

## LAMPIRAN 1

### KUESIONER

Tanggal :  
Nama panelis :  
Produk : Kerupuk Ubi jalar  
Pengujian : warna/rasa/kerenyahan

Dihadapan anda terdapat 5 sampel kerupuk ubi jalar goreng. Mohon kesediaan anda untuk memberikan penilaian terhadap sampel tersebut berdasarkan atas kesukaan anda dengan memberikan nilai pada kolom dibawah yang anda anggap paling sesuai dengan perasaan anda. Suatu pernyataan yang bijaksana dari anda pribadi akan membantu kami. terimakasih.

| Kode | Kriteria (nilai) |      |            |
|------|------------------|------|------------|
|      | Warna            | rasa | Kerenyahan |
| 758  |                  |      |            |
| 467  |                  |      |            |
| 368  |                  |      |            |
| 417  |                  |      |            |
| 347  |                  |      |            |

Keterangan nilai :

1. amat sangat tidak menyukai
2. sangat tidak menyukai
3. tidak menyukai
4. agak tidak menyukai
5. bukannya menyukai maupun tidak menyukai
6. agak menyukai
7. menyukai
8. sangat menyukai
9. amat sangat menyukai

## LAMPIRAN 2

### Analisa Bahan Baku

\* Tapioka:

- Kadar air : 17,8451 %
- Kadar pati : 74,9043 %
- Kadar amilosa : 9,8186 / 100 gr bahan

\* Ubi jalar:

- Kadar air : 72,2789 %
- Kadar pati : 36,4888 %
- Kadar amilosa : 1,7915 / 100 gr bahan
- Kadar Gula Reduksi : 25,9938 %

### Contoh Perhitungan :

#### Tapioka:

\*Kadar air :

Berat air = 0,1514 gr

Berat bahan = 0,9998 gr

$$\begin{aligned}\text{Kadar air (db)} &= \frac{0,1514}{(0,9998 - 0,1514)} \times 100\% \\ &= 17,8451 \%\end{aligned}$$

\* Kadar Pati :

Berat bahan = 2 gr

Berat air = 0,1514 gr

Berat pati = 1,38468 gr

$$\begin{aligned}\text{Kadar pati (db)} &= \frac{1,3468}{(2 - 0,1514)} \times 100\% \\ &= 74,9043\%\end{aligned}$$

\* Kadar amilosa:

Berat bahan = 1 gr

Berat amilosa = 0,0833 gr

Berat air = 0,1514 gr

$$\begin{aligned}\text{Kadar amilosa (db)} &= \frac{0,0833}{(1 - 0,1514)} \times 100\% \\ &= 9,8186 \%\end{aligned}$$

**Ubi Jalar:**

\*Kadar air :

Berat air = 0,4195 gr

Berat bahan = 0,9999 gr

$$\begin{aligned} \text{Kadar air (db)} &= \frac{0,4195}{(0,9999 - 0,4195)} \times 100\% \\ &= 72,2789\% \end{aligned}$$

\* Kadar Pati :

Berat bahan = 2 gr

Berat air = 0,4195 gr

Berat pati = 0,5767 gr

$$\begin{aligned} \text{Kadar pati (db)} &= \frac{0,4195}{(2 - 0,4195)} \times 100\% \\ &= 36,4888\% \end{aligned}$$

\* Kadar Amilosa:

Berat bahan = 1 gr

Berat amilosa = 0,0104 gr

Berat air = 0,4195 gr

$$\begin{aligned} \text{Kadar amilosa (db)} &= \frac{0,0104}{(1 - 0,4195)} \times 100\% \\ &= 1,7915\% \end{aligned}$$

\*Kadar Gula Reduksi:

Berat bahan = 2,5 gr

Berat gula reduksi = 0,5408 gr

Berat air = 0,4195 gr

$$\begin{aligned} \text{Kadar gula reduksi (db)} &= \frac{0,5408}{(2,5 - 0,4195)} \times 100\% \\ &= 25,9938\% \end{aligned}$$

### LAMPIRAN 3

#### A. Hasil Analisa Kadar Air Kerupuk Ubi Jalar Mentah

| Perlakuan | Kadar Air (% berat kering) |         |         |         |         | Jumlah   | Rata-rata |
|-----------|----------------------------|---------|---------|---------|---------|----------|-----------|
|           | 1                          | 2       | 3       | 4       | 5       |          |           |
| F1        | 9,7958                     | 9,9443  | 10,1894 | 9,8668  | 9,9055  | 49,7018  | 9,9404    |
| F2        | 10,2668                    | 10,5036 | 10,5501 | 10,4971 | 10,4993 | 52,3169  | 10,4634   |
| F3        | 10,4351                    | 10,5071 | 10,8306 | 10,7360 | 10,7508 | 53,2596  | 10,6519   |
| F4        | 10,9047                    | 10,5415 | 10,8893 | 10,8748 | 10,9315 | 54,1418  | 10,8284   |
| F5        | 11,0975                    | 11,1103 | 11,1579 | 11,1256 | 11,1098 | 55,6011  | 11,1202   |
| Jumlah    | 52,4999                    | 52,6058 | 53,6173 | 53,1003 | 53,1969 | 265,0212 | -         |
| Rata-rata | 10,4999                    | 10,5214 | 10,7235 | 10,6201 | 10,6394 | -        | -         |

#### B. Hasil Analisa Sidik Ragam Kadar Air Kerupuk Ubi Jalar Mentah

| SOURCE    | SUM OF SQUARES | D.F. | MEAN SQUARE | F RATIO | F tabel |
|-----------|----------------|------|-------------|---------|---------|
| TREATMENT | 3.896          | 4    | 0.974       | 79.195  |         |
| BLOCK     | 0.167          | 4    | 0.042       |         | 3.01    |
| ERROR     | 0.196          | 16   | 0.012       |         |         |
| TOTAL     | 4.260          | 24   |             |         |         |

