

Lampiran-lampiran

Lampiran 1

Uji Organoleptik

Nama Penguji :

Tanggal :

Produk yang diuji : **Gelas biodegradable**

Dihadapan saudara sudah terdapat 6 macam sample gelas biodegradable. Saudara diminta memberikan penilaian terhadap warna, aroma, dan rasa gelas biodegradable. Penilaian didasarkan atas 5-1 (mulai dari sangat menyukai sampai tidak menyukai). Atas kesediaan saudara kami ucapkan terimakasih.

Keterangan :

1. Sangat Tidak Suka
2. Tidak Suka
3. Cukup Suka
4. Suka
5. Sangat Suka

| Kode Sample | Warna Gelas Biodegradable | Aroma Gelas Biodegradable | Rasa Gelas Biodegradable | Tekstur Gelas Biodegradable |
|-------------|---------------------------|---------------------------|--------------------------|-----------------------------|
| K1 | | | | |
| K2 | | | | |
| K3 | | | | |
| K4 | | | | |
| K5 | | | | |
| K6 | | | | |

Kritik dan saran :

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Lampiran 2

BOBOT KEPENTINGAN

Nama Penguji :

Tanggal :

Produk yang diuji : **Gelas biodegradable**

Di bawah ini terdapat 7 parameter uji yang telah dilakukan terhadap **produk Gelas Biodegradable**, saudara diminta memberikan nilai bobot kepentingan terhadap uji tersebut mulai nilai 7 sampai 1. Untuk parameter uji yang paling penting diberikan bobot nilai 6 dan seterusnya sampai parameter uji yang sangat tidak penting diberi nilai 1. Bobot nilai masing-masing parameter uji tidak boleh sama. Atas kesediaan saudara kami ucapkan terimakasih.

| No. | Parameter | Bobot Nilai |
|-----|---------------------------|-------------|
| 1 | Kadar Air | |
| 2 | Serat | |
| 3 | Tekstur (fisik) | |
| 4 | Warna Gelas Biodegradable | |
| 5 | Aroma Gelas Biodegradable | |
| 6 | Rasa Gelas Biodegradable | |
| 7 | Tekstur (orlep) | |

Lampiran 3

Cara Pengujian Indeks Efektivitas

Untuk menentukan perlakuan terbaik digunakan metode indeks efektifitas dan prosedur pembobotan sebagai berikut:

1. Pengelompokan parameter. Parameter fisik dan kimia dikelompokkan terpisah dari parameter uji sensori.
2. Setiap parameter diberi bobot sesuai dengan tingkat kepentingan setiap parameter dalam mempengaruhi (0-1) yang diwakili oleh panelis.
3. Menghitung nilai efektifitas dengan rumus :

$$NE = \frac{NP - N_{tj}}{N_{tb} - N_{tj}}$$

Keterangan :

NE = Nilai Efektivitas

NP = Nilai Perlakuan

N_{tj} = Nilai Terjelek

N_{tb} = Nilai Terbaik

Untuk parameter dengan rata-rata semakin besar semakin baik, maka nilai terendah sebagai nilai terjelek dan nilai tertinggi sebagai nilai terbaik. Sedangkan untuk parameter dengan rata-rata semakin besar semakin jelek, maka nilai terendah sebagai nilai terbaik dan nilai tertinggi sebagai nilai terjelek.

4. Menghitung nilai produk dari perlakuan NE dengan bobot nilai

$$NP = NE \times \text{Bobot}$$

5. Nilai produk dari semua parameter pada masing-masing kelompok dijumlahkan. Perlakuan yang memiliki NP tertinggi adalah perlakuan terbaik pada kelompok parameter.

Lampiran 4

Penentuan Kadar Air Metode Oven Kering

1. timbang sample , catat beratnya (berat awal) (ukuran dalam gram)
2. letakkan di atas baki oven tempat pengeringan dan atur suhu pada oven pengering 110 ° C.
3. Masukkan baki oven berisi sampel kedalam oven, biarkan selama 2 jam.
4. Setelah 2 jam, keluarkan baki oven dan tunggu hingga agak mendingin.
5. timbang sampel (berat akhir) (ukuran dalam gram).
6. Lakukan kembali ketiga langkah sebelumnya pada setiap interval waktu 2 jam, hingga sampel menjadi benar-benar kering konstan homogen. Hal ini diketahui dari beratnya yang konstan (tidak berubah /turun lagi).
7. Hitung persen kadar air dalam sampel tersebut, dengan rumus :
(berat awal - berat akhir) / berat awal x 100% = x % kadar cairan /air yg terdapat dalam sampel tersebut.

Lampiran 5.

Penentuan Serat metode Sudarmadji dkk, 1989)

1. Sampel sebanyak 2 g dimasukkan ke dalam labu Erlenmeyer 500ml kemudian ditambahkan 200 ml H₂SO₄ 0,255 N dan ditutup dengan pendingin balik.
2. Didihkan selama 30 menit dan kadang kala digoyang- goyangkan.
3. Disaring suspensi dan residu yang tertinggal didalam erlenmeyer dicuci dengan aquadest mendidih melalui kertas saring sampai air cucian tidak bersifat asam (uji dengan kertas indikator pH).
4. Residu diatas kertas saring dipindahkan kembali secara kuantitatif ke dalam erlenmeyer dengan menggunakan spatula. Sisanya dicuci dengan NaOH 0,313 N sebanyak 200 ml sampai semua residu masuk kedalam erlenmeyer.
5. Dididihkan dengan pendingin balik selama 30 menit. Disaring melalui kertas saring yang telah diketahui beratnya setelah dikeringkan, sambil dicuci berturut- turut dengan larutan K₂SO₄ 10% aquadest mendidih, dan alkohol masing – masing sebanyak 15 ml.
6. Kertas saring beserta isinya dikeringkan pada suhu 105o Bobot sampel awal(g) kertasBerat saring Serat - (g) kertasBerat saring (g) kadar kasar serat (%) + = C sampai berat konstan (1-2 jam).
7. Didinginkan dalam desikator dan ditimbang dengan mengurangkan berat kertas saring yang digunakan.
8. Kadar serat kasar dapat dihitung dengan rumus :

$$\text{Kadar serat kasar} = \frac{\text{berat kertas saring+serat (g)} - \text{berat kertas saring (g)}}{\text{bobot sampel awal (g)}}$$

Lampiran 6

Penentuan Nilai Tekstur metode Texture Profile Analysis (TPA) menggunakan alat Texture Analyzer

1. Sampel gelas biodegradable diambil dengan ukuran 3x3x5 cm³
2. Tekan dengan probe (diameter 6 mm) sebanyak dua kali.
3. Atur kecepatan probe 5 mm/s dan sampel ditekan sampai 30 % tinggi awalnya

Lampiran 7

UJI KIMIA

Lampiran7.1 Hasil Analisis Data Kadar Air Metode Anova Minitab.

