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## LAMPIRAN

### Lampiran 1. Prosedur Analisis

#### A. Uji Kadar Abu ( Nurshalati Tahar Dkk, 2017)

- Disiapkan terlebih dahulu alat dan bahan yang akan digunakan.
- Dipanaskan krus yang akan digunakan kedalam tanur selama 30 menit.
- Dinginkan krus yang telah dipanaskan tadi dalam desikator, kemudian ditimbang dengan neraca sartorius hingga beratnya konstan.
- Ditimbang sampel sebanyak 5 g. Lalu, dimasukkan kedalam krus yang telah ditimbang tadi. Lalu, ditimbang kembali krus yang berisi sampel tersebut.
- Setelah ditimbang masukkan krus yang berisi sampel tadi kedalam tanur dengan suhu 525<sup>0</sup>C selama 3 jam.
- Setelah dilakukan pemanasan krus dikeluarkan dari tanur dan dimasukkan dalam desikator untuk didinginkan selama 20 menit.
- Setelah didinginkan krus yang berisi sampel uji yang telah dipanaskan ditimbang kembali, kemudian dihitung kadar abunya.
- Rumus yang digunakan dalam menghitung kadar abu sampel adalah :  
Kadar Abu =  $\frac{W_2 - W_0}{W_1 - W_0} \times 100\%$

$$\begin{aligned} \% \text{Kadar Abu} &= \frac{(41.294 - 40.5945)}{45.6153 - 40.5945} \times 100\% \\ &= 13.924\% \end{aligned}$$

Keterangan:

W<sub>2</sub> = Berat krus dan sampel setelah dipanaskan

W<sub>1</sub> = Berat krus dan sampel sebelum dipanaskan

W<sub>0</sub> = Berat krus

#### B. Uji Kadar Air (Nurshalati Tahar Dkk, 2017)

- Disiapkan terlebih dahulu alat dan bahan yang akan digunakan
- Dipanaskan krus yang akan digunakan kedalam oven selama 30 menit.
- Dinginkan krus yang telah dipanaskan tadi dalam desikator. Kemudian, ditimbang dengan neraca sartorius hingga beratnya konstan.

- Ditimbang sampel sebanyak 2 g. Lalu, dimasukkan kedalam krus yang telah ditimbang tadi lalu ditimbang kembali krus yang berisi sampel.
- Setelah ditimbang masukkan krus yang berisi sampel tadi kedalam oven dengan suhu 105<sup>0</sup>C selama 3 jam.
- Setelah dilakukan pemanasan krus dikeluarkan dari oven dan dimasukkan dalam desikator untuk didinginkan selama 20 menit.
- Setelah didinginkan krus yang berisi sampel uji yang telah dipanaskan ditimbang kembali kemudian dihitung kadar airnya.
- Rumus yang digunakan dalam menghitung kadar air sampel adalah:

$$\text{Kadar Air} = \frac{W_2 - W_0}{W_1 - W_0} \times 100\%$$

$$\% \text{ kadar air} = \frac{(9,3562 - 9,3532)}{9,3562 - 7,2912} \times 100\% = 0,1453\%$$

Keterangan:

W<sub>2</sub> = Berat krus dan sampel setelah dipanaskan

W<sub>1</sub> = Berat krus dan sampel sebelum dipanaskan

W<sub>0</sub> = Berat krus

### C. Uji Warna Colorimeter (Nuraeni dkk, 2019)

Analisis warna menggunakan alat colorimeter, yaitu dengan cara menempelkan sampel pada kaca sensor. Hasil pengukuran warna dinyatakan dalam nilai L, a\* dan b\*.

$$\Delta E = [(\Delta L)^2 + (\Delta a)^2 + (\Delta b)^2]^{1/2}$$

### D. Uji Aktivitas Antioksidan / RSA (RADICAL SCAVENGING ACTIVITY)( YEN & CHENG ,1995 )

- Timbang sample 1g ,larutkan menggunakan methanol pada konsentrasi tertentu.
- Ambil 1ml larutan induk ,masukkan pada tabung reaksi.
- Tambahkan 1 ml larutan 1 ,1 ,2 ,2 –Diphenyl Picryl Hydrazyl (DPPH ),200 Mikro molar.
- Inkubasi pada ruang gelap selama 30 menit.
- Encerkan hingga 5ml menggunakan methanol.