Keterangan:

\*) data diatas menggunakan program microstat

\*) F hitung > F tabel, berarti ada perbedaan nyata

$$\begin{aligned}
 \text{LSD (0,05)} &= 2.120 \sqrt{2 \text{ RJK galat} / \text{ulangan}} \\
 &= 2,120 \sqrt{(2 \times 0,012) / 5} \\
 &= 0,1469
 \end{aligned}$$

## LAMPIRAN 4

### A. Hasil Analisa Kadar Air Kerupuk Ubi Jalar Goreng

| Perlakuan | Kadar Air (% berat kering) |         |         |         |         | Jumlah   | Rata-rata |
|-----------|----------------------------|---------|---------|---------|---------|----------|-----------|
|           | 1                          | 2       | 3       | 4       | 5       |          |           |
| F1        | 5,9771                     | 5,9703  | 6,2135  | 6,0954  | 5,9835  | 30,2398  | 6,0480    |
| F2        | 6,1658                     | 6,1670  | 6,2441  | 6,2476  | 6,1564  | 30,9809  | 6,1962    |
| F3        | 6,3916                     | 6,4317  | 6,2579  | 6,3879  | 6,4478  | 31,9169  | 6,3834    |
| F4        | 6,8097                     | 6,4602  | 6,4149  | 6,7887  | 6,6294  | 33,1029  | 6,6206    |
| F5        | 6,9353                     | 7,0021  | 6,5878  | 7,0336  | 6,9028  | 34,4616  | 6,8923    |
| Jumlah    | 32,2795                    | 32,0313 | 31,7182 | 32,5532 | 32,1199 | 160,7021 | -         |
| Rata-rata | 6,4559                     | 6,4063  | 6,3436  | 6,5106  | 6,4239  | -        | -         |

### B. Hasil Analisa Sidik Ragam Kadar Air Kerupuk Ubi Jalar Goreng

| SOURCE    | SUM OF SQUARES | D.F. | MEAN SQUARE | F RATIO | F Tabel |
|-----------|----------------|------|-------------|---------|---------|
| TREATMENT | 2.264          | 4    | 0.566       | 35.063  |         |
| BLOCK     | 0.076          | 4    | 0.019       |         | 3.01    |
| ERROR     | 0.258          | 16   | 0.016       |         |         |
| TOTAL     | 2.598          | 24   |             |         |         |

Keterangan:

\*) data diatas menggunakan program microstat

\*) F hitung > F tabel, berarti ada perbedaan nyata

$$\begin{aligned} \text{LSD (0,05)} &= 2.120 \sqrt{2 \text{ RJK galat / ulangan}} \\ &= 2,120 \sqrt{(2 \times 0,016) / 5} \\ &= 0,1696 \end{aligned}$$

## LAMPIRAN 5

### A. Hasil Analisa Kadar Pati Kerupuk Ubi Jalar Mentah

| Perlakuan | Kadar Pati (% berat kering) |          |          |          |          | Jumlah    | Rata-rata |
|-----------|-----------------------------|----------|----------|----------|----------|-----------|-----------|
|           | 1                           | 2        | 3        | 4        | 5        |           |           |
| F1        | 94,7452                     | 98,7283  | 88,3192  | 88,7624  | 86,7106  | 457,2657  | 91,4531   |
| F2        | 88,8459                     | 94,1174  | 83,4947  | 87,3406  | 89,7336  | 443,5322  | 88,7064   |
| F3        | 76,5323                     | 79,8243  | 73,8420  | 78,4818  | 77,4827  | 386,1631  | 77,2326   |
| F4        | 73,6312                     | 61,4089  | 68,6903  | 71,9551  | 67,5574  | 343,2429  | 68,6486   |
| F5        | 69,1254                     | 61,9633  | 63,6819  | 62,7588  | 65,4215  | 322,9509  | 64,5902   |
| Jumlah    | 402,8800                    | 396,0422 | 378,0281 | 389,2987 | 386,9058 | 1953,1548 | -         |
| Rata-rata | 80,5760                     | 79,2084  | 75,6056  | 77,8597  | 77,3812  | -         | -         |

### B. Hasil Analisa Sidik Ragam Kadar Pati Kerupuk Ubi Jalar Mentah

| SOURCE    | SUM OF SQUARES | D. F. | MEAN SQUARE | F RATIO | F Tabel |
|-----------|----------------|-------|-------------|---------|---------|
| TREATMENT | 2816.982       | 4     | 704.246     | 48.160  |         |
| BLOCK     | 70.761         | 4     | 17.690      |         | 3.01    |
| ERROR     | 233.969        | 16    | 14.623      |         |         |
| TOTAL     | 3121.712       | 24    |             |         |         |

Keterangan:

\*) data diatas menggunakan program microstat

\*) F hitung > F tabel, berarti ada perbedaan nyata

$$\begin{aligned}
 \text{LSD (0,05)} &= 2.120 \sqrt{2 \text{ RJK galat / ulangan}} \\
 &= 2.120 \sqrt{(2 \times 14.623) / 5} \\
 &= 5.127
 \end{aligned}$$

