LAMPIRAN

Lampiran 1

Nama panelis :
Umur :

Tanggal pengujian:

Anda diminta untuk menguji 5 macam produk di hadapan anda dan berikan tanda V pada kode produk yang sesuai dengan pendapat anda. Terima kasih.

1.

Penampakan	415	247	198	637	325
Tidak menarik					
Cukup menarik					
Menarik					
Sangat menarik					

2

Aroma	415	247	198	637	325
Tidak tajam					
Cukup tajam					
Tajam					
Sangat Tajam					

3.

Rasa	415	247	198	637
Tidak tajam				
Sedikit tajam				
Cukup tajam				
Tajam				

4.

Kerenyahan	415	247	198	637
Tidak renyah				
Sedikit renyah				
Cukup renyah				
Renyah				
Sangat renyah				

5

Kesukaan	415	247	198	637	325
Sangat tidak suka					
Tidak suka					
Cukup suka					
Suka					
Sangat suka					

Lampiran 2

Anova pengukuran membujur ekstrudat dengan berbagai tingkat penambahan tepung terigu

\- - - - - O N E W A Y - - - - -

Variable BUJUR
By Variable PLK

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	4	48.5415	12.1354	33.0442	.0000
Within Groups	995	365.4104	.3672		
Total	999	413.9519			

Group	Count	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean
Grp 0	200	2.1062	.5072	.0359	2.0354 TO 2.1769
Grp 1	200	2.3524	.6671	.0472	2.2593 TO 2.4454
Grp 2	200	2.6227	.4772	.0337	2.5562 TO 2.6893
Grp 3	200	2.6357	.5959	.0421	2.5526 TO 2.7187
Grp 4	200	2.6850	.7423	.0525	2.5815 TO 2.7886
Total	1000	2.4804	.6437	.0204	2.4404 TO 2.5203

GROUP	MINIMUM	MAXIMUM
Grp 0	1.3200	4.0100
Grp 1	1.1400	4.0100
Grp 2	1.0700	4.0600
Grp 3	.8200	5.5000
Grp 4	.7200	4.4800
TOTAL	.7200	5.5000

Levene Test for Homogeneity of Variances

Statistic	df1	df2	2-tail Sig.
14.6750	4	995	.167

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----- O N E W A Y -----

     Variable  BUJUR
  By Variable  PLK

Multiple Range Tests:  Duncan test with significance level .05

The difference between two means is significant if
  MEAN(J)-MEAN(I)  >= .4285 * RANGE * SQRT(1/N(I) + 1/N(J))
  with the following value(s) for RANGE:

 Step        2      3      4      5
 RANGE     2.78   2.92   3.01   3.09

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

                        G G G G G
                        r r r r r
                        p p p p p

                        0 1 2 3 4
    Mean      PLK

    2.1062    Grp 0
    2.3524    Grp 1     *
    2.6227    Grp 2     * *
    2.6357    Grp 3     * *
    2.6850    Grp 4     * *

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

Subset 1

Group         Grp 0

Mean          2.1062
- - - - - - - - - -

Subset 2

Group         Grp 1

Mean          2.3524
- - - - - - - - - -

Subset 3

Group         Grp 2          Grp 3          Grp 4

Mean          2.6227         2.6357         2.6850
- - - - - - - - - - - - - - - - - - - - - - - - -
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Lampiran 3

Anova pengukuran melintang ekstrudat dengan berbagai tingkat penambahan tepung terigu

- - - - - O N E W A Y - - - - -

Variable LINTANG
By Variable PLK

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	4	10.3929	2.5982	32.9988	.0000
Within Groups	995	78.3432	.0787		
Total	999	88.7360			

Group	Count	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean		
Grp 0	200	1.2122	.1686	.0119	1.1887	TO	1.2358
Grp 1	200	1.1748	.2361	.0167	1.1419	TO	1.2077
Grp 2	200	1.1008	.2401	.0170	1.0673	TO	1.1342
Grp 3	200	1.1256	.4644	.0328	1.0608	TO	1.1903
Grp 4	200	.9175	.1903	.0135	.8910	TO	.9440
Total	1000	1.1062	.2980	.0094	1.0877	TO	1.1247

GROUP	MINIMUM	MAXIMUM
Grp 0	.2300	2.1500
Grp 1	.5100	2.5400
Grp 2	.7500	3.6400
Grp 3	.6700	4.2300
Grp 4	.6600	1.8300
TOTAL	.2300	4.2300

Levene Test for Homogeneity of Variances

Statistic	df1	df2	2-tail Sig.
5.7817	4	995	.089

Variable LINTANG
By Variable PLK

Multiple Range Tests: Duncan test with significance level .05

The difference between two means is significant if
MEAN(J)-MEAN(I) >= .1984 * RANGE * SQRT(1/N(I) + 1/N(J))
with the following value(s) for RANGE:

Step	2	3	4	5
RANGE	2.78	2.92	3.01	3.09

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

Mean	PLK	Grp 4	Grp 2	Grp 3	Grp 1	Grp 0
.9175	Grp 4		*	*	* *	* * *
1.1008	Grp 2					
1.1256	Grp 3					
1.1748	Grp 1					
1.2122	Grp 0					

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

Subset 1

Group	Grp 4
Mean	.9175

Subset 2

Group	Grp 2	Grp 3
Mean	1.1008	1.1256

Subset 3

Group	Grp 3	Grp 1
Mean	1.1256	1.1748

Subset 4

Group	Grp 1	Grp 0
Mean	1.1748	1.2122

Lampiran 4

Anova *expansion ratio* ekstrudat dengan berbagai tingkat penambahan tepung terigu

- - - - - O N E W A Y - - - - -

Variable ER
By Variable PLK

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	4	84.8355	21.2089	32.9975	.0000
Within Groups	995	639.5275	.6427		
Total	999	724.3630			

Group	Count	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean
Grp 0	200	3.4635	.4817	.0341	3.3964 TO 3.5307
Grp 1	200	3.3566	.6745	.0477	3.2625 TO 3.4506
Grp 2	200	3.1450	.6860	.0485	3.0493 TO 3.2407
Grp 3	200	3.2159	1.3268	.0938	3.0308 TO 3.4009
Grp 4	200	2.6214	.5437	.0384	2.5456 TO 2.6972
Total	1000	3.1605	.8515	.0269	3.1076 TO 3.2133

GROUP	MINIMUM	MAXIMUM
Grp 0	.6571	6.1429
Grp 1	1.4571	7.2571
Grp 2	2.1429	10.4000
Grp 3	1.9143	12.0857
Grp 4	1.8857	5.2286
TOTAL	.6571	12.0857

Levene Test for Homogeneity of Variances

Statistic	df1	df2	2-tail Sig.
5.7824	4	995	.271

- - - - - O N E W A Y - - - - -

Variable ER
By Variable PLK

Multiple Range Tests: Duncan test with significance level .05

The difference between two means is significant if
MEAN(J)-MEAN(I) >= .5669 * RANGE * SQRT(1/N(I) + 1/N(J))
with the following value(s) for RANGE:

Step	2	3	4	5
RANGE	2.78	2.92	3.01	3.09

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

Mean	PLK	G G G G G r r r r r p p p p p 4 2 3 1 0
2.6214	Grp 4	
3.1450	Grp 2	*
3.2159	Grp 3	*
3.3566	Grp 1	* *
3.4635	Grp 0	* * *

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

Subset 1

Group	Grp 4
Mean	2.6214

- - - - - - - - - -

Subset 2

Group	Grp 2	Grp 3
Mean	3.1450	3.2159

- - - - - - - - - - - - - - - - - -

Subset 3

Group	Grp 3	Grp 1
Mean	3.2159	3.3566

- - - - - - - - - - - - - - - - - -

Subset 4

Group	Grp 1	Grp 0

Lampiran 5

Anova intensitas warna ekstrudat dengan berbagai tingkat penambahan tepung terigu

\- - - - - O N E W A Y - - - - -

Variable WARNA
By Variable PLK

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	4	720.1391	180.0348	8.6336	.0028
Within Groups	10	208.5269	20.8527		
Total	14	928.6660			

Group	Count	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean		
Grp 0	3	60.0633	4.8075	2.7756	48.1208	TO	72.0058
Grp 1	3	66.4667	3.3704	1.9459	58.0941	TO	74.8392
Grp 2	3	74.1133	2.5490	1.4717	67.7812	TO	80.4455
Grp 3	3	77.4033	3.4067	4.2763	59.0039	TO	95.8028
Grp 4	3	78.0300	2.9044	1.6769	70.8149	TO	85.2451
Total	15	71.2153	4.1445	2.1029	66.7050	TO	75.7256

GROUP	MINIMUM	MAXIMUM
Grp 0	54.8600	64.3400
Grp 1	63.3600	70.0500
Grp 2	71.1800	75.7900
Grp 3	70.0900	84.9000
Grp 4	75.6600	81.2700
TOTAL	54.8600	84.9000