- Buat blanko ( 1ml larutan DPPH + 4 ml methanol ).
- Tera pada panjang gelombang 517 Nm.

$$\text{Aktivitas Antioksidan ( \% )} = \frac{\text{OD Blangko} - \text{OD Sampel}}{\text{OD Blangko}} \times 100 \%$$

$$\begin{aligned} \text{Aktivitas Antioksidan ( \% )} &= \frac{0,256 - 0,144}{0,256} \times 100 \% \\ &= 43,75\% \end{aligned}$$

#### **E.Uji Organoleptik (Arif Ismanto & Sitiani Subaihah, 2020)**

Uji organoleptik pada penelitian ini dilakukan sesuai metode Irawati et al. (2015) dengan cara panelis merespon aroma, rasa dan warna. Uji organoleptik dilakukan dengan menggunakan panelis sebanyak 9 orang. Penilaian panelis menggunakan kuisisioner yang telah disediakan. Uji hedonik warna, aroma dan rasa dinilai dengan skor 1 (sangat tidak suka) sampai 5 (sangat suka).

## Lampiran 2. Hasil Pengolahan Data

### 1. Kadar Air

Tabel Data Primer Analisa Kadar Air (w/b%)

| Perlakuan | BLOK    |         | Jumlah  | Rata-Rata |
|-----------|---------|---------|---------|-----------|
|           | I       | II      |         |           |
|           | B1      |         |         |           |
| A1        | 23,6361 | 21,7413 | 45,3774 | 22,6887   |
| A2        | 17,9536 | 22,3130 | 40,2666 | 20,6887   |
| A3        | 17,0911 | 20,9565 | 38,0476 | 19,0238   |
|           | B2      |         |         |           |
| A1        | 29,8410 | 27,8629 | 57,7039 | 28,8520   |
| A2        | 21,6206 | 25,0470 | 46,6676 | 23,3338   |
| A3        | 18,9212 | 20,0238 | 38,9495 | 19,4748   |
|           | B3      |         |         |           |
| A1        | 28,2100 | 28,0855 | 56,2955 | 28,1478   |
| A2        | 19,4080 | 26,5600 | 45,9680 | 22,9840   |
| A3        | 17,6577 | 25,3658 | 43,0235 | 21,5118   |

$$GT = 17,0911 + 23,6361 + 17,9536 + \dots + 25,3658 = 412,2996$$

$$FK = \frac{\sum(GT)^2}{r \times R \times P} = \frac{(412,2996)^2}{2 \times 3 \times 3} = 9443,94$$

$$\begin{aligned} JK \text{ Total} &= \sum(a^2 + b^2 + c^2 + \dots + n^2) - FK \\ &= \sum(17,0911^2 + 23,6361^2 + 17,9536^2 + \dots + 25,3658^2) - 9443,94 \\ &= 9725,52 - 9443,94 \\ &= 281,58 \end{aligned}$$

$$\begin{aligned} JK \text{ Perlakuan} &= \frac{\sum JT_1^2 + JT_2^2 + JT_3^2 + \dots + JT_n^2}{r} - FK \\ &= \frac{\sum 38,0476^2 + 57,7039^2 + 45,9680 + \dots + 43,0235^2}{r} - 9443,94 \\ &= \frac{1924,601}{2} - 9443,94 = 179,06 \end{aligned}$$

$$\begin{aligned} JK \text{ Blok} &= \frac{\sum JB_1^2 + JB_2^2}{A \times B} - FK \\ &= \frac{194,3393^2 + 217,9603^2}{9} - 9443,94 \end{aligned}$$

$$= 30,98$$

$$\begin{aligned} \text{JK Error} &= \text{JK total} - \text{JK Perlakuan} - \text{JK Blok} \\ &= 281,58 - 179,06 - 30,98 \\ &= 71,54 \end{aligned}$$

Tabel A x B

|       | B1      | B2      | B3      | Jlh A    |
|-------|---------|---------|---------|----------|
| A1    | 45,3774 | 40,2666 | 38,0476 | 123,6916 |
| A2    | 57,7039 | 46,6676 | 38,9495 | 143,321  |
| A3    | 56,2955 | 45,968  | 43,0235 | 145,287  |
| Jlh B | 159,38  | 132,9   | 120,02  |          |

$$\begin{aligned} \text{JK AxB} &= \text{JK Perlakuan} - \text{JK A} - \text{JK B} \\ &= 179,06 - 47,52 - 15,94 \\ &= 115,60 \end{aligned}$$

$$\begin{aligned} \text{JK B} &= \frac{\sum(B)^2}{r \times R} - \text{FK} \\ &= \frac{57458,90}{2 \times 3} - 9443,94 \\ &= 132,54 \end{aligned}$$

$$\begin{aligned} \text{JK A} &= \frac{\sum(A)^2}{r \times R} - \text{FK} \\ &= \frac{56948,8}{2 \times 3} - 9443,94 \\ &= 47,53 \end{aligned}$$