## LAMPIRAN 6

### A. Hasil Analisa Kadar Pati Kerupuk Ubi Jalar Goreng

| Perlakuan | Kadar Pati (% berat kering) |          |          |          |          | Jumlah    | Rata-rata |
|-----------|-----------------------------|----------|----------|----------|----------|-----------|-----------|
|           | 1                           | 2        | 3        | 4        | 5        |           |           |
| F1        | 62,7049                     | 62,7003  | 55,3835  | 60,3879  | 55,6420  | 296,8186  | 59,3637   |
| F2        | 57,9342                     | 62,2197  | 54,1658  | 53,5159  | 54,4989  | 282,3345  | 56,4669   |
| F3        | 55,6197                     | 53,1882  | 52,9379  | 53,4088  | 51,4720  | 266,6266  | 53,3253   |
| F4        | 47,6507                     | 47,0642  | 46,8371  | 46,3195  | 47,2861  | 235,1576  | 47,0315   |
| F5        | 44,2402                     | 43,4481  | 45,6835  | 44,0988  | 45,0064  | 222,477   | 44,4954   |
| Jumlah    | 268,1497                    | 268,6205 | 255,0078 | 257,7309 | 253,9054 | 1303,4143 | -         |
| Rata-rata | 53,6299                     | 53,7241  | 51,0020  | 51,5462  | 50,7811  | -         | -         |

### B. Hasil Analisa Sidik Ragam Kadar Pati Kerupuk Ubi Jalar Goreng

| SOURCE    | SUM OF SQUARES | D. F. | MEAN SQUARE | F RATIO | F Tabel. |
|-----------|----------------|-------|-------------|---------|----------|
| TREATMENT | 784.228        | 4     | 187.057     | 38.418  | 3.01     |
| BLOCK     | 41.123         | 4     | 10.281      |         |          |
| ERROR     | 77.901         | 16    | 4.869       |         |          |
| TOTAL     | 903.252        | 24    |             |         |          |

Keterangan:

\*) data diatas menggunakan program microstat

\*) F hitung > F tabel, berarti ada perbedaan nyata

$$\begin{aligned}
 \text{LSD } (0,05) &= 2.120 \sqrt{2 \text{ RJK galat / ulangan}} \\
 &= 2,120 \sqrt{(2 \times 4.869) / 5} \\
 &= 2.959
 \end{aligned}$$



## LAMPIRAN 7

### A. Hasil Analisa Kadar Gula Reduksi Kerupuk Ubi Jalar Mentah

| Perlakuan | Kadar Gula Reduksi (% berat kering) |         |         |         |         | Jumlah   | Rata-rata |
|-----------|-------------------------------------|---------|---------|---------|---------|----------|-----------|
|           | 1                                   | 2       | 3       | 4       | 5       |          |           |
| F1        | 5,8079                              | 6,0826  | 6,0276  | 6,1209  | 6,0539  | 30,0929  | 6,0186    |
| F2        | 6,1978                              | 6,1342  | 6,2361  | 6,2257  | 6,1449  | 30,9387  | 6,1877    |
| F3        | 7,2622                              | 7,4880  | 7,5500  | 7,4963  | 7,5037  | 37,3002  | 7,4600    |
| F4        | 14,0952                             | 13,0778 | 16,9836 | 16,5823 | 12,8692 | 73,5781  | 14,7156   |
| F5        | 19,3344                             | 19,7742 | 19,3509 | 19,1262 | 19,2968 | 96,8825  | 19,3765   |
| Jumlah    | 52,6675                             | 52,5568 | 56,1482 | 55,5514 | 51,8685 | 268,7924 | -         |
| Rata-rata | 10,5335                             | 10,5114 | 11,2296 | 11,1103 | 10,3737 | -        | -         |

### B. Hasil Analisa Sidik Ragam Kadar Gula Reduksi Kerupuk Ubi Jalar Mentah

| SOURCE    | SUM OF SQUARES | D.F. | MEAN SQUARE | F RATIO | F Tabel. |
|-----------|----------------|------|-------------|---------|----------|
| TREATMENT | 720.835        | 4    | 180.209     | 231.334 | 3.01     |
| BLOCK     | 3.026          | 4    | 0.757       |         |          |
| ERROR     | 12.466         | 16   | 0.779       |         |          |
| TOTAL     | 736.328        | 24   |             |         |          |

Keterangan:

\*) data diatas menggunakan program microstat

\*) F hitung > F tabel, berarti ada perbedaan nyata

$$\begin{aligned}
 \text{LSD } (0,05) &= 2.120 \sqrt{2 \text{ RJK galat / ulangan}} \\
 &= 2.120 \sqrt{(2 \times 0,779) / 5} \\
 &= 1,183
 \end{aligned}$$

## LAMPIRAN 8

### A. Hasil Analisa Kadar Gula Reduksi Kerupuk Ubi Jalar Goreng

| Perlakuan | Kadar Gula Reduksi (% berat kering) |         |         |         |         | Jumlah   | Rata-rata |
|-----------|-------------------------------------|---------|---------|---------|---------|----------|-----------|
|           | 1                                   | 2       | 3       | 4       | 5       |          |           |
| F1        | 1,4063                              | 1,3182  | 2,3625  | 2,2979  | 2,1738  | 9,5587   | 1,9117    |
| F2        | 2,8010                              | 2,6419  | 2,5321  | 2,7103  | 2,4904  | 13,1757  | 2,6351    |
| F3        | 3,7959                              | 4,0321  | 4,0520  | 3,9413  | 3,8026  | 19,6239  | 3,9248    |
| F4        | 9,5365                              | 7,5246  | 9,6601  | 9,8469  | 9,6574  | 46,2255  | 9,2451    |
| F5        | 10,7452                             | 10,6447 | 10,9134 | 10,5162 | 10,7878 | 53,6073  | 10,7215   |
| Jumlah    | 28,2849                             | 26,1665 | 29,5201 | 29,3126 | 28,9120 | 142,1911 | -         |
| Rata-rata | 5,6570                              | 5,2323  | 5,9040  | 5,8625  | 5,7824  | -        | -         |