Levene Test for Homogeneity of Variances

Statistic	df1	df2	2-tail Sig.
.8716	4	10	.514

- - - - - O N E W A Y - - - - -

Variable WARNA
By Variable PLK

Multiple Range Tests: Duncan test with significance level .05

The difference between two means is significant if
MEAN(J)-MEAN(I) >= 3.2290 * RANGE * SQRT(1/N(I) + 1/N(J))
with the following value(s) for RANGE:

Step	2	3	4	5
RANGE	3.15	3.29	3.38	3.43

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

Mean	PLK	G G G G G r r r r r p p p p p 0 1 2 3 4
60.0633	Grp 0	
66.4667	Grp 1	
74.1133	Grp 2	*
77.4033	Grp 3	* *
78.0300	Grp 4	* *

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

Subset 1

Group	Grp 0	Grp 1
Mean	60.0633	66.4667

- - - - - - - - - - - - - - - - - -

Subset 2

Group	Grp 1	Grp 2
Mean	66.4667	74.1133

- - - - - - - - - - - - - - - - - -

Subset 3

Group	Grp 2	Grp 3	Grp 4
Mean	74.1133	77.4033	78.0300

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Lampiran 6

Anova tingkat kekerasan ekstrudat dengan berbagai tingkat penambahan tepung terigu

- - - - - O N E W A Y - - - - -

Variable KRSAN
By Variable PLK

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	4	210.5035	52.6259	4.2476	.0290
Within Groups	10	123.8959	12.3896		
Total	14	334.3993			

Group	Count	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean
Grp 0	3	62.3633	2.2036	1.2723	56.8891 TO 67.8375
Grp 1	3	70.6733	2.2564	1.3027	65.0681 TO 76.2785
Grp 2	3	72.4933	2.2739	1.3128	66.8446 TO 78.1420
Grp 3	3	68.6067	3.0463	3.4908	53.5867 TO 83.6266
Grp 4	3	72.3800	3.2051	1.8505	64.4180 TO 80.3420
Total	15	69.3033	4.8873	1.2619	66.5968 TO 72.0098

GROUP	MINIMUM	MAXIMUM
Grp 0	59.8600	64.0100
Grp 1	68.8900	73.2100
Grp 2	69.9400	74.3000
Grp 3	62.4900	74.5800
Grp 4	68.8100	75.0100
TOTAL	59.8600	75.0100

Levene Test for Homogeneity of Variances

Statistic	df1	df2	2-tail Sig.
1.0258	4	10	.440

- - - - - O N E W A Y - - - - -

Variable KRSAN
By Variable PLK

Multiple Range Tests: Duncan test with significance level .05

The difference between two means is significant if
MEAN(J)-MEAN(I) >= 2.4889 * RANGE * SQRT(1/N(I) + 1/N(J))
with the following value(s) for RANGE:

Step	2	3	4	5
RANGE	3.15	3.29	3.38	3.43

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

Mean	PLK	Grp 0	Grp 3	Grp 1	Grp 4	Grp 2
62.3633	Grp 0					
68.6067	Grp 3					
70.6733	Grp 1	*				
72.3800	Grp 4	*				
72.4933	Grp 2	*				

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

Subset 1

Group	Grp 0	Grp 3
Mean	62.3633	68.6067

- - - - - - - - - - - - - - - - - -

Subset 2

Group	Grp 3	Grp 1	Grp 4	Grp 2
Mean	68.6067	70.6733	72.3800	72.4933

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Lampiran 7

Anova kadar protein ekstrudat dengan berbagai tingkat penambahan tepung terigu

- - - - - O N E W A Y - - - - -

Variable PROT
By Variable PLK

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	4	8.2221	2.0555	1.7497	.2155
Within Groups	10	11.7476	1.1748		
Total	14	19.9697			

Group	Count	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean
Grp 0	3	2.1467	.9976	.5760	.9316 TO 4.0249
Grp 1	3	2.3367	1.2643	.7299	.8040 TO 5.4774
Grp 2	3	2.6600	.2771	.1600	1.9716 TO 3.3484
Grp 3	3	2.8700	.9597	.5541	.4858 TO 5.2542
Grp 4	3	3.8233	1.5107	.8722	.0705 TO 7.5762
Total	15	2.6473	1.1943	.3084	1.9859 TO 3.3087

GROUP	MINIMUM	MAXIMUM
Grp 0	.4300	2.3500
Grp 1	1.3800	3.7700
Grp 2	2.5000	2.9800
Grp 3	1.8600	3.7700
Grp 4	2.3400	5.3600
TOTAL	.4300	5.3600

Levene Test for Homogeneity of Variances

Statistic	df1	df2	2-tail Sig.
1.1321	4	10	.395

- - - - - O N E W A Y - - - - -

Variable PROT
By Variable PLK

Multiple Range Tests: Duncan test with significance level .05

The difference between two means is significant if
MEAN(J)-MEAN(I) >= .7664 * RANGE * SQRT(1/N(I) + 1/N(J))
with the following value(s) for RANGE:

Step	2	3	4	5
RANGE	3.15	3.29	3.38	3.43

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

		Grp 0	Grp 1	Grp 2	Grp 3	Grp 4
Mean	PLK					
2.1467	Grp 0					
2.3367	Grp 1					
2.6600	Grp 2					
2.8700	Grp 3					
3.8233	Grp 4	*				

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

Subset 1

Group	Grp 0	Grp 1	Grp 2	Grp 3
Mean	1.5467	2.3367	2.6600	2.8700

- -

Subset 2

Group	Grp 1	Grp 2	Grp 3	Grp 4
Mean	2.3367	2.6600	2.8700	3.8233

- -

Lampiran 8

Anova kadar gula ekstrudat dengan berbagai tingkat penambahan tepung terigu

- - - - - O N E W A Y - - - - -

Variable GULA
By Variable PLK

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	4	24.0000	6.0000	1.3636	.2818
Within Groups	20	88.0000	4.4000		
Total	24	112.0000			

Group	Count	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean
Grp 0	5	20.8000	1.0954	.4899	19.4398 TO 22.1602
Grp 1	5	22.0000	2.0000	.8944	19.5167 TO 24.4833
Grp 2	5	22.4000	2.6077	1.1662	19.1622 TO 25.6378
Grp 3	5	23.2000	2.6833	1.2000	19.8683 TO 26.5317
Grp 4	5	23.6000	1.6733	.7483	21.5223 TO 25.6777
Total	25	22.4000	2.1602	.4320	21.5083 TO 23.2917

GROUP	MINIMUM	MAXIMUM
Grp 0	20.0000	22.0000
Grp 1	20.0000	24.0000
Grp 2	20.0000	26.0000
Grp 3	20.0000	26.0000
Grp 4	22.0000	26.0000
TOTAL	20.0000	26.0000

Levene Test for Homogeneity of Variances

Statistic	df1	df2	2-tail Sig.
1.8286	4	20	.163

----- O N E W A Y -----

Variable GULA
By Variable PLK

Multiple Range Tests: Duncan test with significance level .05

The difference between two means is significant if
MEAN(J)-MEAN(I) >= 1.4832 * RANGE * SQRT(1/N(I) + 1/N(J))
with the following value(s) for RANGE:

Step	2	3	4	5
RANGE	2.95	3.09	3.20	3.26

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

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

Subset 1

Group	Grp 0	Grp 1	Grp 2	Grp 3	Grp 4
Mean	20.8000	22.0000	22.4000	23.2000	23.6000

Lampiran 9

Anova uji inderawi dengan parameter kenampakan pada berbagi tingkat penambahan tepung terigu

- - - - - O N E W A Y - - - - -

Variable KNMPK
By Variable PRODUK

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	4	84.1920	21.0480	18.7594	.0000
Within Groups	120	134.6400	1.1220		
Total	124	218.8320			

Group	Count	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean
Grp 0	25	2.8400	1.2477	.2495	2.3250 TO 3.3550
Grp 1	25	3.8000	1.1902	.2380	3.3087 TO 4.2913
Grp 2	25	2.5200	1.1225	.2245	2.0567 TO 2.9833
Grp 3	25	3.0000	1.0408	.2082	2.5704 TO 3.4296
Grp 4	25	1.2800	.5416	.1083	1.0564 TO 1.5036
Total	125	2.6880	1.3284	.1188	2.4528 TO 2.9232

GROUP	MINIMUM	MAXIMUM
Grp 0	1.0000	5.0000
Grp 1	1.0000	5.0000
Grp 2	1.0000	5.0000
Grp 3	1.0000	5.0000
Grp 4	1.0000	3.0000
TOTAL	1.0000	5.0000