Tabel Analisa Keragaman Kadar Air Pembuatan Bulir Minuman Fungsional  
Kunyit Jeruk Nipis

| Sumber Keragaman | db | JK     | RK     | F.Hitung             | F. Tabel |      |
|------------------|----|--------|--------|----------------------|----------|------|
|                  |    |        |        |                      | 5%       | 1%   |
| A                | 2  | 134,21 | 67,10  | 10,4238*             | 4,46     | 8,65 |
| B                | 2  | 47,53  | 23,76  | 3,6916 <sup>tn</sup> | 4,46     | 8,65 |
| A x B            | 4  | 17,35  | 4,34   | 0,6737 <sup>tn</sup> | 3,84     | 7,01 |
| Blok             | 1  | 31,00  | 31,00  |                      |          |      |
| Eror             | 8  | 51,50  | 6,44   |                      |          |      |
| Total            | 17 | 281,58 | 132,64 |                      |          |      |

Keterangan : \*(Berpengaruh Nyata)  
tn (Tidak Nyata)

Tabel Rerata Uji Kadar Air Pembuatan Bulir Minuman Fungsional  
Kunyit Jeruk Nipis (%)

| Konsentrasi Kalsium Laktat | Konsentrasi Natrium Alginat |         |         |          |
|----------------------------|-----------------------------|---------|---------|----------|
|                            | A1                          | A2      | A3      | Rerata B |
| B1                         | 22,6887                     | 20,6887 | 19,0238 | 20,8004  |
| B2                         | 28,8520                     | 23,3338 | 19,4748 | 23,8869  |
| B3                         | 28,1478                     | 22,9840 | 21,5118 | 20,5532  |
| Rerata A                   | 26,5628                     | 22,9840 | 20,0035 |          |

Keterangan : Rerata yang diikuti huruf yang berbeda dengan kolom maupun baris menunjukkan adanya perbedaan berdasarkan uji jarak berganda *Duncan* pada jenjang nyata 5%.

## 2. Kadar Abu

Tabel Data Primer Analisa Kadar Abu (%)

| Perlakuan | BLOK   |        | Jumlah | Rata-Rata |
|-----------|--------|--------|--------|-----------|
|           | I      | II     |        |           |
|           | B1     |        |        |           |
| A1        | 2,2260 | 2,1879 | 4,4139 | 2,2070    |
| A2        | 2,3765 | 2,1798 | 4,5563 | 2,2782    |
| A3        | 2,6580 | 2,5464 | 5,2044 | 2,6022    |
|           | B2     |        |        |           |
| A1        | 2,1160 | 2,0898 | 4,2058 | 2,1029    |
| A2        | 2,2060 | 2,0080 | 4,2140 | 2,1070    |
| A3        | 2,2468 | 2,0980 | 4,3448 | 2,1724    |
|           | B3     |        |        |           |
| A1        | 2,1980 | 2,1230 | 4,3210 | 2,1605    |
| A2        | 2,2342 | 2,1560 | 4,3902 | 2,1951    |
| A3        | 2,4654 | 2,2118 | 4,6772 | 2,3386    |

$$GT = 2,2260 + 2,1160 + 2,1980 + \dots + 2,2118 = 40,3276$$

$$FK = \frac{\sum(GT)^2}{r \times R \times P} = \frac{(40,3276)^2}{2 \times 3 \times 3} = 90,35$$

$$\begin{aligned} JK \text{ Total} &= \sum(a^2 + b^2 + c^2 + \dots + n^2) - FK \\ &= \sum(2,2260^2 + 2,1160^2 + 2,1980^2 + \dots + 2,2118^2) - 90,35 \\ &= 90,83 - 90,35 \\ &= 0,48 \end{aligned}$$

$$\begin{aligned} JK \text{ Perlakuan} &= \frac{\sum JT_1^2 + JT_2^2 + JT_3^2 + \dots + JT_n^2}{r} - FK \\ &= \frac{\sum 4,4139^2 + 4,2058^2 + 4,3210^2 + \dots + 4,6772^2}{r} - 90,35 \\ &= \frac{181,47}{2} - 90,35 = 0,38 \end{aligned}$$

