perlakua n	(J) Perlakua n	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
A	B	-1.62000	.28242	.001	-2.5495	-.6905
	C	-2.05000	.28242	.000	-2.9795	-1.1205
	D	-1.09000	.28242	.021	-2.0195	-.1605
	E	-.19000	.28242	.958	-1.1195	.7395
B	A	1.62000	.28242	.001	.6905	2.5495
	C	-.43000	.28242	.572	-1.3595	.4995
	D	.53000	.28242	.387	-.3995	1.4595
	E	1.43000	.28242	.003	.5005	2.3595
C	A	2.05000	.28242	.000	1.1205	2.9795
	B	.43000	.28242	.572	-.4995	1.3595
	D	.96000	.28242	.042	.0305	1.8895
	E	1.86000	.28242	.000	.9305	2.7895
D	A	1.09000	.28242	.021	.1605	2.0195
	B	-.53000	.28242	.387	-1.4595	.3995

Multiple Comparisons

Kadarair
Tukey HSD

(I) Perlakuan	(J) Perlakuan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
	C	-.96000	.28242	.042	-1.8895	-.0305
	E	.90000	.28242	.059	-.0295	1.8295
E	A	.19000	.28242	.958	-.7395	1.1195
	B	-1.43000	.28242	.003	-2.3595	-.5005
	C	-1.86000	.28242	.000	-2.7895	-.9305
	D	-.90000	.28242	.059	-1.8295	.0295

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

Aw Roti Tawar

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Aw	15	.943	.958	.94987	.005249
Valid N (listwise)	15				

Test of Homogeneity of Variances

Aw

Levene Statistic	df1	df2	Sig.
4.617	4	10	.023

One-Sample Kolmogorov-Smirnov Test

		Aw
N		15
Normal Parameters ^{a, b}	Mean	.94987
	Std. Deviation	.005249
	Most Extreme Differences	
	Absolute	.172
	Positive	.172
	Negative	-.118
Kolmogorov-Smirnov Z		.667
Asymp. Sig. (2-tailed)		.765

a. Test distribution is Normal.

b. Calculated from data.

ANOVA

Aw

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.000	4	.000	20.460	.000
Within Groups	.000	10	.000		
Total	.000	14			

Multiple Comparisons

Aw

Tukey HSD

(I) Perlakuan	(J) Perlakuan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
A	B	-.005333	.001673	.059	-.01084	.00017
	C	.007333	.001673	.009	.00183	.01284
	D	.007333	.001673	.009	.00183	.01284

Multiple Comparisons

Aw
Tukey HSD

(I) Perlakuan	(J) Perlakuan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
	E	.003000	.001673	.427	-.00251	.00851
B	A	.005333	.001673	.059	-.00017	.01084
	C	.012667	.001673	.000	.00716	.01817
	D	.012667	.001673	.000	.00716	.01817
	E	.008333	.001673	.004	.00283	.01384
C	A	-.007333	.001673	.009	-.01284	-.00183
	B	-.012667	.001673	.000	-.01817	-.00716
	D	.000000	.001673	1.000	-.00551	.00551
	E	-.004333	.001673	.146	-.00984	.00117
D	A	-.007333	.001673	.009	-.01284	-.00183
	B	-.012667	.001673	.000	-.01817	-.00716
	C	.000000	.001673	1.000	-.00551	.00551
	E	-.004333	.001673	.146	-.00984	.00117
E	A	-.003000	.001673	.427	-.00851	.00251
	B	-.008333	.001673	.004	-.01384	-.00283
	C	-.004333	.001673	.146	-.00984	.00117
	D	.004333	.001673	.146	-.00117	.00984

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

Rendemen roti tawar

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Rendemen	15	78.57	133.33	93.8860	14.29998
Valid N (listwise)	15				

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Rendemen	.202	15	.101	.831	15	.009

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

Rendemen

Levene Statistic	df1	df2	Sig.
2.955	4	10	.075

ANOVA

Rendemen

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1028.435	4	257.109	1.402	.302
Within Groups	1834.417	10	183.442		
Total	2862.852	14			

Kruskal-Wallis Test

Test Statistics^{a,b}

	Rendemen
Chi-Square	2.100
Df	4
Asymp. Sig.	.717

a. Kruskal Wallis Test

b. Grouping Variable: Perlakuan

Keempukan roti tawar

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Keempukan	15	33	153	95.07	33.809
Valid N (listwise)	15				

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Keempukan	.179	15	.200	.964	15	.760

a. Lilliefors Significance Correction

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

Test of Homogeneity of Variances

Keempukan

Levene Statistic	df1	df2	Sig.
1.142	4	10	.392

ANOVA

Keempukan

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3468.933	4	867.233	.692	.614
Within Groups	12534.000	10	1253.400		
Total	16002.933	14			