Levene Test for Homogeneity of Variances

Statistic	df1	df2	2-tail Sig.
3.3690	4	120	.540

- - - - - O N E W A Y - - - - -

Variable KNMPK
By Variable PRODUK

Multiple Range Tests: Duncan test with significance level .05

The difference between two means is significant if
MEAN(J)-MEAN(I) >= .7490 * RANGE * SQRT(1/N(I) + 1/N(J))
with the following value(s) for RANGE:

Step	2	3	4	5
RANGE	2.80	2.95	3.04	3.11

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

Mean	PRODUK	G G G G G r r r r r p p p p p 4 2 0 3 1
1.2800	Grp 4	
2.5200	Grp 2	*
2.8400	Grp 0	*
3.0000	Grp 3	*
3.8000	Grp 1	* * * *

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

Subset 1

Group	Grp 4
Mean	1.2800

- - - - - - - - - - -

Subset 2

Group	Grp 2	Grp 0	Grp 3
Mean	2.5200	2.8400	3.0000

- -

Subset 3

Group	Grp 1
Mean	3.8000

- - - - - - - - - - -

Lampiran 10

Anova uji inderawi ekstrudat dengan parameter aroma pada berbagai tingkat penambahan tepung terigu

- - - - - O N E W A Y - - - - -

Variable AROMA
By Variable PRODUK

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	4	129.6320	32.4080	34.8973	.0000
Within Groups	120	111.4400	.9287		
Total	124	241.0720			

Group	Count	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean
Grp 0	25	3.6000	1.0801	.2160	3.1541 TO 4.0459
Grp 1	25	3.8800	1.1662	.2332	3.3986 TO 4.3614
Grp 2	25	2.5600	1.1576	.2315	2.0822 TO 3.0378
Grp 3	25	2.0000	.8165	.1633	1.6630 TO 2.3370
Grp 4	25	1.1200	.3317	.0663	.9831 TO 1.2569
Total	125	2.6320	1.3943	.1247	2.3852 TO 2.8788

GROUP	MINIMUM	MAXIMUM
Grp 0	1.0000	5.0000
Grp 1	2.0000	5.0000
Grp 2	1.0000	5.0000
Grp 3	1.0000	4.0000
Grp 4	1.0000	2.0000
TOTAL	1.0000	5.0000

Levene Test for Homogeneity of Variances

Statistic	df1	df2	2-tail Sig.
9.5778	4	120	.481

Variable AROMA
By Variable PRODUK

Multiple Range Tests: Duncan test with significance level .05

The difference between two means is significant if
MEAN(J)-MEAN(I) >= .6814 * RANGE * SQRT(1/N(I) + 1/N(J))
with the following value(s) for RANGE:

Step	2	3	4	5
RANGE	2.80	2.95	3.04	3.11

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

Mean	PRODUK	G G G G G r r r r r p p p p p 4 3 2 0 1
1.1200	Grp 4	
2.0000	Grp 3	*
2.5600	Grp 2	* *
3.6000	Grp 0	* * *
3.8800	Grp 1	* * *

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

Subset 1

Group Grp 4

Mean 1.1200

- - - - - - - - - - -

Subset 2

Group Grp 3

Mean 2.0000

- - - - - - - - - - -

Subset 3

Group Grp 2

Mean 2.5600

- - - - - - - - - - -

Subset 4

Group Grp 0 Grp 1

Mean	3.6000	3.8800

Lampiran 11

Anova uji inderawi ekstrudat dengan parameter rasa pada berbagai tingkat penambahan tepung terigu

\- - - - - O N E W A Y - - - - -

Variable RASA
By Variable PRODUK

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	4	117.4080	29.3520	36.3567	.0000
Within Groups	120	96.8800	.8073		
Total	124	214.2880			

Group	Count	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean
Grp 0	25	3.8800	.9274	.1855	3.4972 TO 4.2628
Grp 1	25	3.7600	.8794	.1759	3.3970 TO 4.1230
Grp 2	25	2.2000	1.1180	.2236	1.7385 TO 2.6615
Grp 3	25	2.5200	.9626	.1925	2.1226 TO 2.9174
Grp 4	25	1.3200	.4761	.0952	1.1235 TO 1.5165
Total	125	2.7360	1.3146	.1176	2.5033 TO 2.9687

GROUP	MINIMUM	MAXIMUM
Grp 0	2.0000	5.0000
Grp 1	2.0000	5.0000
Grp 2	1.0000	5.0000
Grp 3	1.0000	5.0000
Grp 4	1.0000	2.0000
TOTAL	1.0000	5.0000

Levene Test for Homogeneity of Variances

Statistic	df1	df2	2-tail Sig.
2.5966	4	120	.050

- - - - - O N E W A Y - - - - -

Variable RASA
By Variable PRODUK

Multiple Range Tests: Duncan test with significance level .05

The difference between two means is significant if
MEAN(J)-MEAN(I) >= .6353 * RANGE * SQRT(1/N(I) + 1/N(J))
with the following value(s) for RANGE:

Step	2	3	4	5
RANGE	2.80	2.95	3.04	3.11

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

Mean	PRODUK	G G G G G r r r r r p p p p p 4 2 3 1 0
1.3200	Grp 4	
2.2000	Grp 2	*
2.5200	Grp 3	*
3.7600	Grp 1	* * *
3.8800	Grp 0	* * *

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

Subset 1

Group	Grp 4
Mean	1.3200

- - - - - - - - - - -

Subset 2

Group	Grp 2	Grp 3
Mean	2.2000	2.5200

- - - - - - - - - - - - - - - - - - -

Subset 3

Group	Grp 1	Grp 0
Mean	3.7600	3.8800

- - - - - - - - - - - - - - - - - - -

Lampiran 12

Anova uji inderawi ekstrudat dengan parameter kerenyahan pada berbagai tingkat penambahan tepung terigu

- - - - - O N E W A Y - - - - -

Variable RENYAHAN
By Variable PRODUK

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	4	27.0080	6.7520	4.8552	.0012
Within Groups	120	166.8800	1.3907		
Total	124	193.8880			

Group	Count	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean
Grp 0	25	4.0000	1.0000	.2000	3.5872 TO 4.4128
Grp 1	25	3.6800	1.2152	.2430	3.1784 TO 4.1816
Grp 2	25	3.2800	1.0214	.2043	2.8584 TO 3.7016
Grp 3	25	3.0400	1.1719	.2344	2.5563 TO 3.5237
Grp 4	25	2.6800	1.4353	.2871	2.0875 TO 3.2725
Total	125	3.3360	1.2504	.1118	3.1146 TO 3.5574

GROUP	MINIMUM	MAXIMUM
Grp 0	2.0000	5.0000
Grp 1	1.0000	5.0000
Grp 2	2.0000	5.0000
Grp 3	1.0000	5.0000
Grp 4	1.0000	5.0000
TOTAL	1.0000	5.0000

Levene Test for Homogeneity of Variances

Statistic	df1	df2	2-tail Sig.
1.7345	4	120	.147

- - - - - O N E W A Y - - - - -

Variable RENYAHAN
By Variable PRODUK

Multiple Range Tests: Duncan test with significance level .05

The difference between two means is significant if
MEAN(J)-MEAN(I) >= .8339 * RANGE * SQRT(1/N(I) + 1/N(J))
with the following value(s) for RANGE:

Step	2	3	4	5
RANGE	2.80	2.95	3.04	3.11

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

Mean	PRODUK	G G G G G r r r r r p p p p p 4 3 2 1 0
2.6800	Grp 4	
3.0400	Grp 3	
3.2800	Grp 2	
3.6800	Grp 1	*
4.0000	Grp 0	* * *

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

Subset 1

Group	Grp 4	Grp 3	Grp 2
Mean	2.6800	3.0400	3.2800

- -

Subset 2

Group	Grp 3	Grp 2	Grp 1
Mean	3.0400	3.2800	3.6800

- -

Subset 3

Group	Grp 1	Grp 0
Mean	3.6800	4.0000

- - - - - - - - - - - - - - - - - -

Lampiran 13

Anova uji inderawi ekstrudat dengan parameter kesukaan pada berbagai tingkat penambahan tepung terigu

- - - - - O N E W A Y - - - - -

Variable KSKAN
By Variable PRODUK

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	4	96.1120	24.0280	28.5821	.0000
Within Groups	120	100.8800	.8407		
Total	124	196.9920			

Group	Count	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean
Grp 0	25	4.0400	.9345	.1869	3.6542 TO 4.4258
Grp 1	25	4.0000	.8165	.1633	3.6630 TO 4.3370
Grp 2	25	2.0000	.5774	.1155	1.7617 TO 2.2383
Grp 3	25	2.7600	.9256	.1851	2.3779 TO 3.1421
Grp 4	25	2.1600	1.2138	.2428	1.6590 TO 2.6610
Total	125	2.9920	1.2604	.1127	2.7689 TO 3.2151