$$JK \text{ Blok} = \frac{\sum JB_1^2 + JB_2^2}{A \times B} - FK$$

$$= \frac{20,7269^2 + 19,6007^2}{9} - 90,35$$

$$= 0,07$$

$$\text{JK Error} = \text{JK total} - \text{JK Perlakuan} - \text{JK Blok}$$

$$= 0,48 - 0,38 - 0,07$$

$$= 0,03$$

Tabel A x B

|       | B1      | B2      | B3      | Jlh A   |
|-------|---------|---------|---------|---------|
| A1    | 4,4139  | 4,5563  | 5,2044  | 14,1746 |
| A2    | 4,2058  | 4,2140  | 4,3448  | 12,7646 |
| A3    | 4,3210  | 4,3902  | 4,6772  | 13,3884 |
| Jlh B | 12,9407 | 13,1605 | 14,2264 |         |

$$\begin{aligned} \text{JK B} &= \frac{\sum(B)^2}{r \times R} - \text{FK} \\ &= \frac{543,05}{2 \times 3} - 90,35 \\ &= 0,15 \end{aligned}$$

$$\begin{aligned} \text{JK A} &= \frac{\sum(A)^2}{r \times R} - \text{FK} \\ &= \frac{543,10}{2 \times 3} - 90,35 \\ &= 0,16 \end{aligned}$$

$$\begin{aligned} \text{JK Ax B} &= \text{JK Perlakuan} - \text{JK A} - \text{JK B} \\ &= 0,38 - 0,16 - 0,15 \\ &= 0,07 \end{aligned}$$

Tabel Analisa Keragaman Kadar Abu

| Sumber Keragaman | db | JK   | RK   | F.Hitung              | F. Tabel |      |
|------------------|----|------|------|-----------------------|----------|------|
|                  |    |      |      |                       | 5%       | 1%   |
| A                | 2  | 0,16 | 0,08 | 25,3452 <sup>**</sup> | 4,46     | 8,65 |
| B                | 2  | 0,17 | 0,08 | 26,7553 <sup>**</sup> | 4,46     | 8,65 |
| A x B            | 4  | 0,06 | 0,02 | 4,9562 <sup>*</sup>   | 3,84     | 7,01 |
| Blok             | 1  | 0,07 | 0,07 |                       |          |      |
| Error            | 8  | 0,02 | 0,00 |                       |          |      |
| Total            | 17 | 0,48 | 0,25 |                       |          |      |

Keterangan : \*\* (Berpengaruh Sangat Nyata)

\* (Berpengaruh Nyata)

Peringkat Uji Jarak Berganda Duncan (JBD) A

$$A1 = 2,362$$

$$A2 = 2,231$$

$$A3 = 1,127$$

$$SD S = \frac{\sqrt{2 \times RK \text{ Error}}}{r \times R} = \frac{\sqrt{2 \times 0,00}}{2 \times 6} = 0,0321$$

$$Rp 2 = \frac{Rp \times SD}{\sqrt{2}} = \frac{3,26 \times 0,0321}{\sqrt{1,41}} = 0,0744$$

$$Rp 3 = \frac{Rp \times SD}{\sqrt{2}} = \frac{3,29 \times 0,0321}{\sqrt{1,41}} = 0,0774$$

Tabel Hasil jarak berganda duncan A pada kekompakan

| Urutan Rerata | P | RP   | JBD    | Selisih |       |
|---------------|---|------|--------|---------|-------|
| A1            |   |      |        | 0,131   | >JBD  |
| A2            | 2 | 3,26 | 0,0744 | 1,235   | > JBD |
| A3            | 3 | 3,29 | 0,0774 | 1,104   | > JBD |

Keterangan: Jika selisih menunjukkan < JBD berarti tidak berbeda nyata, sedangkan jika selisih > JBD berarti berbeda nyata.