### B. Hasil Analisa Sidik Ragam Kadar Gula Reduksi Kerupuk Ubi Jalar Goreng

| SOURCE    | SUM OF SQUARES | D. F. | MEAN SQUARE | F RATIO | F Tabel |
|-----------|----------------|-------|-------------|---------|---------|
| TREATMENT | 323.389        | 4     | 80.847      | 367.486 | 3.01    |
| BLOCK     | 1.473          | 4     | 0.368       |         |         |
| ERROR     | 3.519          | 16    | 0.220       |         |         |
| TOTAL     | 328.381        | 24    |             |         |         |

Keterangan:

\*) data diatas menggunakan program microstat

\*) F hitung > F tabel, berarti ada perbedaan nyata

$$\begin{aligned}
 \text{LSD (0,05)} &= 2.120 \sqrt{2 \text{ RJK galat} / \text{ulangan}} \\
 &= 2,120 \sqrt{(2 \times 0,220) / 5} \\
 &= 0,6289s
 \end{aligned}$$

## LAMPIRAN 9

### A. Hasil Analisa Kadar Amilosa Kerupuk Ubi Jalar

| Perlakuan | Kadar Amilosa (% berat kering) |          |         |         |         | Jumlah   | Rata-rata |
|-----------|--------------------------------|----------|---------|---------|---------|----------|-----------|
|           | 1                              | 2        | 3       | 4       | 5       |          |           |
| F1        | 9,8203                         | 9,6199   | 10,7433 | 10,0998 | 9,9863  | 50,2696  | 10,0539   |
| F2        | 11,0816                        | 11,4272  | 13,2845 | 12,1979 | 12,2952 | 60,2864  | 12,0573   |
| F3        | 11,6509                        | 12,81885 | 13,8952 | 12,9027 | 13,4547 | 64,7220  | 12,9444   |
| F4        | 18,4597                        | 19,5027  | 20,0402 | 19,1227 | 19,0775 | 96,2028  | 19,2406   |
| F5        | 20,4652                        | 22,3025  | 23,5904 | 23,4590 | 21,3683 | 111,1854 | 22,2371   |
| Jumlah    | 71,4777                        | 75,6708  | 81,5536 | 77,7821 | 76,1820 | 382,6662 | -         |
| Rata-rata | 14,2955                        | 15,1342  | 16,3107 | 15,5564 | 15,2364 | -        | -         |

### B. Hasil Analisa Sidik Ragam Kadar Amilosa Kerupuk Ubi Jalar

| SOURCE    | SUM OF SQUARES | D.F. | MEAN SQUARE | F RATIO | F Tabel. |
|-----------|----------------|------|-------------|---------|----------|
| TREATMENT | 536.182        | 4    | 134.046     | 482.180 | 3.01     |
| BLOCK     | 10.638         | 4    | 2.660       |         |          |
| ERROR     | 4.455          | 16   | 0.278       |         |          |
| TOTAL     | 551.275        | 24   |             |         |          |

Keterangan:

\*) data diatas menggunakan program microstat

\*) F hitung > F tabel, berarti ada perbedaan nyata

$$\begin{aligned}
 \text{LSD (0,05)} &= 2.120 \sqrt{2 \text{ RJK galat / ulangan}} \\
 &= 2.120 \sqrt{(2 \times 0.278) / 5} \\
 &= 0.707
 \end{aligned}$$

## LAMPIRAN 10

### A. Hasil Analisa Daya Pemekaran Kerupuk Ubi Jalar

| Perlakuan | % Pengembangan |           |           |          |           | Jumlah    | Rata-rata |
|-----------|----------------|-----------|-----------|----------|-----------|-----------|-----------|
|           | 1              | 2         | 3         | 4        | 5         |           |           |
| F1        | 771,2278       | 786,8170  | 759,6611  | 750,4115 | 741,1123  | 3809,2297 | 761,8459  |
| F2        | 727,1605       | 737,4780  | 743,0313  | 731,4557 | 734,5312  | 3673,6567 | 734,7313  |
| F3        | 600,0146       | 636,8421  | 620,8754  | 623,7744 | 619,1754  | 3100,6819 | 620,1364  |
| F4        | 505,0421       | 521,1619  | 510,4167  | 508,5517 | 520,6437  | 2565,8161 | 513,1632  |
| F5        | 383,5977       | 418,0755  | 405,5456  | 406,5177 | 410,1471  | 2023,8836 | 404,7767  |
| Jumlah    | 2987,0427      | 3100,3745 | 3039,5301 | 3020,711 | 3025,6097 | 15173,268 | -         |
| Rata-rata | 597,4085       | 620,0749  | 607,9060  | 604,1422 | 605,1219  | -         | -         |

### B. Hasil Analisa Sidik Ragam Daya Pemekaran Kerupuk Ubi Jalar

| SOURCE    | SUM OF SQUARES | D.F. | MEAN SQUARE | F RATIO  | F Tabel. |
|-----------|----------------|------|-------------|----------|----------|
| TREATMENT | 450823.485     | 4    | 112705.871  | 1116.218 | 3.01     |
| BLOCK     | 1377.201       | 4    | 344.300     |          |          |
| ERROR     | 1615.539       | 16   | 100.971     |          |          |
| TOTAL     | 453816.225     | 24   |             |          |          |

Keterangan:

\*) data diatas menggunakan program microstat

\*)  $F_{hitung} > F_{tabel}$ , berarti ada perbedaan nyata

$$\begin{aligned}
 LSD (0,05) &= 2.120 \sqrt{2 \text{ RJK galat / ulangan}} \\
 &= 2.120 \sqrt{(2 \times 100.971) / 5} \\
 &= 13.4730s
 \end{aligned}$$