GROUP	MINIMUM	MAXIMUM
Grp 0	1.0000	5.0000
Grp 1	2.0000	5.0000
Grp 2	1.0000	3.0000
Grp 3	1.0000	5.0000
Grp 4	1.0000	5.0000
TOTAL	1.0000	5.0000

Levene Test for Homogeneity of Variances

Statistic	df1	df2	2-tail Sig.
3.2423	4	120	.065

- - - - - O N E W A Y - - - - -

Variable KSKAN
By Variable PRODUK

Multiple Range Tests: Duncan test with significance level .05

The difference between two means is significant if
MEAN(J)-MEAN(I) >= .6483 * RANGE * SQRT(1/N(I) + 1/N(J))
with the following value(s) for RANGE:

Step	2	3	4	5
RANGE	2.80	2.95	3.04	3.11

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

Mean	PRODUK	G G G G G r r r r r p p p p p 2 4 3 1 0
2.0000	Grp 2	
2.1600	Grp 4	
2.7600	Grp 3	* *
4.0000	Grp 1	* * *
4.0400	Grp 0	* * *

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

Subset 1

Group	Grp 2	Grp 4
Mean	2.0000	2.1600

- - - - - - - - - - - - - - - - - - -

Subset 2

Group	Grp 3
Mean	2.7600

- - - - - - - - - - -

Subset 3

Group	Grp 1	Grp 0
Mean	4.0000	4.0400

- - - - - - - - - - - - - - - - - - -

Lampiran 14

Normalitas pengukuran melintang ekstrudat dengan transformasi sqrt

TR3
By PLK .00

Valid cases: 200.0 Missing cases: .0 Percent missing: .0

Mean	1.0981	Std Err	.0057	Min	.4796	Skewness	1.6403
Median	1.0954	Variance	.0065	Max	1.4663	S E Skew	.1719
5% Trim	1.0984	Std Dev	.0806	Range	.9867	Kurtosis	18.4875
95% CI for Mean (1.0868, 1.1093)				IQR	.0819	S E Kurt	.3422

Frequency		Stem &	Leaf
2.00	Extremes		(.48), (.89)
1.00		9 t	3
1.00		9 f	4
1.00		9 s	6
.00		9 .	
11.00		10 *	00000111111
16.00		10 t	2222222233333333
19.00		10 f	4444444445555555555
38.00		10 s	66666666666666666666777777777777777777
21.00		10 .	888888888999999999999
26.00		11 *	00000000000001111111111111
12.00		11 t	222222222222
20.00		11 f	44444444444445555555
6.00		11 s	666777
9.00		11 .	888999999
6.00		12 *	000001
7.00		12 t	2222233
1.00		12 f	4
3.00	Extremes		(1.27), (1.28), (1.47)

Stem width: .10
Each leaf: 1 case(s)

Hi-Res Chart # 34:Normal q-q plot of tr3 for plk: .00
Hi-Res Chart # 35:Detrended normal q-q plot of tr3 for plk: .00

	Statistic	df	Significance
K-S (Lilliefors)	.1001	200	.0150

Uji normalitas pengukuran melintang ekstrudat dengan berbagai tingkat penambahan tepung terigu

TR3
By PLK 1.00

Valid cases: 200.0 Missing cases: .0 Percent missing: .0

Mean	1.0792	Std Err	.0072	Min	.7141	Skewness	1.6232
Median	1.0677	Variance	.0102	Max	1.5937	S E Skew	.1719
5% Trim	1.0711	Std Dev	.1012	Range	.8796	Kurtosis	6.4189
95% CI for Mean	(1.0651, 1.0933)			IQR	.0933	S E Kurt	.3422

Frequency		Stem &	Leaf
1.00	Extremes		(.71)
4.00		9 *	0011
3.00		9 t	233
3.00		9 f	445
2.00		9 s	66
3.00		9 .	888
29.00		10 *	00000000000000000000111111111
32.00		10 t	22222222222222222222223333333333
20.00		10 f	44444444444444555555
22.00		10 s	66666666666777777777777
14.00		10 .	88899999999999
23.00		11 *	00000000001111111111111
9.00		11 t	222222233
11.00		11 f	44444444455
6.00		11 s	667777
4.00		11 .	8889
3.00		12 *	000
1.00		12 t	2
7.00	Extremes		(1.27), (1.29), (1.33), (1.36), (1.40), (1.41), (1.42)
3.00	Extremes		(1.44), (1.49), (1.59)

Stem width: .10
Each leaf: 1 case(s)

Hi-Res Chart # 37:Normal q-q plot of tr3 for plk: 1.00
Hi-Res Chart # 38:Detrended normal q-q plot of tr3 for plk: 1.00

	Statistic	df	Significance
K-S (Lilliefors)	.1334	200	.0576

Uji normalitas pengukuran melintang ekstrudat dengan berbagai tingkat penambahan tepung terigu

TR3
By PLK 2.00

Valid cases: 200.0 Missing cases: .0 Percent missing: .0

Mean	1.0450	Std Err	.0066	Min	.8660	Skewness	4.6833
Median	1.0344	Variance	.0088	Max	1.9079	S E Skew	.1719
5% Trim	1.0371	Std Dev	.0940	Range	1.0419	Kurtosis	37.6152
95% CI for Mean	(1.0319, 1.0581)			IQR	.0627	S E Kurt	.3422

Frequency		Stem &	Leaf
2.00	Extremes		(.87), (.89)
3.00		9 *	111
5.00		9 t	22223
8.00		9 f	44455555
10.00		9 s	6666666777
13.00		9 .	8888888888888
28.00		10 *	0000000000000000001111111111
39.00		10 t	22222222222222222223333333333333333333
36.00		10 f	444444444444444444444444555555555555
20.00		10 s	66666666777777777777
10.00		10 .	8888889999
9.00		11 *	000111111
6.00		11 t	222333
3.00		11 f	455
7.00	Extremes		(1.17), (1.17), (1.18), (1.29), (1.35), (1.36), (1.46)
1.00	Extremes		(1.91)

Stem width: .10
Each leaf: 1 case(s)

Hi-Res Chart # 39:Normal q-q plot of tr3 for plk: 2.00
Hi-Res Chart # 40:Detrended normal q-q plot of tr3 for plk: 2.00

	Statistic	df	Significance
K-S (Lilliefors)	.1865	200	.0410

Normalitas pengukuran melintang ekstrudat dengan berbagai tingkat penambahan tepung terigu

TR3
By PLK 3.00

Valid cases: 200.0 Missing cases: .0 Percent missing: .0

Mean	1.0474	Std Err	.0120	Min	.8185	Skewness	3.7530
Median	1.0247	Variance	.0287	Max	2.0567	S E Skew	.1719
5% Trim	1.0196	Std Dev	.1694	Range	1.2382	Kurtosis	15.6249
95% CI for Mean (1.0238, 1.0710)				IQR	.0577	S E Kurt	.3422

Frequency		Stem &	Leaf
8.00	Extremes		(.82), (.87), (.88), (.89), (.90)
3.00		9 *	1
21.00		9 t	2222333333
4.00		9 f	5&
9.00		9 s	6777
7.00		9 .	888&
44.00		10 *	00000000001111111111
53.00		10 t	22222222222222233333333333
18.00		10 f	444444555
9.00		10 s	6677
5.00		10 .	88&
2.00		11 *	&
2.00		11 t	2
8.00	Extremes		(1.13), (1.18), (1.22), (1.37), (1.37), (1.45), (1.62)
7.00	Extremes		(1.65), (1.73), (1.77), (1.86), (1.92), (2.06)

Stem width: .10
Each leaf: 2 case(s)

& denotes fractional leaves.