KADAR AIR

Analysis of Variance

| Source | DF | Adj SS | Adj MS | F-Value | P-Value |
|-----------|----|---------|---------|---------|---------|
| perlakuan | 5 | 38,6892 | 7,73785 | 2910,18 | 0,000 |
| ulangan | 2 | 0,0022 | 0,00111 | 0,42 | 0,671 |
| Error | 10 | 0,0266 | 0,00266 | | |
| Total | 17 | 38,7180 | | | |

Model Summary

| S | R-sq | R-sq(adj) | R-sq(pred) |
|-----------|--------|-----------|------------|
| 0,0515644 | 99,93% | 99,88% | 99,78% |

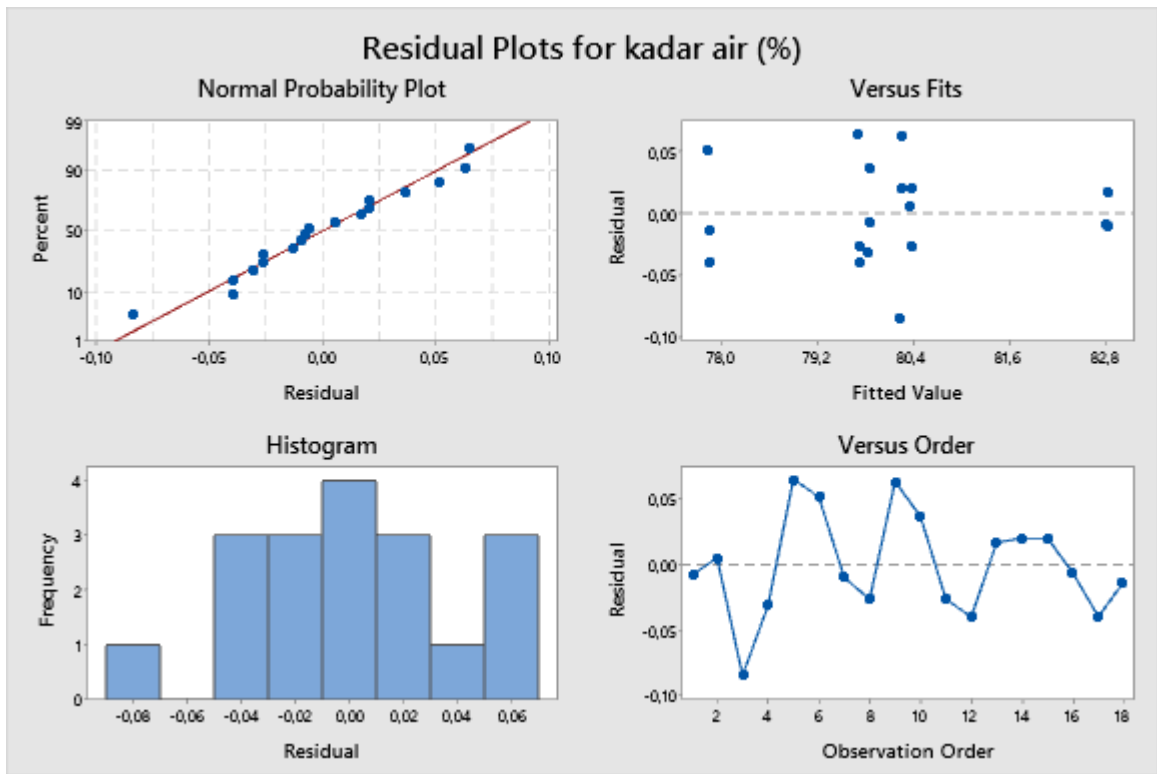
Coefficients

| Term | Coef | SE Coef | T-Value | P-Value | VIF |
|-----------|---------|---------|---------|---------|------|
| Constant | 80,1439 | 0,0122 | 6594,12 | 0,000 | |
| perlakuan | | | | | |
| 1 | 2,6894 | 0,0272 | 98,96 | 0,000 | 1,67 |
| 2 | 0,2361 | 0,0272 | 8,69 | 0,000 | 1,67 |
| 3 | 0,0961 | 0,0272 | 3,54 | 0,005 | 1,67 |
| 4 | -0,2972 | 0,0272 | -10,94 | 0,000 | 1,67 |
| 5 | -0,4139 | 0,0272 | -15,23 | 0,000 | 1,67 |
| ulangan | | | | | |
| 1 | -0,0156 | 0,0172 | -0,91 | 0,387 | 1,33 |
| 2 | 0,0061 | 0,0172 | 0,36 | 0,730 | 1,33 |

Fits and Diagnostics for Unusual Observations

| kadar | | | | |
|-------|---------|---------|---------|-----------|
| Obs | air (%) | Fit | Resid | Std Resid |
| 3 | 80,1400 | 80,2244 | -0,0844 | -2,20 R |

R Large residual

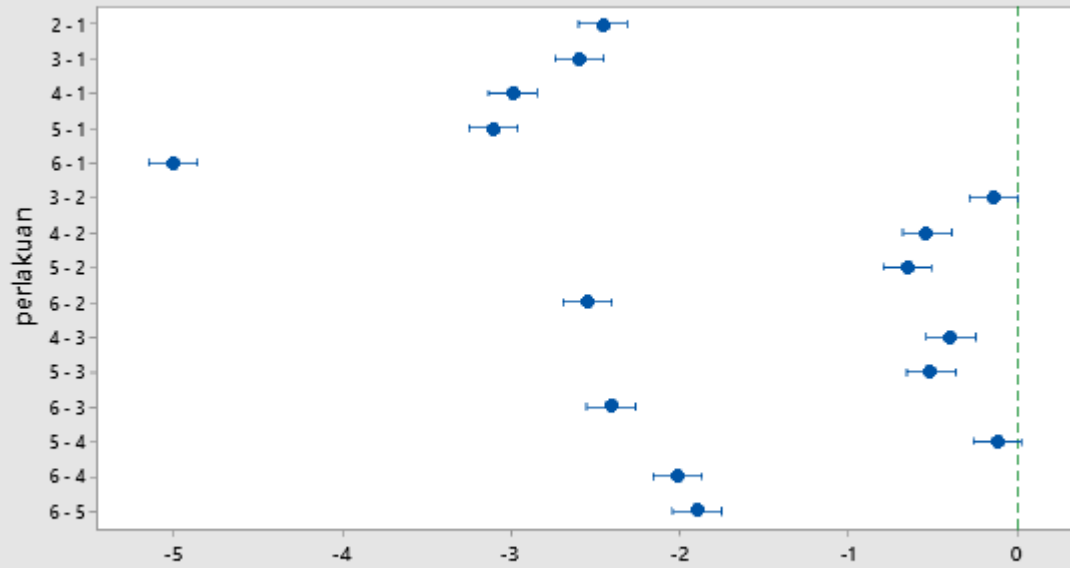


Grouping Information Using the Tukey Method and 95% Confidence

| perlakuan | N | Mean | Grouping |
|-----------|---|---------|----------|
| 1 | 3 | 82,8333 | A |
| 2 | 3 | 80,3800 | B |
| 3 | 3 | 80,2400 | B |
| 4 | 3 | 79,8467 | C |
| 5 | 3 | 79,7300 | C |
| 6 | 3 | 77,8333 | D |

Means that do not share a letter are significantly different.