## LAMPIRAN 11

### A. Hasil Analisa Daya Patah Kerupuk Ubi Jalar

| Perlakuan | Daya Patah ( N ) |      |      |      |      | Jumlah | Rata-rata |
|-----------|------------------|------|------|------|------|--------|-----------|
|           | 1                | 2    | 3    | 4    | 5    |        |           |
| F1        | 5                | 5    | 5    | 5    | 5    | 25     | 5         |
| F2        | 9                | 10   | 10   | 10,5 | 9,5  | 49     | 9,8       |
| F3        | 15               | 12,5 | 12   | 15   | 12,5 | 67     | 13,4      |
| F4        | 15               | 17,5 | 15   | 15   | 15   | 77,5   | 15,5      |
| F5        | 22,5             | 20   | 20   | 20,5 | 20   | 103    | 20,6      |
| Jumlah    | 66,5             | 65   | 62   | 66   | 62   | 321,5  | -         |
| Rata-rata | 13,3             | 13   | 12,4 | 13,2 | 12,4 | -      | -         |

### B. Hasil Analisa Sidik Ragam Daya Patah Kerupuk Ubi Jalar

| SOURCE    | SUM OF SQUARES | D. F. | MEAN SQUARE | F RATIO | F Tabel |
|-----------|----------------|-------|-------------|---------|---------|
| TREATMENT | 691.560        | 4     | 172.890     | 173.541 | 3.01    |
| BLOCK     | 3.760          | 4     | 0.940       |         |         |
| ERROR     | 15.940         | 16    | 0.996       |         |         |
| TOTAL     | 711.260        | 24    |             |         |         |

Keterangan:

\*) data diatas menggunakan program microstat

\*) F hitung > F tabel, berarti ada perbedaan nyata

$$\begin{aligned}
 \text{LSD (0,05)} &= 2.120 \sqrt{2 \text{ RJK galat / ulangan}} \\
 &= 2.120 \sqrt{(2 \times 0.996) / 5} \\
 &= 1.3381
 \end{aligned}$$

## Lampiran 12

### A. Hasil Uji Organoleptik Warna Kerupuk Ubi Jalar

| No.         | 467  | 417  | 347  | 758 | 368  | Jumlah |
|-------------|------|------|------|-----|------|--------|
| 1           | 6    | 7    | 6    | 4   | 7    | 30     |
| 2           | 4    | 6    | 6    | 6   | 3    | 25     |
| 3           | 8    | 9    | 7    | 7   | 8    | 39     |
| 4           | 9    | 7    | 7    | 8   | 7    | 38     |
| 5           | 6    | 7    | 7    | 5   | 4    | 29     |
| 6           | 7    | 6    | 5    | 5   | 8    | 31     |
| 7           | 4    | 8    | 4    | 3   | 4    | 23     |
| 8           | 7    | 7    | 6    | 8   | 7    | 35     |
| 9           | 3    | 8    | 6    | 3   | 7    | 27     |
| 10          | 7    | 2    | 9    | 6   | 4    | 28     |
| 11          | 6    | 7    | 7    | 7   | 7    | 34     |
| 12          | 4    | 7    | 6    | 9   | 8    | 34     |
| 13          | 7    | 5    | 6    | 4   | 4    | 26     |
| 14          | 2    | 4    | 7    | 6   | 8    | 27     |
| 15          | 4    | 2    | 8    | 7   | 3    | 24     |
| 16          | 3    | 6    | 7    | 4   | 6    | 26     |
| 17          | 6    | 4    | 9    | 7   | 6    | 32     |
| 18          | 6    | 6    | 8    | 6   | 8    | 34     |
| 19          | 6    | 7    | 8    | 4   | 3    | 28     |
| 20          | 6    | 4    | 5    | 7   | 9    | 31     |
| 21          | 6    | 7    | 7    | 3   | 3    | 26     |
| 22          | 7    | 3    | 3    | 7   | 3    | 23     |
| 23          | 7    | 7    | 7    | 3   | 8    | 32     |
| 24          | 4    | 5    | 6    | 7   | 9    | 31     |
| 25          | 7    | 8    | 5    | 6   | 6    | 32     |
| 26          | 3    | 5    | 9    | 6   | 7    | 30     |
| 27          | 7    | 5    | 5    | 4   | 4    | 25     |
| 28          | 8    | 5    | 6    | 4   | 3    | 26     |
| 29          | 8    | 3    | 7    | 5   | 6    | 29     |
| 30          | 6    | 4    | 7    | 5   | 3    | 25     |
| 31          | 7    | 4    | 7    | 7   | 4    | 29     |
| 32          | 7    | 7    | 7    | 4   | 5    | 30     |
| 33          | 3    | 4    | 6    | 7   | 8    | 28     |
| 34          | 5    | 6    | 8    | 4   | 3    | 26     |
| 35          | 3    | 6    | 6    | 8   | 6    | 29     |
| 36          | 6    | 7    | 6    | 8   | 7    | 34     |
| 37          | 5    | 5    | 2    | 4   | 2    | 18     |
| 38          | 7    | 7    | 7    | 3   | 6    | 30     |
| 39          | 7    | 3    | 9    | 7   | 9    | 35     |
| 40          | 6    | 6    | 3    | 4   | 5    | 24     |
| 41          | 4    | 7    | 5    | 4   | 4    | 24     |
| 42          | 3    | 9    | 7    | 5   | 7    | 31     |
| 43          | 5    | 6    | 6    | 4   | 3    | 24     |
| 44          | 8    | 1    | 4    | 7   | 6    | 26     |
| 45          | 4    | 6    | 5    | 3   | 5    | 23     |
| 46          | 8    | 3    | 5    | 5   | 7    | 28     |
| 47          | 6    | 3    | 6    | 3   | 5    | 23     |
| 48          | 6    | 4    | 7    | 7   | 8    | 32     |
| 49          | 7    | 9    | 5    | 8   | 3    | 32     |
| 50          | 7    | 5    | 7    | 7   | 6    | 32     |
| Jumlah      | 288  | 279  | 314  | 275 | 282  | 1438   |
| Rata - rata | 5.76 | 5.58 | 6.28 | 5.5 | 5.64 |        |