Peringkat Uji Jarak Berganda Duncan (JBD) B

$$B1 = 2,371$$

$$B2 = 2,193$$

$$B3 = 2,156$$

$$SD S = \frac{\sqrt{2 \times RK Error}}{r \times b} = \frac{\sqrt{2 \times 0,00}}{2 \times 6} = 0,0322$$

$$Rp 2 = \frac{Rp \times SD}{\sqrt{2}} = \frac{3,26 \times 0,0138}{\sqrt{1,41}} = 0,0742$$

$$Rp 3 = \frac{Rp \times SD}{\sqrt{2}} = \frac{3,29 \times 0,0138}{\sqrt{1,41}} = 0,0774$$

Tabel Hasil jarak berganda duncan B pada kekompakan

| Urutan Rerata | P | RP   | JBD    | Selisih |       |
|---------------|---|------|--------|---------|-------|
| B1            |   |      |        | 0,1780  | >JBD  |
| B2            | 2 | 3,26 | 0,3256 | 0,2150  | < JBD |
| B3            | 3 | 3,29 | 0,3392 | 0,0370  | < JBD |

Keterangan: Jika selisih menunjukkan < JBD berarti tidak berbeda nyata, sedangkan jika selisih > JBD berarti berbeda nyata.

## Peringkat Uji Jarak Berganda A x B

| PERINGKAT | DUNCAN<br>A X B | RATA-<br>RATA |
|-----------|-----------------|---------------|
| 1         | A3B1            | 2,602         |
| 2         | A3B3            | 2,339         |
| 3         | A2B1            | 2,278         |
| 4         | A1B1            | 2,207         |
| 5         | A2B3            | 2,195         |
| 6         | A3B2            | 2,172         |
| 7         | A1B3            | 2,161         |
| 8         | A2B2            | 2,107         |
| 9         | A1B2            | 2,103         |

$$SD A \times B = \frac{\sqrt{2 \times RK \text{ Error}}}{r} = \frac{\sqrt{2 \times 0,00}}{2} = 0,0558$$

$$Rp 2 = \frac{Rp \times SD}{\sqrt{2}} = \frac{3,26 \times 0,0558}{\sqrt{1,41}} = 0,1286$$

$$Rp 3 = \frac{Rp \times SD}{\sqrt{2}} = \frac{3,39 \times 0,0558}{\sqrt{1,41}} = 0,1340$$

$$Rp 4 = \frac{Rp \times SD}{\sqrt{2}} = \frac{3,47 \times 0,0558}{\sqrt{1,41}} = 0,1370$$

$$Rp 5 = \frac{Rp \times SD}{\sqrt{2}} = \frac{3,52 \times 0,0558}{\sqrt{1,41}} = 0,1388$$

$$Rp 6 = \frac{Rp \times SD}{\sqrt{2}} = \frac{3,55 \times 0,0558}{\sqrt{1,41}} = 0,1400$$

$$Rp 7 = \frac{Rp \times SD}{\sqrt{2}} = \frac{3,56 \times 0,0558}{\sqrt{1,41}} = 0,1404$$

$$Rp 8 = \frac{Rp \times SD}{\sqrt{2}} = \frac{3,56 \times 0,0558}{\sqrt{1,41}} = 0,1404$$

$$Rp 9 = \frac{Rp \times SD}{\sqrt{2}} = \frac{3,56 \times 0,0558}{\sqrt{1,41}} = 0,1404$$

Tabel Hasil Jarak Berganda Duncan A x B pada Uji Kadar Abu

| Urutan Rerata | rerata | P | RP   | JBD    | Selisih |       |
|---------------|--------|---|------|--------|---------|-------|
| A3B1          | 2,602  |   |      |        |         | > JBD |
| A3B3          | 2,339  | 2 | 3,26 | 0,1286 | 0,2630  | > JBD |
| A2B1          | 2,278  | 3 | 3,39 | 0,1340 | 0,3240  | > JBD |
| A1B1          | 2,207  | 4 | 3,47 | 0,1370 | 0,0710  | < JBD |
| A2B3          | 2,195  | 5 | 3,52 | 0,1388 | 0,0830  | < JBD |
| A3B2          | 2,172  | 6 | 3,55 | 0,1400 | 0,0226  | < JBD |
| A1B3          | 2,161  | 7 | 3,56 | 0,1404 | 0,0345  | < JBD |
| A2B2          | 2,107  | 8 | 3,56 | 0,1404 | 0,0535  | < JBD |
| A1B2          | 2,103  | 9 | 3,56 | 0,1404 | 0,0040  | < JBD |

Keterangan: Jika selisih menunjukkan < JBD berarti tidak berbeda nyata, sedangkan jika selisih > JBD berarti berbeda nyata.