Tukey Simultaneous 95% CIs Differences of Means for kadar air (%)



If an interval does not contain zero, the corresponding means are significantly different.

Lampiran 7.2. Hasil Analisis Data Serat Metode Anova Minitab.

Analysis of Variance

| Source | DF | Adj SS | Adj MS | F-Value | P-Value |
|-----------|----|----------|----------|---------|---------|
| perlakuan | 5 | 0,004317 | 0,000863 | 12,33 | 0,001 |
| ulangan | 2 | 0,001233 | 0,000617 | 8,81 | 0,006 |
| Error | 10 | 0,000700 | 0,000070 | | |
| Total | 17 | 0,006250 | | | |

Model Summary

| S | R-sq | R-sq(adj) | R-sq(pred) |
|-----------|--------|-----------|------------|
| 0,0083666 | 88,80% | 80,96% | 63,71% |

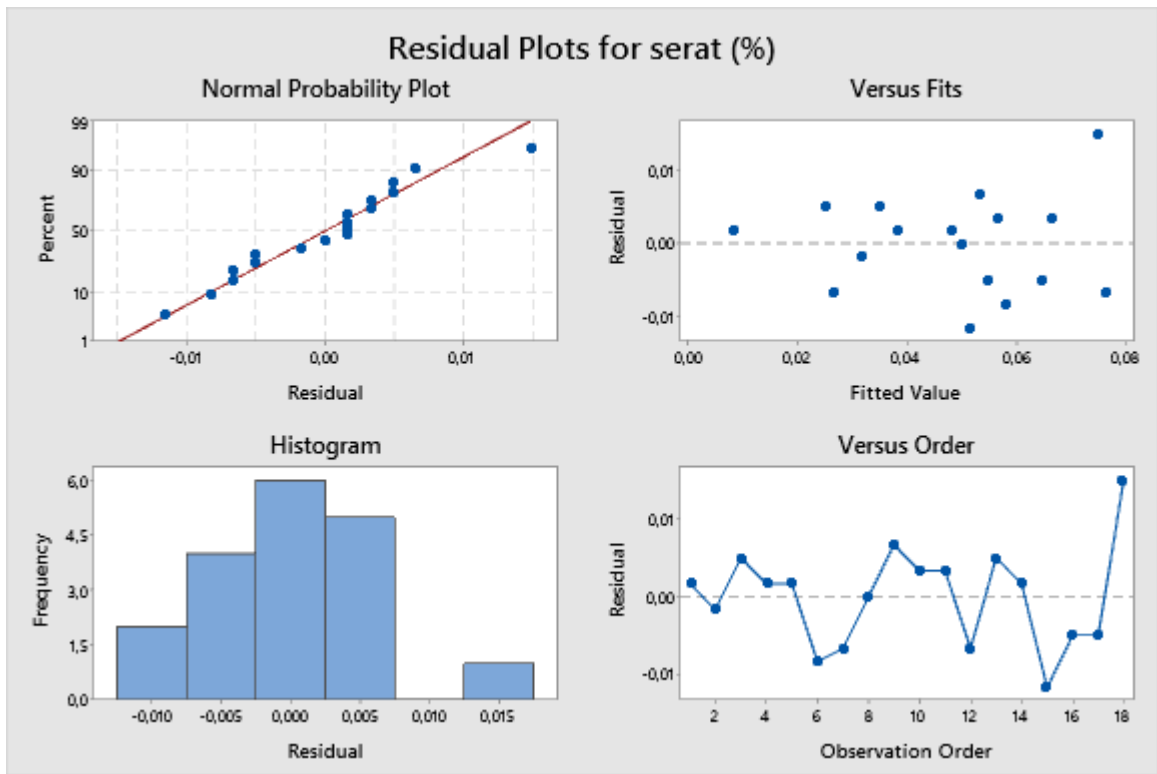
Coefficients

| Term | Coef | SE Coef | T-Value | P-Value | VIF |
|-----------|----------|---------|---------|---------|------|
| Constant | 0,04833 | 0,00197 | 24,51 | 0,000 | |
| perlakuan | | | | | |
| 1 | -0,02833 | 0,00441 | -6,43 | 0,000 | 1,67 |
| 2 | -0,00500 | 0,00441 | -1,13 | 0,283 | 1,67 |
| 3 | -0,00167 | 0,00441 | -0,38 | 0,713 | 1,67 |
| 4 | 0,00167 | 0,00441 | 0,38 | 0,713 | 1,67 |
| 5 | 0,01167 | 0,00441 | 2,65 | 0,024 | 1,67 |
| ulangan | | | | | |
| 1 | -0,01167 | 0,00279 | -4,18 | 0,002 | 1,33 |
| 2 | 0,00667 | 0,00279 | 2,39 | 0,038 | 1,33 |

Fits and Diagnostics for Unusual Observations

| Obs | serat (%) | Fit | Resid | Std Resid |
|-----|-----------|---------|---------|-----------|
| 18 | 0,09000 | 0,07500 | 0,01500 | 2,41 R |

R Large residual

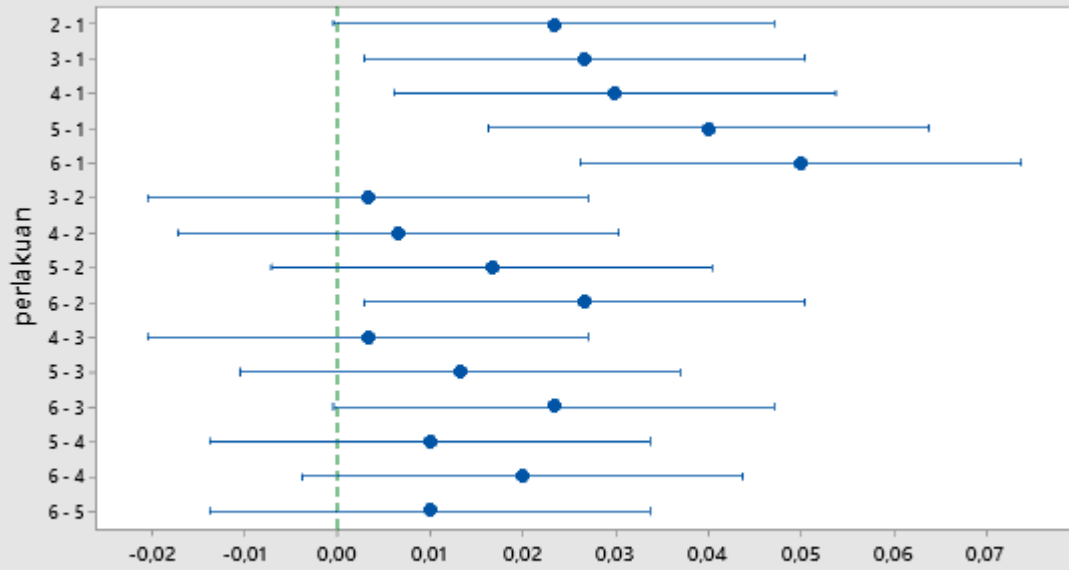


Grouping Information Using the Tukey Method and 95% Confidence

| perlakuan | N | Mean | Grouping |
|-----------|---|-----------|----------|
| 6 | 3 | 0,0700000 | A |
| 5 | 3 | 0,0600000 | A B |
| 4 | 3 | 0,0500000 | A B |
| 3 | 3 | 0,0466667 | A B |
| 2 | 3 | 0,0433333 | B C |
| 1 | 3 | 0,0200000 | C |

Means that do not share a letter are significantly different.