Hi-Res Chart # 41:Normal q-q plot of tr3 for plk: 3.00
Hi-Res Chart # 42:Detrended normal q-q plot of tr3 for plk: 3.00

	Statistic	df	Significance
K-S (Lilliefors)	.3204	200	.0152

ji normalitas pengukuran ekstrudat dengan berbagai
ingkat penambahan tepung terigu

TR3
By PLK 4.00

Valid cases: 200.0 Missing cases: .0 Percent missing: .0

Mean	.9537	Std Err	.0063	Min	.8124	Skewness	2.4099
Median	.9327	Variance	.0080	Max	1.3528	S E Skew	.1719
5% Trim	.9435	Std Dev	.0894	Range	.5404	Kurtosis	8.2313
95% CI for Mean	(.9412, .9662)			IQR	.1000	S E Kurt	.3422

Frequency	Stem &	Leaf
1.00	8 *	1
.00	8 t	
8.00	8 f	44445555
18.00	8 s	666666666777777777
15.00	8 .	888888888999999
39.00	9 *	000000000000000001111111111111111111111
38.00	9 t	22222222222222223333333333333333333333
12.00	9 f	444444555555
7.00	9 s	6677777
7.00	9 .	8888888
28.00	10 *	0000000000000000001111111111
14.00	10 t	22222222222333
3.00	10 f	444
1.00	10 s	6
1.00	10 .	9
1.00	11 *	0
1.00	11 t	2
6.00 Extremes		(1.32), (1.32), (1.34), (1.35)

Stem width: .10
Each leaf: 1 case(s)

Hi-Res Chart # 43:Normal q-q plot of tr3 for plk: 4.00
Hi-Res Chart # 44:Detrended normal q-q plot of tr3 for plk: 4.00

	Statistic	df	Significance
K-S (Lilliefors)	.1643	200	.0610

Lampiran 15

Normalitas tanpa transformasi pada ekstrudat dengan uji panelis

RENYAHAN
By PRODUK .00

Valid cases: 25.0 Missing cases: .0 Percent missing: .0

Mean	4.0000	Std Err	.2000	Min	2.0000	Skewness	.8152
Median	4.0000	Variance	1.0000	Max	5.0000	S E Skew	.4637
5% Trim	4.0556	Std Dev	1.0000	Range	3.0000	Kurtosis	-.2036
95% CI for Mean (3.5872, 4.4128)				IQR	1.5000	S E Kurt	.9017

Frequency		Stem &	Leaf
3.00	Extremes		(2.0)
3.00		3 *	000
.00		3 .	
10.00		4 *	0000000000
.00		4 .	
9.00		5 *	000000000

Stem width: 1.00
Each leaf: 1 case(s)

Hi-Res Chart # 131:Normal q-q plot of renyahan for produk: .00
Hi-Res Chart # 132:Detrended normal q-q plot of renyahan for produk: .00

	Statistic	df	Significance
Shapiro-Wilks	.8201	25	< .0100
K-S (Lilliefors)	.1587	25	.1050

RENYAHAN
By PRODUK 1.00

Valid cases: 25.0 Missing cases: .0 Percent missing: .0

Mean	3.6800	Std Err	.2430	Min	1.0000	Skewness	-.9883
Median	4.0000	Variance	1.4767	Max	5.0000	S E Skew	.4637
5% Trim	3.7556	Std Dev	1.2152	Range	4.0000	Kurtosis	.1648
95% CI for Mean (3.1784, 4.1816)				IQR	1.5000	S E Kurt	.9017

Frequency	Stem &	Leaf
2.00	Extremes	(1.0)
3.00	2 *	000
.00	2 .	
2.00	3 *	00
.00	3 .	
12.00	4 *	000000000000
.00	4 .	
6.00	5 *	000000

Stem width: 1.00
Each leaf: 1 case(s)

Hi-Res Chart # 133:Normal q-q plot of renyahan for produk: 1.00
Hi-Res Chart # 134:Detrended normal q-q plot of renyahan for produk: 1.00

	Statistic	df	Significance
Shapiro-Wilks	.8224	25	< .0100
K-S (Lilliefors)	.1561	25	.1180

RENYAHAN
By PRODUK 2.00

Valid cases: 25.0 Missing cases: .0 Percent missing: .0

Mean	3.2800	Std Err	.2043	Min	2.0000	Skewness	.4002
Median	3.0000	Variance	1.0433	Max	5.0000	S E Skew	.4637
5% Trim	3.2556	Std Dev	1.0214	Range	3.0000	Kurtosis	-.8326
95% CI for Mean (2.8584, 3.7016)				IQR	1.5000	S E Kurt	.9017

Frequency	Stem &	Leaf
6.00	2 *	000000
.00	2 .	
10.00	3 *	0000000000
.00	3 .	
5.00	4 *	00000
.00	4 .	
4.00	5 *	0000

Stem width: 1.00
Each leaf: 1 case(s)

Hi-Res Chart # 135:Normal q-q plot of renyahan for produk: 2.00
Hi-Res Chart # 136:Detrended normal q-q plot of renyahan for produk: 2.00

	Statistic	df	Significance
Shapiro-Wilks	.8640	25	< .0100
K-S (Lilliefors)	.2480	25	.0004

RENYAHAN
By PRODUK 3.00

Valid cases: 25.0 Missing cases: .0 Percent missing: .0

Mean	3.0400	Std Err	.2344	Min	1.0000	Skewness	-.0832
Median	3.0000	Variance	1.3733	Max	5.0000	S E Skew	.4637
5% Trim	3.0444	Std Dev	1.1719	Range	4.0000	Kurtosis	.4308
95% CI for Mean	(2.5563, 3.5237)			IQR	2.0000	S E Kurt	.9017

Frequency	Stem &	Leaf
3.00	1 *	000
.00	1 .	
4.00	2 *	0000
.00	2 .	
10.00	3 *	0000000000
.00	3 .	
5.00	4 *	00000
.00	4 .	
3.00	5 *	000

Stem width: 1.00
Each leaf: 1 case(s)

Hi-Res Chart # 137:Normal q-q plot of renyahan for produk: 3.00
Hi-Res Chart # 138:Detrended normal q-q plot of renyahan for produk: 3.00

	Statistic	df	Significance
Shapiro-Wilks	.9140	25	.0429
K-S (Lilliefors)	.1936	25	.0165

RENYAHAN
By PRODUK 4.00

Valid cases: 25.0 Missing cases: .0 Percent missing: .0

Mean	2.6800	Std Err	.2871	Min	1.0000	Skewness	.3413
Median	3.0000	Variance	2.0600	Max	5.0000	S E Skew	.4637
5% Trim	2.6444	Std Dev	1.4353	Range	4.0000	Kurtosis	1.1209
95% CI for Mean	(2.0875, 3.2725)			IQR	3.0000	S E Kurt	.9017

Frequency	Stem &	Leaf
7.00	1 *	0000000
.00	1 .	
5.00	2 *	00000
.00	2 .	
6.00	3 *	000000
.00	3 .	
3.00	4 *	000
.00	4 .	
4.00	5 *	0000

Stem width: 1.00
Each leaf: 1 case(s)

Hi-Res Chart # 139:Normal q-q plot of renyahan for produk: 4.00
Hi-Res Chart # 140:Detrended normal q-q plot of renyahan for produk: 4.00

	Statistic	df	Significance
Shapiro-Wilks	.8776	25	< .0100
K-S (Lilliefors)	.1622	25	.0887

Lampiran 16

Normalitas ektrudat dengan transformasi

KSKAN
By PRODUK .00

Valid cases: 25.0 Missing cases: .0 Percent missing: .0

Mean	4.0400	Std Err	.1869	Min	1.0000	Skewness	1.4160
Median	4.0000	Variance	.8733	Max	5.0000	S E Skew	.4637
5% Trim	4.1333	Std Dev	.9345	Range	4.0000	Kurtosis	3.3838
95% CI for Mean	(3.6542, 4.4258)			IQR	1.0000	S E Kurt	.9017

Frequency	Stem &	Leaf
1.00	Extremes	(1.0)
4.00	3 *	0000
.00	3 .	
12.00	4 *	000000000000
.00	4 .	
8.00	5 *	00000000

Stem width: 1.00
Each leaf: 1 case(s)

Hi-Res Chart # 141:Normal q-q plot of kskan for produk: .00
Hi-Res Chart # 142:Detrended normal q-q plot of kskan for produk: .00

	Statistic	df	Significance
Shapiro-Wilks	.7957	25	< .0100
K-S (Lilliefors)	.1971	25	.0134

KSKAN
By PRODUK 1.00

Valid cases: 25.0 Missing cases: .0 Percent missing: .0

Mean	4.0000	Std Err	.1633	Min	2.0000	Skewness	-.4992
Median	4.0000	Variance	.6667	Max	5.0000	S E Skew	.4637
5% Trim	4.0444	Std Dev	.8165	Range	3.0000	Kurtosis	-.0430
95% CI for Mean	(3.6630, 4.3370)			IQR	1.5000	S E Kurt	.9017

Frequency Stem & Leaf

```
   1.00 Extremes    (2.0)
   5.00        3 *  00000
    .00        3 .
  12.00        4 *  000000000000
    .00        4 .
   7.00        5 *  0000000
```

Stem width: 1.00
Each leaf: 1 case(s)

Hi-Res Chart # 143:Normal q-q plot of kskan for produk: 1.00
Hi-Res Chart # 144:Detrended normal q-q plot of kskan for produk: 1.00

	Statistic	df	Significance
Shapiro-Wilks	.8502	25	< .0100
K-S (Lilliefors)	.2200	25	.0030

KSKAN
By PRODUK 2.00

Valid cases: 25.0 Missing cases: .0 Percent missing: .0

Mean	2.0000	Std Err	.1155	Min	1.0000	Skewness	.0000
Median	2.0000	Variance	.3333	Max	3.0000	S E Skew	.4637
5% Trim	2.0000	Std Dev	.5774	Range	2.0000	Kurtosis	.4387
95% CI for Mean	(1.7617, 2.2383)			IQR	.0000	S E Kurt	.9017