Keterangan:

467 = proporsi tapioka:ubi jalar 80 :20

417 = proporsi tapioka:ubi jalar 70 :30

347 = proporsi tapioka:ubi jalar 60 :40

758 = proporsi tapioka:ubi jalar 50 :50

368 = proporsi tapioka:ubi jalar 40 :60

#### B. Hasil Analisa Sidik Ragam Uji Organoleptik Warna Kerupuk Ubi Jalar

| SOURCE    | SUM OF SQUARES | D.F. | MEAN SQUARE | F RATIO | F Tabel |
|-----------|----------------|------|-------------|---------|---------|
| TREATMENT | 45.336         | 4    | 11.334      | 0.912   | 2.412   |
| BLOCK     | 540.816        | 49   | 11.037      |         |         |
| ERROR     | 2437.064       | 196  | 12.434      |         |         |
| TOTAL     | 3023.216       | 249  |             |         |         |

Keterangan:

\*)data diatas menggunakan program microstat

\*) F hitung < F tabel, berarti tidak ada perbedaan nyata

## Lampiran 13

### A. Hasil Uji Organoleptik Kerenyahan Kerupuk Ubi Jalar

| No.                | 467  | 417  | 347  | 758  | 368  | Jumlah |
|--------------------|------|------|------|------|------|--------|
| 1                  | 6    | 6    | 7    | 6    | 6    | 31     |
| 2                  | 6    | 6    | 5    | 4    | 4    | 25     |
| 3                  | 6    | 9    | 8    | 8    | 8    | 39     |
| 4                  | 6    | 4    | 6    | 9    | 9    | 34     |
| 5                  | 4    | 3    | 3    | 7    | 5    | 22     |
| 6                  | 6    | 5    | 4    | 7    | 5    | 27     |
| 7                  | 3    | 2    | 4    | 6    | 4    | 19     |
| 8                  | 7    | 3    | 8    | 3    | 8    | 29     |
| 9                  | 4    | 6    | 3    | 8    | 7    | 28     |
| 10                 | 8    | 5    | 7    | 8    | 7    | 35     |
| 11                 | 7    | 8    | 8    | 7    | 8    | 38     |
| 12                 | 5    | 6    | 8    | 7    | 9    | 35     |
| 13                 | 5    | 7    | 8    | 6    | 7    | 33     |
| 14                 | 4    | 6    | 3    | 4    | 7    | 24     |
| 15                 | 5    | 4    | 9    | 8    | 6    | 32     |
| 16                 | 3    | 6    | 6    | 6    | 5    | 26     |
| 17                 | 8    | 8    | 8    | 8    | 8    | 40     |
| 18                 | 6    | 6    | 6    | 7    | 8    | 33     |
| 19                 | 2    | 5    | 7    | 7    | 6    | 27     |
| 20                 | 9    | 7    | 5    | 8    | 7    | 36     |
| 21                 | 2    | 4    | 2    | 7    | 8    | 23     |
| 22                 | 5    | 5    | 6    | 6    | 6    | 28     |
| 23                 | 4    | 7    | 5    | 8    | 7    | 31     |
| 24                 | 6    | 4    | 9    | 9    | 8    | 36     |
| 25                 | 6    | 4    | 5    | 7    | 5    | 27     |
| 26                 | 2    | 3    | 8    | 7    | 9    | 29     |
| 27                 | 6    | 7    | 7    | 5    | 7    | 32     |
| 28                 | 7    | 6    | 5    | 8    | 4    | 30     |
| 29                 | 7    | 5    | 4    | 8    | 7    | 31     |
| 30                 | 7    | 5    | 5    | 4    | 4    | 25     |
| 31                 | 6    | 9    | 6    | 9    | 8    | 38     |
| 32                 | 5    | 3    | 3    | 3    | 7    | 21     |
| 33                 | 3    | 4    | 5    | 9    | 8    | 29     |
| 34                 | 7    | 7    | 9    | 3    | 7    | 33     |
| 35                 | 6    | 3    | 8    | 5    | 7    | 29     |
| 36                 | 5    | 4    | 4    | 7    | 6    | 26     |
| 37                 | 2    | 3    | 3    | 4    | 5    | 17     |
| 38                 | 3    | 6    | 7    | 8    | 7    | 31     |
| 39                 | 4    | 4    | 8    | 7    | 7    | 30     |
| 40                 | 4    | 8    | 3    | 7    | 7    | 29     |
| 41                 | 4    | 4    | 3    | 7    | 4    | 22     |
| 42                 | 2    | 8    | 9    | 6    | 7    | 32     |
| 43                 | 4    | 5    | 4    | 6    | 8    | 27     |
| 44                 | 9    | 1    | 3    | 7    | 4    | 24     |
| 45                 | 5    | 6    | 5    | 5    | 6    | 27     |
| 46                 | 7    | 4    | 5    | 6    | 5    | 27     |
| 47                 | 4    | 4    | 5    | 6    | 6    | 25     |
| 48                 | 3    | 5    | 7    | 4    | 8    | 27     |
| 49                 | 4    | 9    | 4    | 9    | 7    | 33     |
| 50                 | 8    | 8    | 9    | 8    | 8    | 41     |
| <b>Jumlah</b>      | 257  | 267  | 289  | 329  | 331  | 1473   |
| <b>Rata - rata</b> | 5.14 | 5.34 | 5.78 | 6.58 | 6.62 |        |