Tukey Simultaneous 95% CIs Differences of Means for serat (%)



If an interval does not contain zero, the corresponding means are significantly different.

Lampiran 7.3 Hasil Analisis Nilai Tekstur Metode Anova Minitab.

Analysis of Variance

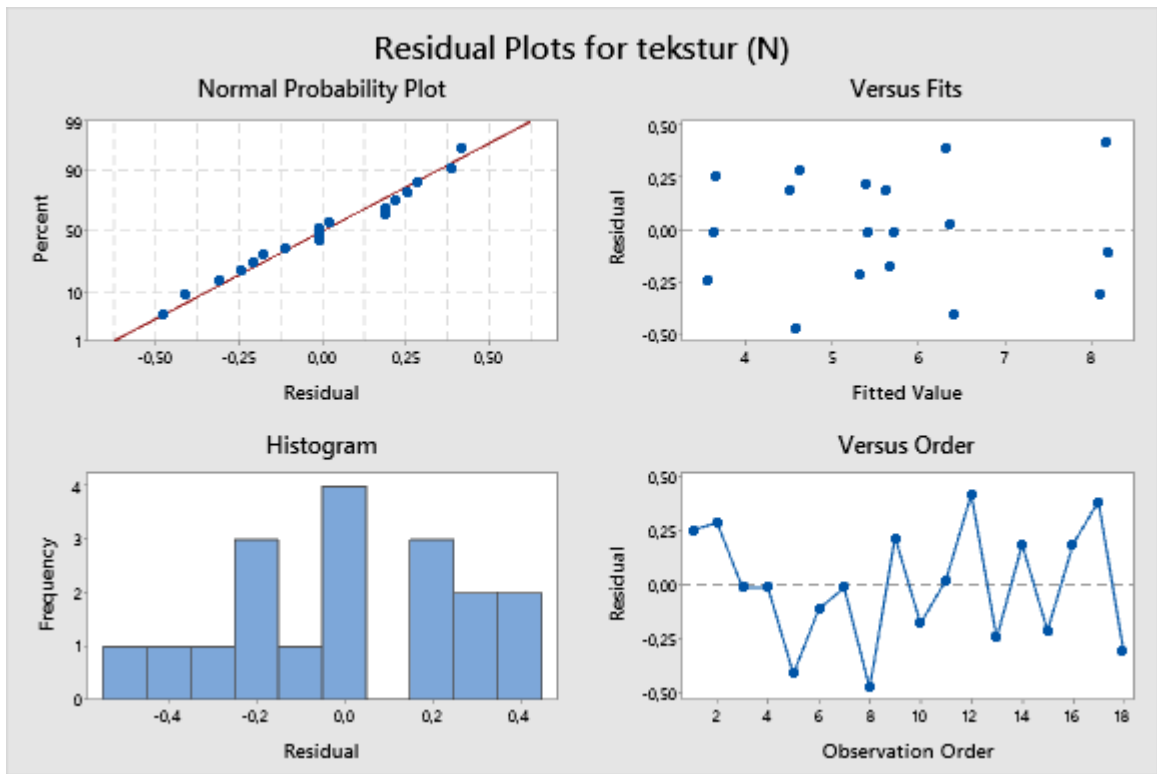
| Source | DF | Adj SS | Adj MS | F-Value | P-Value |
|-----------|----|---------|---------|---------|---------|
| perlakuan | 5 | 36,8978 | 7,37956 | 59,41 | 0,000 |
| ulangan | 2 | 0,0311 | 0,01556 | 0,13 | 0,884 |
| Error | 10 | 1,2422 | 0,12422 | | |
| Total | 17 | 38,1711 | | | |

Model Summary

| S | R-sq | R-sq(adj) | R-sq(pred) |
|----------|--------|-----------|------------|
| 0,352452 | 96,75% | 94,47% | 89,46% |

Coefficients

| Term | Coef | SE Coef | T-Value | P-Value | VIF |
|-----------|--------|---------|---------|---------|------|
| Constant | 5,6222 | 0,0831 | 67,68 | 0,000 | |
| perlakuan | | | | | |
| 1 | -2,022 | 0,186 | -10,89 | 0,000 | 1,67 |
| 2 | -1,056 | 0,186 | -5,68 | 0,000 | 1,67 |
| 3 | -0,256 | 0,186 | -1,38 | 0,199 | 1,67 |
| 4 | 0,044 | 0,186 | 0,24 | 0,816 | 1,67 |
| 5 | 0,744 | 0,186 | 4,01 | 0,002 | 1,67 |
| ulangan | | | | | |
| 1 | 0,044 | 0,117 | 0,38 | 0,713 | 1,33 |
| 2 | 0,011 | 0,117 | 0,09 | 0,927 | 1,33 |