Frequency Stem & Leaf

4.00 Extremes (1)
.00 0 *
17.00 0 t 22222222222222222
4.00 Extremes (3)

Stem width: 10.00
Each leaf: 1 case(s)

Hi-Res Chart # 145:Normal q-q plot of kskan for produk: 2.00
Hi-Res Chart # 146:Detrended normal q-q plot of kskan for produk: 2.00

	Statistic	df	Significance
Shapiro-Wilks	.7455	25	< .0100
K-S (Lilliefors)	.3400	25	.0000

KSKAN
By PRODUK 3.00

Valid cases: 25.0 Missing cases: .0 Percent missing: .0

Mean	2.7600	Std Err	.1851	Min	1.0000	Skewness	-.1629
Median	3.0000	Variance	.8567	Max	5.0000	S E Skew	.4637
5% Trim	2.7444	Std Dev	.9256	Range	4.0000	Kurtosis	.9664
95% CI for Mean	(2.3779, 3.1421)			IQR	1.0000	S E Kurt	.9017

Frequency		Stem &	Leaf
3.00		1 *	000
.00		1 .	
4.00		2 *	0000
.00		2 .	
15.00		3 *	000000000000000
.00		3 .	
2.00		4 *	00
1.00	Extremes		(5.0)

Stem width: 1.00
Each leaf: 1 case(s)

Hi-Res Chart # 147:Normal q-q plot of kskan for produk: 3.00
Hi-Res Chart # 148:Detrended normal q-q plot of kskan for produk: 3.00

	Statistic	df	Significance
Shapiro-Wilks	.8349	25	< .0100
K-S (Lilliefors)	.2777	25	.0000

KSKAN
By PRODUK 4.00

Valid cases: 25.0 Missing cases: .0 Percent missing: .0

Mean	2.1600	Std Err	.2428	Min	1.0000	Skewness	.8845
Median	2.0000	Variance	1.4733	Max	5.0000	S E Skew	.4637
5% Trim	2.0778	Std Dev	1.2138	Range	4.0000	Kurtosis	.2539
95% CI for Mean (1.6590, 2.6610)				IQR	2.0000	S E Kurt	.9017

Frequency	Stem &	Leaf
9.00	1 *	000000000
.00	1 .	
9.00	2 *	000000000
.00	2 .	
2.00	3 *	00
.00	3 .	
4.00	4 *	0000
.00	4 .	
1.00	5 *	0

Stem width: 1.00
Each leaf: 1 case(s)

Hi-Res Chart # 149:Normal q-q plot of kskan for produk: 4.00
Hi-Res Chart # 150:Detrended normal q-q plot of kskan for produk: 4.00

	Statistic	df	Significance
Shapiro-Wilks	.8269	25	< .0100
K-S (Lilliefors)	.2724	25	.0876

Lampiran 17

Normalitas tanpa transformasi pada ekstrudat dengan penambahan tepung terigu

KNMPK
By PRODUK .00

Valid cases: 25.0 Missing cases: .0 Percent missing: .0

Mean	2.8400	Std Err	.2495	Min	1.0000	Skewness	.4672
Median	3.0000	Variance	1.5567	Max	5.0000	S E Skew	.4637
5% Trim	2.8222	Std Dev	1.2477	Range	4.0000	Kurtosis	-.5641
95% CI for Mean	(2.3250, 3.3550)			IQR	1.5000	S E Kurt	.9017

Frequency	Stem &	Leaf
3.00	1 *	000
.00	1 .	
8.00	2 *	00000000
.00	2 .	
8.00	3 *	00000000
.00	3 .	
2.00	4 *	00
4.00 Extremes		(5.0)

Stem width: 1.00
Each leaf: 1 case(s)

Hi-Res Chart # 1:Normal q-q plot of knmpk for produk: .00
Hi-Res Chart # 2:Detrended normal q-q plot of knmpk for produk: .00

	Statistic	df	Significance
Shapiro-Wilks	.8877	25	< .0100
K-S (Lilliefors)	.2090	25	.0163

KNMPK
By PRODUK 1.00

Valid cases: 25.0 Missing cases: .0 Percent missing: .0

Mean	3.8000	Std Err	.2380	Min	1.0000	Skewness	.7091
Median	4.0000	Variance	1.4167	Max	5.0000	S E Skew	.4637
5% Trim	3.8778	Std Dev	1.1902	Range	4.0000	Kurtosis	-.3832
95% CI for Mean	(3.3087, 4.2913)			IQR	2.0000	S E Kurt	.9017

Frequency	Stem &	Leaf
1.00	1 *	0
.00	1 .	
3.00	2 *	000
.00	2 .	
5.00	3 *	00000
.00	3 .	
7.00	4 *	0000000
.00	4 .	
9.00	5 *	000000000

Stem width: 1.00
Each leaf: 1 case(s)

Hi-Res Chart # 3:Normal q-q plot of knmpk for produk: 1.00
Hi-Res Chart # 4:Detrended normal q-q plot of knmpk for produk: 1.00

	Statistic	df	Significance
Shapiro-Wilks	.8614	25	< .0100
K-S (Lilliefors)	.1567	25	.1153

KNMPK
By PRODUK 2.00

Valid cases: 25.0 Missing cases: .0 Percent missing: .0

Mean	2.5200	Std Err	.2245	Min	1.0000	Skewness	.7144
Median	2.0000	Variance	1.2600	Max	5.0000	S E Skew	.4637
5% Trim	2.4667	Std Dev	1.1225	Range	4.0000	Kurtosis	.2162
95% CI for Mean	(2.0567, 2.9833)			IQR	1.0000	S E Kurt	.9017

Frequency	Stem &	Leaf
4.00	1 *	0000
.00	1 .	
10.00	2 *	0000000000
.00	2 .	
7.00	3 *	0000000
.00	3 .	
2.00	4 *	00
2.00 Extremes		(5.0)

Stem width: 1.00
Each leaf: 1 case(s)

Hi-Res Chart # 5:Normal q-q plot of knmpk for produk: 2.00
Hi-Res Chart # 6:Detrended normal q-q plot of knmpk for produk: 2.00

	Statistic	df	Significance
Shapiro-Wilks	.8833	25	< .0100
K-S (Lilliefors)	.2384	25	.00308

KNMPK
By PRODUK 3.00

Valid cases: 25.0 Missing cases: .0 Percent missing: .0

Mean	3.0000	Std Err	.2082	Min	1.0000	Skewness	.4820
Median	3.0000	Variance	1.0833	Max	5.0000	S E Skew	.4637
5% Trim	2.9889	Std Dev	1.0408	Range	4.0000	Kurtosis	-.0401
95% CI for Mean (2.5704, 3.4296)				IQR	1.5000	S E Kurt	.9017

Frequency	Stem &	Leaf
1.00	1 *	0
.00	1 .	
7.00	2 *	0000000
.00	2 .	
11.00	3 *	00000000000
.00	3 .	
3.00	4 *	000
3.00 Extremes		(5.0)

Stem width: 1.00
Each leaf: 1 case(s)

Hi-Res Chart # 7:Normal q-q plot of knmpk for produk: 3.00
Hi-Res Chart # 8:Detrended normal q-q plot of knmpk for produk: 3.00

	Statistic	df	Significance
Shapiro-Wilks	.8858	25	< .0100
K-S (Lilliefors)	.2600	25	.0351

KNMPK
By PRODUK 4.00

Valid cases: 25.0 Missing cases: .0 Percent missing: .0

Mean	1.2800	Std Err	.1083	Min	1.0000	Skewness	1.8637
Median	1.0000	Variance	.2933	Max	3.0000	S E Skew	.4637
5% Trim	1.2111	Std Dev	.5416	Range	2.0000	Kurtosis	2.9378
95% CI for Mean (1.0564, 1.5036)				IQR	.5000	S E Kurt	.9017

Frequency Stem & Leaf

19.00 1 * 0000000000000000000
6.00 Extremes (2.0), (3.0)

Stem width: 1.00
Each leaf: 1 case(s)

Hi-Res Chart # 9:Normal q-q plot of knmpk for produk: 4.00
Hi-Res Chart # 10:Detrended normal q-q plot of knmpk for produk: 4.00

	Statistic	df	Significance
Shapiro-Wilks	.5696	25	< .0100
K-S (Lilliefors)	.4574	25	.0615

Lampiran 18

Uji normalitas ekstrudat dengan parameter aroma

AROMA
By PRODUK .00

Valid cases: 25.0 Missing cases: .0 Percent missing: .0

Mean	3.6000	Std Err	.2160	Min	1.0000	Skewness	.8194
Median	4.0000	Variance	1.1667	Max	5.0000	S E Skew	.4637
5% Trim	3.6556	Std Dev	1.0801	Range	4.0000	Kurtosis	.0455
95% CI for Mean (3.1541, 4.0459)				IQR	1.0000	S E Kurt	.9017