Keterangan:

467 = proporsi tapioka:ubi jalar 80 :20

417 = proporsi tapioka:ubi jalar 70 :30

347 = proporsi tapioka:ubi jalar 60 :40

758 = proporsi tapioka:ubi jalar 50 :50

368 = proporsi tapioka:ubi jalar 40 :60

## B. Hasil Analisa Sidik Ragam Uji Organoleptik Kerenyahan Kerupuk Ubi Jalar

| SOURCE    | SUM OF SQUARES | D. F. | MEAN SQUARE | F RATIO | F Tabel. |
|-----------|----------------|-------|-------------|---------|----------|
| TREATMENT | 94.304         | 4     | 23.576      | 9.023   | 2.412    |
| BLOCK     | 281.684        | 49    | 5.749       |         |          |
| ERROR     | 512.096        | 196   | 2.613       |         |          |
| TOTAL     | 888.084        | 249   |             |         |          |

Keterangan:

\*) data diatas menggunakan program microstat

\*) F hitung > F tabel, berarti ada perbedaan nyata

$$\begin{aligned} \text{LSD (0,05)} &= 1.9547 \sqrt{2 \text{ RJK galat / ulangan}} \\ &= 2,120 \sqrt{(2 \times 2.613) / 50} \\ &= 0,6320 \end{aligned}$$

## Lampiran 14

### A. Hasil Uji Organoleptik Rasa Kerupuk Ubi Jalar

| No.                | 467  | 417  | 347  | 758  | 368 | Jumlah |
|--------------------|------|------|------|------|-----|--------|
| 1                  | 6    | 6    | 6    | 3    | 7   | 28     |
| 2                  | 4    | 7    | 6    | 7    | 4   | 28     |
| 3                  | 7    | 9    | 6    | 7    | 8   | 37     |
| 4                  | 6    | 4    | 6    | 8    | 6   | 30     |
| 5                  | 7    | 6    | 6    | 8    | 7   | 34     |
| 6                  | 4    | 6    | 4    | 8    | 3   | 25     |
| 7                  | 6    | 6    | 8    | 3    | 3   | 26     |
| 8                  | 7    | 2    | 4    | 4    | 8   | 25     |
| 9                  | 4    | 3    | 6    | 7    | 7   | 27     |
| 10                 | 7    | 4    | 3    | 8    | 6   | 28     |
| 11                 | 8    | 8    | 8    | 5    | 9   | 38     |
| 12                 | 7    | 4    | 6    | 5    | 8   | 30     |
| 13                 | 6    | 5    | 6    | 4    | 5   | 26     |
| 14                 | 4    | 6    | 5    | 5    | 8   | 28     |
| 15                 | 4    | 7    | 5    | 8    | 8   | 32     |
| 16                 | 2    | 7    | 7    | 6    | 6   | 28     |
| 17                 | 6    | 6    | 9    | 3    | 7   | 31     |
| 18                 | 7    | 7    | 8    | 7    | 8   | 37     |
| 19                 | 7    | 5    | 7    | 5    | 4   | 28     |
| 20                 | 9    | 6    | 5    | 8    | 4   | 32     |
| 21                 | 4    | 3    | 3    | 7    | 6   | 23     |
| 22                 | 3    | 3    | 3    | 3    | 3   | 15     |
| 23                 | 6    | 6    | 6    | 3    | 7   | 28     |
| 24                 | 6    | 3    | 9    | 7    | 8   | 33     |
| 25                 | 6    | 5    | 3    | 6    | 5   | 25     |
| 26                 | 5    | 4    | 8    | 6    | 7   | 30     |
| 27                 | 4    | 7    | 5    | 4    | 7   | 27     |
| 28                 | 8    | 5    | 7    | 6    | 4   | 30     |
| 29                 | 4    | 4    | 5    | 6    | 7   | 26     |
| 30                 | 6    | 3    | 4    | 3    | 3   | 19     |
| 31                 | 8    | 7    | 7    | 7    | 7   | 36     |
| 32                 | 7    | 3    | 7    | 3    | 7   | 27     |
| 33                 | 4    | 3    | 5    | 7    | 8   | 27     |
| 34                 | 7    | 7    | 6    | 5    | 7   | 32     |
| 35                 | 5    | 6    | 7    | 6    | 8   | 32     |
| 36                 | 6    | 5    | 5    | 7    | 6   | 29     |
| 37                 | 5    | 3    | 2    | 5    | 4   | 19     |
| 38                 | 8    | 6    | 7    | 7    | 7   | 35     |
| 39                 | 4    | 4    | 5    | 7    | 5   | 25     |
| 40                 | 5    | 6    | 3    | 8    | 6   | 28     |
| 41                 | 3    | 2    | 7    | 5    | 6   | 23     |
| 42                 | 9    | 8    | 7    | 6    | 3   | 33     |
| 43                 | 4    | 3    | 7    | 6    | 8   | 28     |
| 44                 | 6    | 1    | 3    | 2    | 4   | 16     |
| 45                 | 5    | 4    | 6    | 4    | 7   | 26     |
| 46                 | 7    | 4    | 5    | 5    | 6   | 27     |
| 47                 | 4    | 5    | 6    | 5    | 6   | 26     |
| 48                 | 3    | 5    | 7    | 4    | 7   | 26     |
| 49                 | 9    | 9    | 7    | 6    | 8   | 39     |
| 50                 | 7    | 6    | 8    | 6    | 7   | 34     |
| <b>Jumlah</b>      | 286  | 254  | 291  | 281  | 310 | 1422   |
| <b>Rata - rata</b> | 5.72 | 5.08 | 5.82 | 5.62 | 6.2 |        |