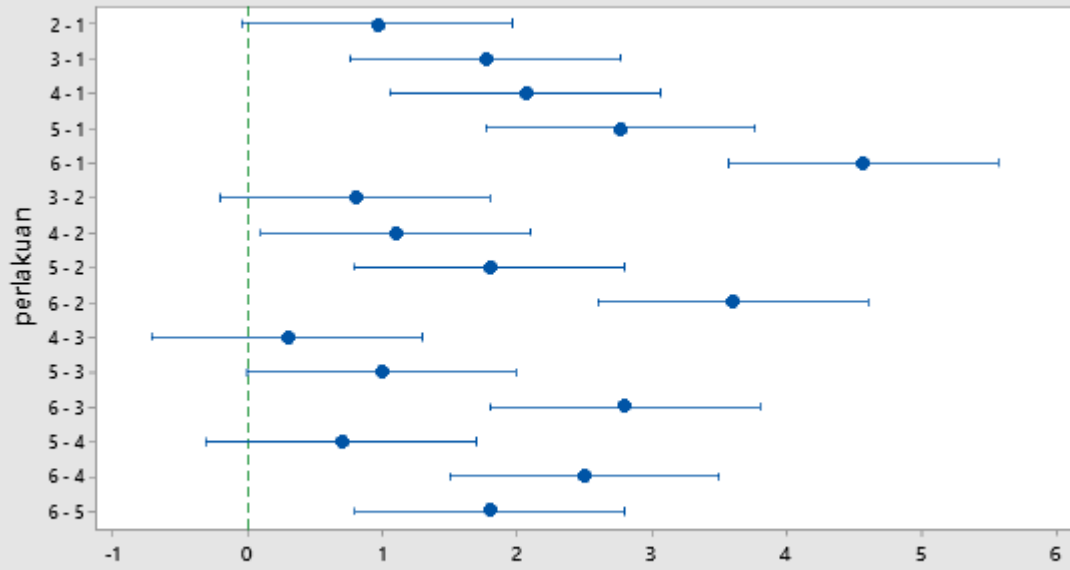


Grouping Information Using the Tukey Method and 95% Confidence

| perlakuan | N | Mean | Grouping |
|-----------|---|---------|----------|
| 6 | 3 | 8,16667 | A |
| 5 | 3 | 6,36667 | B |
| 4 | 3 | 5,66667 | B C |
| 3 | 3 | 5,36667 | C D |
| 2 | 3 | 4,56667 | D E |
| 1 | 3 | 3,60000 | E |

Means that do not share a letter are significantly different.

Tukey Simultaneous 95% CIs Differences of Means for tekstur (N)



If an interval does not contain zero, the corresponding means are significantly different.

Lampiran 8.

Hasil Data Uji Organoleptik

Lampiran 8.1. Hasil uji organoleptik terhadap rasa

| PANELIS | PERLAKUAN | | | | | | | | | | | |
|---------------------------|-----------|---------------|------|------|------|------|------|------|------|-------|-----|-------|
| | K1 | | K2 | | K3 | | K4 | | K5 | | K6 | |
| | N | S | N | S | N | S | N | S | N | S | N | S |
| P1 | 3 | 1.5 | 3 | 1.5 | 3 | 4.5 | 3 | 4.5 | 3 | 4.5 | 2 | 4.5 |
| P2 | 3 | 2.5 | 3 | 2.5 | 2 | 2.5 | 2 | 2.5 | 2 | 5.5 | 2 | 5.5 |
| P3 | 4 | 1.5 | 3 | 1.5 | 3 | 4 | 3 | 4 | 2 | 4 | 2 | 6 |
| P4 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 |
| P5 | 2 | 3 | 3 | 3 | 2 | 3 | 2 | 3 | 2 | 3 | 2 | 6 |
| P6 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 5 | 2 | 5 | 2 | 5 |
| P7 | 2 | 3.5 | 2 | 3.5 | 2 | 3.5 | 2 | 3.5 | 2 | 3.5 | 2 | 3.5 |
| P8 | 3 | 1.5 | 2 | 1.5 | 2 | 4.5 | 3 | 4.5 | 3 | 4.5 | 3 | 4.5 |
| P9 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 |
| P10 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 |
| P11 | 3 | 2.5 | 3 | 2.5 | 2 | 2.5 | 2 | 2.5 | 2 | 5.5 | 2 | 5.5 |
| P12 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 |
| P13 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 6 |
| P14 | 4 | 1.5 | 3 | 1.5 | 3 | 4 | 3 | 4 | 2 | 4 | 2 | 6 |
| P15 | 3 | 1.5 | 3 | 1.5 | 3 | 4.5 | 3 | 4.5 | 2 | 4.5 | 2 | 4.5 |
| P16 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 5 | 2 | 5 | 2 | 5 |
| P17 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 5 | 1 | 5 | 1 | 5 |
| P18 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 5 | 2 | 5 | 2 | 5 |
| P19 | 3 | 1.5 | 3 | 1.5 | 3 | 4.5 | 3 | 4.5 | 2 | 4.5 | 2 | 4.5 |
| P20 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 |
| P21 | 3 | 1 | 3 | 4 | 2 | 4 | 3 | 4 | 3 | 4 | 3 | 4 |
| P22 | 2 | 2 | 3 | 2 | 3 | 2 | 2 | 5 | 2 | 5 | 3 | 5 |
| P23 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 |
| P24 | 3 | 1 | 3 | 4 | 3 | 4 | 3 | 4 | 3 | 4 | 2 | 4 |
| P25 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 |
| TOTAL | 73 | 60 | 72 | 66 | 68 | 83 | 66 | 98 | 61 | 104 | 60 | 114 |
| DATA-RATA | 2.92 | 2.4 | 2.88 | 2.64 | 2.72 | 3.32 | 2.64 | 3.92 | 2.44 | 4.16 | 2.4 | 4.56 |
| ILAI X ² SKOR | | 3600 | | 4356 | | 6889 | | 9604 | | 10816 | | 12996 |
| TOTAL X ² SKOR | | 48261 | | | | | | | | | | |
| X ² TABEL | | (0.05:5)=11.1 | | | | | | | | | | |
| X ² hitung | | 26.55429 | | | | | | | | | | |

| ANALISIS SIDIK RAGAM | | | | | | | | |
|----------------------|----------|----------|----------|----------|--|------|------------|------------|
| FK | JKS | JKP | JKT | | | | | |
| 1066.667 | 5.893333 | 21.33333 | 45.33333 | | | | | |
| | | | | | | | | |
| TABEL SIDIK RAGAM | | | | | | | | |
| SUMBER | DB | JK | KT | F | | hit. | F.tabel 5% | F.tabel 1% |
| SAMPLE | 5 | 5.893333 | 1.178667 | 7.811487 | | ** | 2.289851 | 3.173545 |
| PANELIS | 24 | 21.33333 | 0.888889 | 5.891016 | | ** | 1.590678 | 1.918591 |
| GALAT | 120 | 18.10667 | 0.150889 | | | | | |
| TOTAL | 149 | 45.33333 | 0.304251 | | | | | |
| | | | | | | | | |
| BNT 5% | 0.245674 | | | | | | | |