Frequency		Stem &	Leaf
1.00	Extremes		(1.0)
4.00		2 *	0000
.00		2 .	
3.00		3 *	000
.00		3 .	
13.00		4 *	0000000000000
.00		4 .	
4.00		5 *	0000

Stem width: 1.00
Each leaf: 1 case(s)

Hi-Res Chart # 11:Normal q-q plot of aroma for produk: .00
Hi-Res Chart # 12:Detrended normal q-q plot of aroma for produk: .00

	Statistic	df	Significance
Shapiro-Wilks	.8436	25	< .0100
K-S (Lilliefors)	.1956	25	.0147

AROMA
By PRODUK 1.00

Valid cases: 25.0 Missing cases: .0 Percent missing: .0

Mean	3.8800	Std Err	.2332	Min	2.0000	Skewness	.4342
Median	4.0000	Variance	1.3600	Max	5.0000	S E Skew	.4637
5% Trim	3.9222	Std Dev	1.1662	Range	3.0000	Kurtosis	1.3640
95% CI for Mean (3.3986, 4.3614)				IQR	2.0000	S E Kurt	.9017

Frequency	Stem &	Leaf
4.00	2 *	0000
.00	2 .	
6.00	3 *	000000
.00	3 .	
4.00	4 *	0000
.00	4 .	
11.00	5 *	00000000000

Stem width: 1.00
Each leaf: 1 case(s)

Hi-Res Chart # 13:Normal q-q plot of aroma for produk: 1.00
Hi-Res Chart # 14:Detrended normal q-q plot of aroma for produk: 1.00

	Statistic	df	Significance
Shapiro-Wilks	.8061	25	< .0100
K-S (Lilliefors)	.1748	25	.0474

AROMA
By PRODUK 2.00

Valid cases: 25.0 Missing cases: .0 Percent missing: .0

Mean	2.5600	Std Err	.2315	Min	1.0000	Skewness	.6301
Median	2.0000	Variance	1.3400	Max	5.0000	S E Skew	.4637
5% Trim	2.5111	Std Dev	1.1576	Range	4.0000	Kurtosis	.1752
95% CI for Mean (2.0822, 3.0378)				IQR	1.0000	S E Kurt	.9017

Frequency	Stem &	Leaf
4.00	1 *	0000
.00	1 .	
10.00	2 *	0000000000
.00	2 .	
6.00	3 *	000000
.00	3 .	
3.00	4 *	000
2.00 Extremes		(5.0)

Stem width: 1.00
Each leaf: 1 case(s)

Hi-Res Chart # 15:Normal q-q plot of aroma for produk: 2.00
Hi-Res Chart # 16:Detrended normal q-q plot of aroma for produk: 2.00

	Statistic	df	Significance
Shapiro-Wilks	.8902	25	.0117
K-S (Lilliefors)	.2457	25	.0004

AROMA
By PRODUK 3.00

Valid cases: 25.0 Missing cases: .0 Percent missing: .0

Mean	2.0000	Std Err	.1633	Min	1.0000	Skewness	.4992
Median	2.0000	Variance	.6667	Max	4.0000	S E Skew	.4637
5% Trim	1.9556	Std Dev	.8165	Range	3.0000	Kurtosis	-.0430
95% CI for Mean	(1.6630, 2.3370)			IQR	1.5000	S E Kurt	.9017

Frequency		Stem &	Leaf
7.00		1 *	0000000
.00		1 .	
12.00		2 *	000000000000
.00		2 .	
5.00		3 *	00000
1.00	Extremes		(4.0)

Stem width: 1.00
Each leaf: 1 case(s)

Hi-Res Chart # 17:Normal q-q plot of aroma for produk: 3.00
Hi-Res Chart # 18:Detrended normal q-q plot of aroma for produk: 3.00

	Statistic	df	Significance
Shapiro-Wilks	.8502	25	< .0100
K-S (Lilliefors)	.2600	25	.0001

AROMA
By PRODUK 4.00

Valid cases: 25.0 Missing cases: .0 Percent missing: .0

Mean	1.1200	Std Err	.0663	Min	1.0000	Skewness	2.4907
Median	1.0000	Variance	.1100	Max	2.0000	S E Skew	.4637
5% Trim	1.0778	Std Dev	.3317	Range	1.0000	Kurtosis	4.5634
95% CI for Mean (.9831, 1.2569)				IQR	.0000	S E Kurt	.9017

Frequency Stem & Leaf

22.00 1 * 0000000000000000000000
3.00 Extremes (2.0)

Stem width: 1.00
Each leaf: 1 case(s)

Hi-Res Chart # 19:Normal q-q plot of aroma for produk: 4.00
Hi-Res Chart # 20:Detrended normal q-q plot of aroma for produk: 4.00

	Statistic	df	Significance
Shapiro-Wilks	.3835	25	< .0100
K-S (Lilliefors)	.5213	25	.0713

Lampiran 19

Normalitas ekstrudat dengan parameter rasa

RASA
By PRODUK .00

Valid cases: 25.0 Missing cases: .0 Percent missing: .0

Mean	3.8800	Std Err	.1855	Min	2.0000	Skewness	-.7681
Median	4.0000	Variance	.8600	Max	5.0000	S E Skew	.4637
5% Trim	3.9222	Std Dev	.9274	Range	3.0000	Kurtosis	.1107
95% CI for Mean	(3.4972, 4.2628)			IQR	1.0000	S E Kurt	.9017

Frequency	Stem &	Leaf
6.00 Extremes		(2), (3)
.00	0	t
13.00	0	f 4444444444444
6.00 Extremes		(5)

Stem width: 10.00
Each leaf: 1 case(s)

Hi-Res Chart # 21:Normal q-q plot of rasa for produk: .00
Hi-Res Chart # 22:Detrended normal q-q plot of rasa for produk: .00

	Statistic	df	Significance
Shapiro-Wilks	.8228	25	< .0100
K-S (Lilliefors)	.2085	25	.0065

RASA
By PRODUK 1.00

Valid cases: 25.0 Missing cases: .0 Percent missing: .0

Mean	3.7600	Std Err	.1759	Min	2.0000	Skewness	.2858
Median	4.0000	Variance	.7733	Max	5.0000	S E Skew	.4637
5% Trim	3.7889	Std Dev	.8794	Range	3.0000	Kurtosis	-.4273
95% CI for Mean (3.3970, 4.1230)				IQR	1.0000	S E Kurt	.9017

Frequency	Stem &	Leaf
2.00	2 *	00
.00	2 .	
7.00	3 *	0000000
.00	3 .	
11.00	4 *	00000000000
.00	4 .	
5.00	5 *	00000

Stem width: 1.00
Each leaf: 1 case(s)

Hi-Res Chart # 23:Normal q-q plot of rasa for produk: 1.00
Hi-Res Chart # 24:Detrended normal q-q plot of rasa for produk: 1.00

	Statistic	df	Significance
Shapiro-Wilks	.8743	25	< .0100
K-S (Lilliefors)	.1925	25	.0177

RASA
By PRODUK 2.00

Valid cases: 25.0 Missing cases: .0 Percent missing: .0

Mean	2.2000	Std Err	.2236	Min	1.0000	Skewness	.7389
Median	2.0000	Variance	1.2500	Max	5.0000	S E Skew	.4637
5% Trim	2.1222	Std Dev	1.1180	Range	4.0000	Kurtosis	.0626
95% CI for Mean	(1.7385, 2.6615)			IQR	2.0000	S E Kurt	.9017

Frequency	Stem &	Leaf
8.00	1 *	00000000
.00	1 .	
8.00	2 *	00000000
.00	2 .	
6.00	3 *	000000
.00	3 .	
2.00	4 *	00
.00	4 .	
1.00	5 *	0

Stem width: 1.00
Each leaf: 1 case(s)

Hi-Res Chart # 25:Normal q-q plot of rasa for produk: 2.00
Hi-Res Chart # 26:Detrended normal q-q plot of rasa for produk: 2.00

	Statistic	df	Significance
Shapiro-Wilks	.8720	25	< .0100
K-S (Lilliefors)	.2110	25	.0055

RASA
By PRODUK 3.00

Valid cases:	25.0	Missing cases:	.0	Percent missing:	.0		
Mean	2.5200	Std Err	.1925	Min	1.0000	Skewness	.2432
Median	3.0000	Variance	.9267	Max	5.0000	S E Skew	.4637
5% Trim	2.4778	Std Dev	.9626	Range	4.0000	Kurtosis	.6443
95% CI for Mean	(2.1226, 2.9174)			IQR	1.0000	S E Kurt	.9017