Kruskal-Wallis Test

Test Statistics^{a,b}

	Pengembangan
Chi-Square	.700
Df	4
Asymp. Sig.	.951

a. Kruskal Wallis Test

b. Grouping Variable: Perlakuan

Persen pengembangan roti tawar

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Pengembangan	15	56.36	145.24	103.9293	23.01206
Valid N (listwise)	15				

Test of Homogeneity of Variances

Pengembangan

Levene Statistic	df1	df2	Sig.
1.907	4	10	.186

ANOVA

Pengembangan

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	592.128	4	148.032	.217	.923
Within Groups	6821.641	10	682.164		
Total	7413.769	14			

Test Statistics^{a,b}

	Pengembangan
Chi-Square	.700
Df	4
Asymp. Sig.	.951

a. Kruskal Wallis Test

b. Grouping Variable: Perlakuan

Analisa tekstur roti tawar

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Chiweness	10	753.58	2690.94	1386.1490	703.19386
Hardness	10	786.00	4652.00	1612.2000	1225.57728
Gumminess	10	269.66	1186.34	465.5810	315.84727
Springeness	10	2.26	4.22	3.2030	.67094
Valid N (listwise)	10				

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Chiweness	2.271E16	4	5	.000
Hardness	2.722E18	4	5	.000
Gumminess	7.380E15	4	5	.000
Springeness	.	4	.	.

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Chiweness	.340	10	.002	.714	10	.001
Hardness	.372	10	.000	.671	10	.000
Gumminess	.372	10	.000	.637	10	.000
Springeness	.151	10	.200	.940	10	.551

a. Lilliefors Significance Correction

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

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Chiweness	Between Groups	4297218.633	4	1074304.658	35.081	.001
	Within Groups	153115.867	5	30623.173		
	Total	4450334.500	9			
Hardness	Between Groups	1.195E7	4	2986568.713	9.499	.015
	Within Groups	1572082.250	5	314416.450		
	Total	1.352E7	9			
Gumminess	Between Groups	853952.698	4	213488.174	24.325	.002
	Within Groups	43882.798	5	8776.560		
	Total	897835.495	9			
Springeness	Between Groups	3.271	4	.818	5.238	.049
	Within Groups	.781	5	.156		
	Total	4.051	9			

Kruskal-Wallis Test

Test Statistics^{a,b}

	Chiweness	Hardness	Gumminess	Springeness
Chi-Square	6.218	8.400	7.309	6.873
df	4	4	4	4
Asymp. Sig.	.183	.078	.120	.143

a. Kruskal Wallis Test

b. Grouping Variable: Perlakuan

Serat roti tawar

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
serat	20	.054	2.749	1.30830	.863507
Valid N (listwise)	20				

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
serat	.117	20	.200	.945	20	.291

a. Lilliefors Significance Correction

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

Test of Homogeneity of Variances

Serat

Levene Statistic	df1	df2	Sig.
18.846	4	15	.000

ANOVA

Serat

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	13.668	4	3.417	102.744	.000
Within Groups	.499	15	.033		
Total	14.167	19			