Lampiran 8.2. Hasil Uji Organoleptik Terhadap Warna

| PANELIS | PERLAKUAN | | | | | | | | | | | |
|----------------------------|---------------|-----|---------|------|------|------|---------|------|-------|------|-------|-----|
| | K1 | | K2 | | K3 | | K4 | | K5 | | K6 | |
| | N | S | N | S | N | S | N | S | N | S | N | S |
| P1 | 3 | 2.5 | 3 | 2.5 | 3 | 2.5 | 3 | 2.5 | 4 | 5.5 | 4 | 5.5 |
| P2 | 4 | 1 | 4 | 2 | 3 | 3.5 | 3 | 3.5 | 2 | 5.5 | 1 | 5.5 |
| P3 | 3 | 1.5 | 4 | 1.5 | 3 | 4 | 3 | 4 | 2 | 4 | 2 | 6 |
| P4 | 3 | 1 | 3 | 3.5 | 3 | 3.5 | 2 | 3.5 | 4 | 3.5 | 3 | 6 |
| P5 | 4 | 1 | 4 | 2.5 | 4 | 2.5 | 3 | 5 | 3 | 5 | 2 | 5 |
| P6 | 3 | 1.5 | 3 | 1.5 | 4 | 4 | 3 | 4 | 2 | 4 | 2 | 6 |
| P7 | 4 | 2 | 3 | 2 | 3 | 2 | 2 | 4.5 | 2 | 4.5 | 2 | 6 |
| P8 | 3 | 1 | 3 | 3.5 | 4 | 3.5 | 3 | 3.5 | 3 | 3.5 | 2 | 6 |
| P9 | 3 | 1.5 | 2 | 1.5 | 2 | 3 | 4 | 5 | 4 | 5 | 4 | 5 |
| P10 | 4 | 2 | 4 | 2 | 3 | 2 | 2 | 4 | 2 | 5.5 | 2 | 5.5 |
| P11 | 4 | 2 | 4 | 2 | 3 | 2 | 2 | 4 | 2 | 5.5 | 2 | 5.5 |
| P12 | 4 | 1 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 5.5 | 2 | 5.5 |
| P13 | 3 | 1.5 | 3 | 1.5 | 3 | 4.5 | 2 | 4.5 | 2 | 4.5 | 3 | 4.5 |
| P14 | 4 | 2 | 3 | 2 | 3 | 2 | 2 | 4.5 | 2 | 4.5 | 2 | 6 |
| P15 | 4 | 2 | 4 | 2 | 3 | 2 | 2 | 4 | 2 | 5.5 | 2 | 5.5 |
| P16 | 4 | 1.5 | 4 | 1.5 | 4 | 3 | 3 | 5 | 2 | 5 | 2 | 5 |
| P17 | 3 | 2.5 | 3 | 2.5 | 2 | 2.5 | 2 | 2.5 | 2 | 5.5 | 2 | 5.5 |
| P18 | 4 | 1.5 | 4 | 1.5 | 3 | 3.5 | 3 | 3.5 | 2 | 5.5 | 2 | 5.5 |
| P19 | 4 | 1 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 5.5 | 2 | 5.5 |
| P20 | 5 | 1 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 5 | 2 | 6 |
| P21 | 4 | 1.5 | 3 | 1.5 | 3 | 4 | 3 | 4 | 1 | 4 | 1 | 6 |
| P22 | 4 | 2 | 4 | 2 | 3 | 2 | 2 | 4 | 2 | 5.5 | 2 | 5.5 |
| P23 | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 6 |
| P24 | 5 | 1.5 | 4 | 1.5 | 3 | 3 | 2 | 4 | 1 | 5.5 | 1 | 5.5 |
| P25 | 5 | 1 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 5 | 2 | 6 |
| TOTAL | 94 | 40 | 89 | 55.5 | 77 | 74 | 66 | 94.5 | 61 | 121 | 54 | 140 |
| RATA-RATA | 3.76 | 1.6 | 3.56 | 2.22 | 3.08 | 2.96 | 2.64 | 3.78 | 2.44 | 4.84 | 2.16 | 5.6 |
| Jumlah X ² SKOR | 1600 | | 3080.25 | | 5476 | | 8930.25 | | 14641 | | 19600 | |
| Jumlah X ² SKOR | 53327.5 | | | | | | | | | | | |
| X ² TABEL | (0.05:5)=11.1 | | | | | | | | | | | |
| X ² hitung | 84.45714 | | | | | | | | | | | |

| ANALISIS SIDIK RAGAM | | | | | | | | |
|----------------------|----------|--------|----------|----------|--|------|------------|------------|
| FK | JKS | JKP | JKT | | | | | |
| 1296.54 | 50.62 | 10.96 | 112.46 | | | | | |
| | | | | | | | | |
| TABEL SIDIK RAGAM | | | | | | | | |
| SUMBER | DB | JK | KT | F | | hit. | F.tabel 5% | F.tabel 1% |
| SAMPLE | 5 | 50.62 | 10.124 | 23.87736 | | ** | 2.289851 | 3.173545 |
| PANELIS | 24 | 10.96 | 0.456667 | 1.077044 | | tn | 1.590678 | 1.918591 |
| GALAT | 120 | 50.88 | 0.424 | | | | | |
| TOTAL | 149 | 112.46 | 0.754765 | | | | | |
| | | | | | | | | |
| BNT 5% | 0.411825 | | | | | | | |

Lampiran 8.3. Hasil Uji Organoleptik Terhadap Aroma

| PANELIS | PERLAKUAN | | | | | | | | | | | |
|----------------------------|-----------|---------------|------|---------|------|------|------|----------|------|----------|------|----------|
| | K1 | | K2 | | K3 | | K4 | | K5 | | K6 | |
| | N | S | N | S | N | S | N | S | N | S | N | S |
| P1 | 4 | 1.5 | 4 | 1.5 | 4 | 4.5 | 4 | 4.5 | 4 | 4.5 | 3 | 4.5 |
| P2 | 4 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 4 |
| P3 | 5 | 2 | 4 | 2 | 4 | 2 | 3 | 5 | 3 | 5 | 3 | 5 |
| P4 | 4 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 4 |
| P5 | 4 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 4 |
| P6 | 4 | 1.5 | 4 | 1.5 | 4 | 4.5 | 4 | 4.5 | 3 | 4.5 | 3 | 4.5 |
| P7 | 3 | 2 | 3 | 2 | 3 | 2 | 4 | 5 | 4 | 5 | 4 | 5 |
| P8 | 4 | 2.5 | 4 | 2.5 | 3 | 2.5 | 3 | 2.5 | 3 | 5.5 | 3 | 5.5 |
| P9 | 4 | 1 | 4 | 2.5 | 4 | 2.5 | 3 | 5 | 3 | 5 | 2 | 5 |
| P10 | 4 | 2 | 4 | 2 | 4 | 2 | 2 | 5 | 2 | 5 | 2 | 5 |
| P11 | 4 | 2 | 4 | 2 | 4 | 2 | 3 | 5 | 3 | 5 | 3 | 5 |
| P12 | 4 | 2.5 | 4 | 2.5 | 3 | 2.5 | 3 | 2.5 | 3 | 5.5 | 3 | 5.5 |
| P13 | 4 | 1.5 | 4 | 1.5 | 3 | 3.5 | 3 | 3.5 | 2 | 5.5 | 2 | 5.5 |
| P14 | 4 | 2 | 4 | 2 | 4 | 2 | 3 | 5 | 3 | 5 | 3 | 5 |
| P15 | 5 | 2 | 4 | 2 | 4 | 2 | 3 | 4.5 | 3 | 4.5 | 3 | 6 |
| P16 | 4 | 3.5 | 4 | 3.5 | 4 | 3.5 | 4 | 3.5 | 4 | 3.5 | 4 | 3.5 |
| P17 | 4 | 2 | 4 | 2 | 4 | 2 | 3 | 5 | 3 | 5 | 3 | 5 |
| P18 | 4 | 1.5 | 3 | 1.5 | 3 | 4 | 3 | 4 | 2 | 4 | 2 | 6 |
| P19 | 5 | 2 | 4 | 2 | 4 | 2 | 3 | 4.5 | 3 | 4.5 | 3 | 6 |
| P20 | 4 | 2 | 4 | 2 | 4 | 2 | 3 | 5 | 3 | 5 | 3 | 5 |
| P21 | 4 | 3.5 | 4 | 3.5 | 4 | 3.5 | 4 | 3.5 | 4 | 3.5 | 4 | 3.5 |
| P22 | 4 | 2 | 4 | 2 | 3 | 2 | 2 | 4 | 2 | 5.5 | 2 | 5.5 |
| P23 | 4 | 3.5 | 4 | 3.5 | 4 | 3.5 | 4 | 3.5 | 4 | 3.5 | 4 | 3.5 |
| P24 | 4 | 2.5 | 5 | 2.5 | 3 | 2.5 | 3 | 2.5 | 3 | 5 | 3 | 6 |
| P25 | 5 | 1 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 5 | 2 | 6 |
| TOTAL | 103 | 49 | 99 | 61.5 | 92 | 72 | 82 | 102.5 | 79 | 116.5 | 73 | 123.5 |
| RATA-RATA | 4.12 | 1.96 | 3.96 | 2.46 | 3.68 | 2.88 | 3.28 | 4.1 | 3.16 | 4.66 | 2.92 | 4.94 |
| Jumlah X ² SKOR | | 2401 | | 3782.25 | | 5184 | | 10506.25 | | 13572.25 | | 15252.25 |
| Jumlah X ² SKOR | | 50698 | | | | | | | | | | |
| X ² TABEL | | (0.05;5)=11.1 | | | | | | | | | | |
| X ² hitung | | 54.40571 | | | | | | | | | | |