Keterangan:

467 = proporsi tapioka:ubi jalar 80 :20

417 = proporsi tapioka:ubi jalar 70 :30

347 = proporsi tapioka:ubi jalar 60 :40

758 = proporsi tapioka:ubi jalar 50 :50

368 = proporsi tapioka:ubi jalar 40 :60

## B. Hasil Analisa Sidik Ragam Uji Organoleptik Rasa Kerupuk Ubi Jalar

| SOURCE    | SUM OF SQUARES | D.F. | MEAN SQUARE | F RATIO | F Tabel |
|-----------|----------------|------|-------------|---------|---------|
| TREATMENT | 32.744         | 4    | 8.186       | 3.390   | 2.412   |
| BLOCK     | 257.664        | 49   | 5.258       |         |         |
| ERROR     | 473.256        | 196  | 2.415       |         |         |
| TOTAL     | 763.664        | 249  |             |         |         |

Keterangan:

\*)data diatas menggunakan program microstat

\*) F hitung > F tabel, berarti ada perbedaan nyata

$$\begin{aligned} \text{LSD (0,05)} &= 1.9457 \sqrt{2 \text{ RJK galat / ulangan}} \\ &= 1.9457 \sqrt{(2 \times 2.415) / 50} \\ &= 0,6075 \end{aligned}$$

Lampiran 15. Uji Pembobotan

| variabel             | BV  | BN     | F <sub>1</sub> |        | F <sub>2</sub> |        | F <sub>3</sub> |        | F <sub>4</sub> |        | F <sub>5</sub> |        |
|----------------------|-----|--------|----------------|--------|----------------|--------|----------------|--------|----------------|--------|----------------|--------|
|                      |     |        | Ne             | Nh     | Ne             | Nh     | Ne             | Nh     | Ne             | Nh     | Ne             | Nh     |
| O. rasa              | 1   | 0,1299 | 0,5714         | 0,0742 | 0              | 0      | 0,6607         | 0,0858 | 0,4821         | 0,0626 | 1              | 0,1299 |
| O. kerenyahan        | 1   | 0,1299 | 0              | 0      | 0,1351         | 0,0176 | 0,4324         | 0,0561 | 0,9729         | 0,1264 | 1              | 0,1299 |
| O. warna             | 0,9 | 0,1169 | 0,3333         | 0,0389 | 0,1026         | 0,0119 | 1              | 0,1169 | 0              | 0      | 0,1795         | 0,0209 |
| Kadar air (mth)      | 0,9 | 0,1169 | 0              | 0      | 0,3889         | 0,0455 | 0,5649         | 0,0660 | 0,7291         | 0,0852 | 1              | 0,1169 |
| Kadar pati (mth)     | 0,9 | 0,1169 | 1              | 0,1169 | 0,8822         | 0,1031 | 0,4648         | 0,0543 | 0,1524         | 0,0178 | 0              | 0      |
| Kadar amilosa(mth)   | 0,8 | 0,1039 | 0              | 0      | 0,1684         | 0,0175 | 0,2609         | 0,0271 | 0,7836         | 0,0814 | 1              | 0,1039 |
| Kdr g.reduksi (mth)  | 0,8 | 0,1039 | 0              | 0      | 0,0102         | 0,0011 | 0,1055         | 0,0101 | 0,7135         | 0,0741 | 1              | 0,1039 |
| Daya patah (mtg)     | 0,7 | 0,0909 | 0              | 0      | 0,3077         | 0,0279 | 0,5385         | 0,0489 | 0,6731         | 0,0612 | 1              | 0,0909 |
| % Pengembangan (mtg) | 0,7 | 0,0909 | 1              | 0,0909 | 0,9241         | 0,0840 | 0,6031         | 0,0548 | 0,3035         | 0,0276 | 0              | 0      |
| Total                | 7,7 |        |                | 0,3209 |                | 0,3086 |                | 0,5200 |                | 0,5363 |                | 0,6963 |

Keterangan: BV = Bobot Variabel  
 BN = Bobot Normal  
 Ne = Nilai efektifitas  
 Nh = Nilai hasil

F<sub>1</sub> = proporsi tapioka : ubi jalar = 80:20  
 F<sub>2</sub> = proporsi tapioka : ubi jalar = 70:30  
 F<sub>3</sub> = proporsi tapioka : ubi jalar = 60:40  
 F<sub>4</sub> = proporsi tapioka : ubi jalar = 50:50  
 F<sub>5</sub> = proporsi tapioka : ubi jalar = 40 :60

Contoh perhitungan:

Organoleptik rasa kerupuk ubi jalar (F<sub>1</sub>):

- nilai perlakuan (F<sub>1</sub>) = 5,72
- nilai terendah = 5,08
- nilai tertinggi = 6,20
- bobot variabel = 1
- total bobot variabel = 7,7

$$\begin{aligned} \text{BN} &= \text{BV} / \text{total BV} \\ &= 1 / 7,7 \\ &= 0,1299 \end{aligned}$$

$$\begin{aligned} \text{nilai efektifitas} &: \frac{\text{nilai perlakuan} - \text{nilai terendah}}{\text{nilai tertinggi} - \text{nilai terendah}} \\ &: \frac{5,72 - 5,08}{6,20 - 5,08} = 0,64 / 1,12 = 0,5714 \end{aligned}$$

$$\begin{aligned} \text{nilai hasil} &= \text{NE} \times \text{BN} \\ &= 0,5714 \times 0,1299 \\ &= 0,07422 \end{aligned}$$