Test Statistics^{a,b}

	serat
Chi-Square	18.286
Df	4
Asymp. Sig.	.001

a. Kruskal Wallis Test

b. Grouping Variable: perlakuan

Post Hoc Tests

Multiple Comparisons

Dependent Variable:Serat

	(I) Perlakuan	(J) Perlakuan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	A	B	.634750	.137081	.003	.21146	1.05804
		C	-.643500	.137081	.002	-1.06679	-.22021
		D	-1.679500	.137081	.000	-2.10279	-1.25621
		E	-1.154000	.137081	.000	-1.57729	-.73071
		B	-.634750	.137081	.003	-1.05804	-.21146
	B	A	-.634750	.137081	.003	-1.05804	-.21146
		C	-1.278250	.137081	.000	-1.70154	-.85496
		D	-2.314250	.137081	.000	-2.73754	-1.89096
		E	-1.788750	.137081	.000	-2.21204	-1.36546
		C	.643500	.137081	.002	.22021	1.06679
	C	A	.643500	.137081	.002	.22021	1.06679
		B	1.278250	.137081	.000	.85496	1.70154
		D	-1.036000	.137081	.000	-1.45929	-.61271
		E	-.510500	.137081	.015	-.93379	-.08721
		D	1.679500	.137081	.000	1.25621	2.10279
	D	A	1.679500	.137081	.000	1.25621	2.10279
		B	2.314250	.137081	.000	1.89096	2.73754
		C	1.036000	.137081	.000	.61271	1.45929
		E	-.525500	.137081	.012	-.10221	.94879
		E	1.154000	.137081	.000	.73071	1.57729
E	A	1.154000	.137081	.000	.73071	1.57729	
	B	1.788750	.137081	.000	1.36546	2.21204	
	C	.510500	.137081	.015	.08721	.93379	
	D	-.525500	.137081	.012	-.94879	-.10221	
	A	.634750	.137081	.000	.34257	.92693	
LSD	A	B	.634750	.137081	.000	.34257	.92693
		C	-.643500	.137081	.000	-.93568	-.35132
		D	-1.679500	.137081	.000	-1.97168	-1.38732
		E	-1.154000	.137081	.000	-1.44618	-.86182
		B	-.634750	.137081	.000	-.92693	-.34257
	B	A	-.634750	.137081	.000	-.92693	-.34257
		C	-1.278250	.137081	.000	-1.57043	-.98607
		D	-2.314250	.137081	.000	-2.60643	-2.02207
		E	-1.788750	.137081	.000	-2.08093	-1.49657
		C	.643500	.137081	.000	.35132	.93568
	C	A	.643500	.137081	.000	.35132	.93568
		B	1.278250	.137081	.000	.98607	1.57043
		D	-1.036000	.137081	.000	-1.32818	-.74382
		E	-.510500	.137081	.002	-.80268	-.21832
		D	1.679500	.137081	.000	1.38732	1.97168
	D	A	1.679500	.137081	.000	1.38732	1.97168
		B	2.314250	.137081	.000	2.02207	2.60643

Multiple Comparisons

Dependent Variable: Serat

(I) Perlakuan	(J) Perlakuan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
E	C	1.036000	.137081	.000	.74382	1.32818
	E	.525500	.137081	.002	.23332	.81768
	A	1.154000	.137081	.000	.86182	1.44618
	B	1.788750	.137081	.000	1.49657	2.08093
	C	.510500	.137081	.002	.21832	.80268
	D	-.525500	.137081	.002	-.81768	-.23332

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

Homogeneous Subsets

		Serat					
Perlakuan	N	Subset for alpha = 0.05					
		1	2	3	4	5	
Tukey HSD ^a	B	4	.09975				
	A	4		.73450			
	C	4			1.37800		
	E	4				1.88850	
	D	4					2.41400
	Sig.		1.000	1.000	1.000	1.000	1.000
Duncan ^a	B	4	.09975				
	A	4		.73450			
	C	4			1.37800		
	E	4				1.88850	
	D	4					2.41400
	Sig.		1.000	1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4,000.



9.41% PLAGIARISM
APPROXIMATELY

0.03% IN QUOTES

Report #9660334

APLIKASI INULIN UMBI GEMBILI (*Dioscorea esculenta*) PROSES PRODUKSI ROTI TAWAR UNTUK PENINGKATAN KADAR SERAT, SIFAT FISIK, UMUR SIMPAN DAN KARAKTERISTIK SENSORI APPLICATION OF INULIN GEMBILI TUBER (*Dioscorea esculenta*) OF BREAD FOR INCREASING FIBER, PHYSICAL PROPERTIES, SELFLIFE AND SENSORY CHARACTERISTICS [pic] TESIS OLEH Arintina Rahayuni 18i30013 PROGRAM MAGISTER TEKNOLOGI PANGAN FAKULTAS TEKNOLOGI PERTANIAN UNIVERSITAS KATOLIK SOEGIJAPRANATA 2019 APLIKASI INULIN UMBI GEMBILI (*Dioscorea esculenta*) PRODUK ROTI TAWAR UNTUK PENINGKATAN KADAR SERAT, SIFAT FISIK, UMUR SIMPAN DAN KARAKTERISTIK SENSORI APPLICATION OF INULIN GEMBILI TUBER (*Dioscorea esculenta*) OF BREAD FOR INCREASING FIBER, PHYSICAL PROPERTIES, SELFLIFE AND SENSORY CHARACTERISTICS TESIS Diajukan kepada Program Magister Teknologi Pangan Fakultas Teknologi Pertanian Universitas Katolik Soegijapranata untuk memenuhi persyaratan yang diperlukan untuk memperoleh gelar Magister Teknologi Pangan OLEH Arintina Rahayuni 18i30013 PROGRAM MAGISTER TEKNOLOGI PANGAN FAKULTAS TEKNOLOGI PERTANIAN UNIVERSITAS KATOLIK SOEGIJAPRANATA 2019 PERNYATAAN Yang bertanda tangan dibawah ini saya, Nama : Arintina Rahayuni NIM : 18i30013 Menyatakan :