| ANALISIS SIDIK RAGAM | | | | | | | | |
|----------------------|----------|----------|----------|----------|--|------|------------|------------|
| FK | JKS | JKP | JKT | | | | | |
| 1858.56 | 28.16 | 16.77333 | 71.44 | | | | | |
| | | | | | | | | |
| TABEL SIDIK RAGAM | | | | | | | | |
| SUMBER | DB | JK | KT | F | | hit. | F.tabel 5% | F.tabel 1% |
| SAMPLE | 5 | 28.16 | 5.632 | 25.49698 | | ** | 2.289851 | 3.173545 |
| PANELIS | 24 | 16.77333 | 0.698889 | 3.163984 | | ** | 1.590678 | 1.918591 |
| GALAT | 120 | 26.50667 | 0.220889 | | | | | |
| TOTAL | 149 | 71.44 | 0.479463 | | | | | |
| | | | | | | | | |
| BNT 5% | 0.297247 | | | | | | | |

Lampiran 8.4. Hasil Uji Organoleptik Terhadap Tekstur

| PANELIS | PERLAKUAN | | | | | | | | | | | |
|---------------------------|-----------|---------------|------|------|------|------|------|---------|------|-------|------|----------|
| | K1 | | K2 | | K3 | | K4 | | K5 | | K6 | |
| | N | S | N | S | N | S | N | S | N | S | N | S |
| P1 | 3 | 2.5 | 4 | 2.5 | 4 | 2.5 | 3 | 2.5 | 3 | 5.5 | 3 | 5.5 |
| P2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 4 | 5 | 5 | 6 |
| P3 | 1 | 1 | 2 | 2.5 | 2 | 2.5 | 3 | 4 | 4 | 5.5 | 4 | 5.5 |
| P4 | 3 | 2.5 | 4 | 2.5 | 3 | 2.5 | 4 | 2.5 | 3 | 5 | 3 | 6 |
| P5 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 6 |
| P6 | 3 | 3 | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 6 |
| P7 | 2 | 1 | 3 | 3.5 | 3 | 3.5 | 3 | 3.5 | 4 | 3.5 | 3 | 6 |
| P8 | 4 | 2.5 | 4 | 2.5 | 3 | 2.5 | 3 | 2.5 | 3 | 5.5 | 3 | 5.5 |
| P9 | 2 | 2.5 | 2 | 2.5 | 4 | 2.5 | 4 | 2.5 | 2 | 5.5 | 2 | 5.5 |
| P10 | 2 | 1.5 | 2 | 1.5 | 3 | 3.5 | 4 | 3.5 | 4 | 5.5 | 3 | 5.5 |
| P11 | 3 | 2.5 | 3 | 2.5 | 3 | 2.5 | 4 | 2.5 | 4 | 5.5 | 3 | 5.5 |
| P12 | 2 | 1.5 | 2 | 1.5 | 3 | 3.5 | 3 | 3.5 | 4 | 5 | 5 | 6 |
| P13 | 3 | 1.5 | 2 | 1.5 | 2 | 3.5 | 3 | 3.5 | 4 | 5.5 | 4 | 5.5 |
| P14 | 1 | 1 | 2 | 2 | 3 | 3.5 | 3 | 3.5 | 4 | 5.5 | 4 | 5.5 |
| P15 | 2 | 1.5 | 2 | 1.5 | 3 | 3.5 | 3 | 3.5 | 4 | 5 | 5 | 6 |
| P16 | 2 | 1 | 3 | 2.5 | 3 | 2.5 | 4 | 4.5 | 4 | 4.5 | 5 | 6 |
| P17 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 4 | 5.5 | 4 | 5.5 |
| P18 | 2 | 1.5 | 2 | 1.5 | 3 | 3.5 | 3 | 3.5 | 4 | 5.5 | 4 | 5.5 |
| P19 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 4 | 5.5 | 4 | 5.5 |
| P20 | 2 | 1.5 | 2 | 1.5 | 3 | 3.5 | 3 | 3.5 | 4 | 5 | 5 | 6 |
| P21 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 4 | 5 | 5 | 6 |
| P22 | 2 | 1.5 | 2 | 1.5 | 3 | 4 | 3 | 4 | 3 | 4 | 4 | 6 |
| P23 | 2 | 1 | 3 | 3.5 | 4 | 3.5 | 3 | 3.5 | 3 | 3.5 | 3 | 6 |
| P24 | 3 | 2.5 | 4 | 2.5 | 5 | 2.5 | 3 | 2.5 | 3 | 5 | 3 | 6 |
| P25 | 3 | 2.5 | 4 | 2.5 | 5 | 2.5 | 3 | 2.5 | 3 | 5 | 3 | 6 |
| TOTAL | 58 | 47 | 66 | 56 | 77 | 72 | 81 | 83.5 | 89 | 122 | 93 | 144.5 |
| RATA-RATA | 2.32 | 1.88 | 2.64 | 2.24 | 3.08 | 2.88 | 3.24 | 3.34 | 3.56 | 4.88 | 3.72 | 5.78 |
| ILAI X ² SKOR | | 2209 | | 3136 | | 5184 | | 6972.25 | | 14884 | | 20880.25 |
| TOTAL X ² SKOR | | 53265.5 | | | | | | | | | | |
| X ² TABEL | | (0.05:5)=11.1 | | | | | | | | | | |
| X ² hitung | | 83.74857 | | | | | | | | | | |