Frequency		Stem &	Leaf
4.00		1 *	0000
.00		1 .	
7.00		2 *	0000000
.00		2 .	
12.00		3 *	000000000000
.00		3 .	
1.00		4 *	0
1.00	Extremes		(5.0)

Stem width: 1.00
Each leaf: 1 case(s)

Hi-Res Chart # 27:Normal q-q plot of rasa for produk: 3.00
Hi-Res Chart # 28:Detrended normal q-q plot of rasa for produk: 3.00

	Statistic	df	Significance
Shapiro-Wilks	.8674	25	< .0100
K-S (Lilliefors)	.2290	25	.0016

RASA
By PRODUK 4.00

Valid cases: 25.0 Missing cases: .0 Percent missing: .0

Mean	1.3200	Std Err	.0952	Min	1.0000	Skewness	.8219
Median	1.0000	Variance	.2267	Max	2.0000	S E Skew	.4637
5% Trim	1.3000	Std Dev	.4761	Range	1.0000	Kurtosis	1.4473
95% CI for Mean	(1.1235, 1.5165)			IQR	1.0000	S E Kurt	.9017

Frequency	Stem &	Leaf
17.00	1 *	00000000000000000
.00	1 t	
.00	1 f	
.00	1 s	
.00	1 .	
8.00	2 *	00000000

Stem width: 1.00
Each leaf: 1 case(s)

Hi-Res Chart # 29:Normal q-q plot of rasa for produk: 4.00
Hi-Res Chart # 30:Detrended normal q-q plot of rasa for produk: 4.00

	Statistic	df	Significance
Shapiro-Wilks	.5893	25	< .0100
K-S (Lilliefors)	.4293	25	.0281

Lampiran 20

Normalitas expansion ratio ekstrudat dengan transformasi lg

TRER2
By PLK .00

Valid cases: 200.0 Missing cases: .0 Percent missing: .0

Mean	1.8561	Std Err	.0096	Min	.8106	Skewness	1.6408
Median	1.8516	Variance	.0186	Max	2.4785	S E Skew	.1719
5% Trim	1.8567	Std Dev	.1362	Range	1.6678	Kurtosis	18.4932
95% CI for Mean	(1.8371, 1.8751)			IQR	.1384	S E Kurt	.3422

Frequency		Stem &	Leaf
2.00	Extremes		(.81), (1.51)
1.00	15	.	8
2.00	16	*	03
3.00	16	.	999
21.00	17	*	001112223334444444444
26.00	17	.	55567777777788888888889999
43.00	18	*	00000000000000001111112222222222222222333
41.00	18	.	55555555555555666667777778888888888888999
26.00	19	*	00000000022222222334444444
9.00	19	.	555677778
14.00	20	*	00011122222344
8.00	20	.	57777789
1.00	21	*	0
3.00	Extremes		(2.15), (2.17), (2.48)

Stem width: .10
Each leaf: 1 case(s)

Hi-Res Chart # 3:Normal q-q plot of trer2 for plk: .00
Hi-Res Chart # 4:Detrended normal q-q plot of trer2 for plk: .00

	Statistic	df	Significance
K-S (Lilliefors)	.1001	200	.076

Normalitas expansion ratio ekstrudat

TRER2
By PLK 1.00

Valid cases: 200.0 Missing cases: .0 Percent missing: .0

Mean	1.8241	Std Err	.0121	Min	1.2071	Skewness	1.6232
Median	1.8048	Variance	.0293	Max	2.6939	S E Skew	.1719
5% Trim	1.8106	Std Dev	.1710	Range	1.4868	Kurtosis	6.4189
95% CI for Mean (1.8003, 1.8480)				IQR	.1578	S E Kurt	.3422

Frequency		Stem &	Leaf
1.00	Extremes		(1.21)
4.00		15 *	2233
3.00		15 .	677
5.00		16 *	00233
18.00		16 .	667999999999999999
41.00		17 *	00000111222222333333333333334444444444444
26.00		17 .	55555777777777777778888889
24.00		18 *	000000000011111111122233
36.00		18 .	555555555555556667777888888888888899
17.00		19 *	00000112222222344
7.00		19 .	5667777
7.00		20 *	0001444
1.00		20 .	7
7.00	Extremes		(2.15), (2.18), (2.25), (2.30), (2.36), (2.39), (2.40)
3.00	Extremes		(2.43), (2.51), (2.69)

Stem width: .10
Each leaf: 1 case(s)

Hi-Res Chart # 5:Normal q-q plot of trer2 for plk: 1.00
Hi-Res Chart # 6:Detrended normal q-q plot of trer2 for plk: 1.00

	Statistic	df	Significance
K-S (Lilliefors)	.1334	200	.059

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Normalitas expansion ratio ekstrudat

TRER2
By PLK 2.00

Valid cases: 200.0 Missing cases: .0 Percent missing: .0

Mean	1.7663	Std Err	.0112	Min	1.4639	Skewness	4.6833
Median	1.7485	Variance	.0252	Max	3.2249	S E Skew	.1719
5% Trim	1.7530	Std Dev	.1588	Range	1.7611	Kurtosis	37.6152
95% CI for Mean	(1.7442, 1.7885)			IQR	.1060	S E Kurt	.3422

Frequency		Stem &	Leaf
2.00	Extremes		(1.46), (1.51)
3.00		15 *	3
5.00		15 .	5&
18.00		16 *	0223334&
27.00		16 .	6677779999999
46.00		17 *	00122223333333444444444
47.00		17 .	55567777777777888888899
22.00		18 *	00111122233
16.00		18 .	5558889&
6.00		19 *	14
7.00	Extremes		(1.97), (1.99), (2.00), (2.18), (2.27), (2.30), (2.47)
1.00	Extremes		(3.22)

Stem width: .10
Each leaf: 2 case(s)

Hi-Res Chart # 7:Normal q-q plot of trer2 for plk: 2.00
Hi-Res Chart # 8:Detrended normal q-q plot of trer2 for plk: 2.00

	Statistic	df	Significance
K-S (Lilliefors)	.1865	200	.0413

Normalitas expansion ratio ekstrudat

TRER2
By PLK 3.00

Valid cases: 200.0 Missing cases: .0 Percent missing: .0

Mean	1.7704	Std Err	.0202	Min	1.3836	Skewness	3.7530
Median	1.7321	Variance	.0820	Max	3.4765	S E Skew	.1719
5% Trim	1.7235	Std Dev	.2863	Range	2.0929	Kurtosis	15.6249
95% CI for Mean (1.7305, 1.8103)				IQR	.0975	S E Kurt	.3422

Frequency	Stem &	Leaf
8.00	Extremes	(1.38), (1.47), (1.49), (1.51), (1.52)
3.00	15 *	3&
21.00	15 .	555677778
9.00	16 *	234&
30.00	16 .	55667999999999&
68.00	17 *	00111112222233333444444444444444
28.00	17 .	5555577777888&
13.00	18 *	00223&
3.00	18 .	&
2.00	19 *	0
10.00	Extremes	(1.91), (1.99), (2.07), (2.31), (2.46), (2.74), (2.79)
5.00	Extremes	(2.93), (2.99), (3.14), (3.24), (3.48)

Stem width: .10
Each leaf: 2 case(s)

Di-Res Chart # 9:Normal q-q plot of trer2 for plk: 3.00
Di-Res Chart # 10:Detrended normal q-q plot of trer2 for plk: 3.00

	Statistic	df	Significance
K-S (Lilliefors)	.3204	200	.0610

Normalitas expansion ratio ekstrudat

TRER2
By PLK 4.00

Valid cases: 200.0 Missing cases: .0 Percent missing: .0

Mean	1.6121	Std Err	.0107	Min	1.3732	Skewness	2.4099
Median	1.5766	Variance	.0228	Max	2.2866	S E Skew	.1719
5% Trim	1.5949	Std Dev	.1511	Range	.9134	Kurtosis	8.2313
95% CI for Mean (1.5910, 1.6331)				IQR	.1690	S E Kurt	.3422

Frequency		Stem &	Leaf
1.00		13 .	7
8.00		14 *	22334444
27.00		14 .	555555566777778888999999999
45.00		15 *	111111222222222223333333333333333444444444444
41.00		15 .	55555555566666667777777777888888888888999
15.00		16 *	000112222334444
22.00		16 .	5666777799999999999999
28.00		17 *	000011112222223333334444444
3.00		17 .	777
1.00		18 *	0
3.00		18 .	579
6.00	Extremes		(2.23), (2.24), (2.27), (2.28)

Stem width: .10
Each leaf: 1 case(s)

Hi-Res Chart # 11:Normal q-q plot of trer2 for plk: 4.00
Hi-Res Chart # 12:Detrended normal q-q plot of trer2 for plk: 4.00

	Statistic	df	Significance
K-S (Lilliefors)	.1643	200	.0723