| ANALISIS SIDIK RAGAM | | | | | | | | |
|----------------------|----------|----------|----------|----------|--|------|------------|------------|
| FK | JKS | JKP | JKT | | | | | |
| 1435.307 | 35.89333 | 8.693333 | 112.6933 | | | | | |
| | | | | | | | | |
| TABEL SIDIK RAGAM | | | | | | | | |
| SUMBER | DB | JK | KT | F | | hit. | F.tabel 5% | F.tabel 1% |
| SAMPLE | 5 | 35.89333 | 7.178667 | 12.64839 | | ** | 2.289851 | 3.173545 |
| PANELIS | 24 | 8.693333 | 0.362222 | 0.638215 | | tn | 1.590678 | 1.918591 |
| GALAT | 120 | 68.10667 | 0.567556 | | | | | |
| TOTAL | 149 | 112.6933 | 0.756331 | | | | | |
| | | | | | | | | |
| BNT 5% | 0.476468 | | | | | | | |

Lampiran 9. Uji Efekifitas

| Parameter | Panelis | | | | | | | | | | | | | | | | | | | | | | | | | TOTAL | BOBOT |
|---------------|---------|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-------|
| | P1 | P2 | P3 | P4 | P5 | P6 | P7 | P8 | P9 | P10 | P11 | P12 | P13 | P14 | P15 | P16 | P17 | P18 | P19 | P20 | P21 | P22 | P23 | P24 | P25 | | |
| Kadar Air | 1 | 5 | 1 | 1 | 1 | 2 | 1 | 1 | 5 | 4 | 4 | 2 | 1 | 1 | 3 | 2 | 3 | 2 | 3 | 1 | 6 | 1 | 1 | 4 | 5 | 61 | 0.09 |
| Serat | 4 | 1 | 2 | 2 | 3 | 3 | 3 | 2 | 4 | 3 | 7 | 3 | 3 | 3 | 5 | 3 | 4 | 3 | 4 | 5 | 7 | 2 | 3 | 6 | 6 | 91 | 0.13 |
| Ekstur (fisi) | 3 | 3 | 6 | 4 | 2 | 4 | 2 | 5 | 7 | 6 | 3 | 6 | 2 | 4 | 1 | 4 | 7 | 7 | 6 | 6 | 5 | 5 | 5 | 5 | 7 | 115 | 0.16 |
| Warna | 5 | 2 | 7 | 5 | 6 | 5 | 5 | 4 | 3 | 7 | 5 | 7 | 5 | 5 | 6 | 7 | 6 | 6 | 7 | 7 | 3 | 4 | 4 | 1 | 4 | 126 | 0.18 |
| Aroma | 7 | 6 | 4 | 6 | 4 | 7 | 7 | 3 | 6 | 5 | 2 | 1 | 4 | 7 | 2 | 1 | 1 | 5 | 1 | 3 | 1 | 6 | 6 | 2 | 3 | 100 | 0.14 |
| Rasa | 6 | 7 | 3 | 7 | 5 | 6 | 6 | 6 | 1 | 2 | 6 | 5 | 6 | 2 | 7 | 6 | 2 | 4 | 2 | 2 | 2 | 7 | 7 | 7 | 2 | 116 | 0.17 |
| Ekstur (orle) | 2 | 4 | 5 | 3 | 7 | 1 | 4 | 7 | 2 | 1 | 1 | 4 | 7 | 6 | 4 | 5 | 5 | 1 | 5 | 4 | 4 | 3 | 2 | 3 | 1 | 91 | 0.13 |
| TOTAL | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 700 | 1 |

| TABEL RERATA | | | | | | | |
|--------------|-----------|-------|-------------|-------|-------|-------|--------------|
| SAMPSEL | PARAMETER | | | | | | |
| | KADAR AIR | SERAT | KSTUR (FIS) | WARNA | AROMA | RASA | STUR (ORLEP) |
| K1 | 82.8 | 0.0 | 3.6 | 3.76 | 4.12 | 2.92 | 2.32 |
| K2 | 80.4 | 0.0 | 4.6 | 3.56 | 3.96 | 2.88 | 2.64 |
| K3 | 80.2 | 0.0 | 5.4 | 3.08 | 3.68 | 2.72 | 3.08 |
| K4 | 79.8 | 0.1 | 5.7 | 2.64 | 3.28 | 2.64 | 3.24 |
| K5 | 79.7 | 0.1 | 6.4 | 2.44 | 3.16 | 2.44 | 3.56 |
| K6 | 77.8 | 0.1 | 8.2 | 2.16 | 2.92 | 2.4 | 3.72 |
| NTJ | 77.833 | 0.020 | 3.600 | 2.160 | 2.920 | 2.400 | 2.320 |
| NTB | 82.833 | 0.070 | 8.167 | 3.760 | 4.120 | 2.920 | 3.720 |

| PARAMETER | PERLAKUAN | | | | | | | | | | | | |
|-------------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | BOBOT | K1 | | K2 | | K3 | | K4 | | K5 | | K6 | |
| | PARAMETER | NE | NP | NE | NP | NE | NP | NE | NP | NE | NP | NE | NP |
| KADAR AIR | 0.087 | 1.000 | 0.087 | 0.509 | 0.044 | 0.481 | 0.042 | 0.403 | 0.035 | 0.379 | 0.033 | 0.000 | 0.000 |
| SERAT | 0.130 | 0.000 | 0.000 | 0.467 | 0.061 | 0.533 | 0.069 | 0.600 | 0.078 | 0.800 | 0.104 | 1.000 | 0.130 |
| KSTUR (FIS) | 0.164 | 0.000 | 0.000 | 0.212 | 0.035 | 0.387 | 0.064 | 0.453 | 0.074 | 0.606 | 0.100 | 1.000 | 0.164 |
| WARNA | 0.180 | 1.000 | 0.180 | 0.875 | 0.158 | 0.575 | 0.104 | 0.300 | 0.054 | 0.175 | 0.032 | 0.000 | 0.000 |
| AROMA | 0.143 | 1.000 | 0.143 | 0.867 | 0.124 | 0.633 | 0.090 | 0.300 | 0.043 | 0.200 | 0.029 | 0.000 | 0.000 |
| RASA | 0.166 | 1.000 | 0.166 | 0.923 | 0.153 | 0.615 | 0.102 | 0.462 | 0.076 | 0.077 | 0.013 | 0.000 | 0.000 |
| STUR (ORL) | 0.130 | 0.000 | 0.000 | 0.229 | 0.030 | 0.543 | 0.071 | 0.657 | 0.085 | 0.886 | 0.115 | 1.000 | 0.130 |
| TOTAL | | | 0.576 | | 0.604 | | 0.541 | | 0.446 | | 0.425 | | 0.424 |
| RATING | | 2* | | 1* | | 3* | | 4* | | *5 | | *6 | |