Tabel Rerata Uji Kadar Abu

| Konsentrasi Kalsium Laktat | Konsentrasi Natrium Alginat |                    |                    |                    |
|----------------------------|-----------------------------|--------------------|--------------------|--------------------|
|                            | A1                          | A2                 | A3                 | Rerata B           |
| B1                         | 2,207 <sup>b</sup>          | 2,278 <sup>b</sup> | 2,602 <sup>a</sup> | 2,362 <sup>m</sup> |
| B2                         | 2,103 <sup>e</sup>          | 2,107 <sup>e</sup> | 2,172 <sup>c</sup> | 2,127 <sup>n</sup> |
| B3                         | 2,161 <sup>d</sup>          | 2,195 <sup>c</sup> | 2,339 <sup>a</sup> | 2,231 <sup>o</sup> |
| Rerata A                   | 2,156 <sup>z</sup>          | 2,193 <sup>y</sup> | 2,371 <sup>x</sup> |                    |

Keterangan : Rerata yang diikuti huruf yang berbeda dengan kolom maupun baris menunjukkan adanya perbedaan berdasarkan uji jarak berganda *Duncan* pada jenjang nyata 5%.

### 3. Aktivitas Antioksidan

Tabel Data Primer Analisa Aktivitas Antioksidan

| Perlakuan | BLOK  |       | Jumlah | Rata-Rata |
|-----------|-------|-------|--------|-----------|
|           | I     | II    |        |           |
|           | B1    |       |        |           |
| A1        | 13,58 | 12,28 | 25,86  | 12,93     |
| A2        | 28,62 | 22,46 | 51,08  | 25,54     |
| A3        | 26,78 | 30,80 | 57,58  | 28,79     |
|           | B2    |       |        |           |
| A1        | 20,48 | 16,40 | 36,88  | 18,44     |
| A2        | 24,87 | 32,29 | 57,16  | 28,58     |
| A3        | 26,77 | 33,68 | 60,45  | 30,23     |
|           | B3    |       |        |           |
| A1        | 20,88 | 39,27 | 60,15  | 30,08     |
| A2        | 22,64 | 40,21 | 62,85  | 31,43     |
| A3        | 29,78 | 44,58 | 74,36  | 37,18     |

$$GT = 20,48 + 26,77 + 24,87 + \dots + 44,58 = 486,37$$

$$FK = \frac{\sum(GT)^2}{r \times R \times P} = \frac{(486,37)^2}{2 \times 3 \times 3} = 13.141$$

$$\begin{aligned} JK \text{ Total} &= \sum(a^2 + b^2 + c^2 + \dots + n^2) - FK \\ &= \sum(20,48^2 + 26,77^2 + 24,87^2 + \dots + 44,58^2) - 13.141 \\ &= 1.365 \end{aligned}$$

$$\begin{aligned} JK \text{ Perlakuan} &= \frac{\sum JT_1^2 + JT_2^2 + JT_3^2 + \dots + JT_n^2}{r} - FK \\ &= \frac{\sum 25,86^2 + 36,88^2 + 60,15^2 + \dots + 74,36^2}{r} - 13.141 \\ &= \frac{27.972}{2} - 13.141 = 845 \end{aligned}$$

$$\begin{aligned} JK \text{ Blok} &= \frac{\sum JB_1^2 + JB_2^2}{A \times B} - FK \\ &= \frac{214,40^2 + 271,97^2}{9} - 13.141 \\ &= 185 \end{aligned}$$

$$JK \text{ Error} = JK \text{ total} - JK \text{ Perlakuan} - JK \text{ Blok}$$



$$= 1.365 - 845 - 185$$

$$= 335$$

Tabel A x B

|       | B1     | B2     | B3     | Jlh A  |
|-------|--------|--------|--------|--------|
| A1    | 25,86  | 51,08  | 57,58  | 134,52 |
| A2    | 36,88  | 57,16  | 60,45  | 154,49 |
| A3    | 60,15  | 62,85  | 74,36  | 197,36 |
| Jlh B | 122,89 | 171,09 | 192,39 |        |

$$JK B = \frac{\sum(B)^2}{r \times R} - FK$$

$$= \frac{81,387}{2 \times 3} - 13.141$$

$$= 423$$

$$JK A = \frac{\sum(A)^2}{r \times R} - FK$$

$$= \frac{80,913}{2 \times 3} - 13.414$$

$$= 344$$

$$JK AxB = JK Perlakuan - JK A - JK B$$

$$= 845 - 344 - 423$$

$$= 78$$

Tabel Analisa Keragaman Aktivitas Antioksidan

| Sumber Keragaman | db | JK      | RK     | F.Hitung           | F. Tabel |      |
|------------------|----|---------|--------|--------------------|----------|------|
|                  |    |         |        |                    | 5%       | 1%   |
| A                | 2  | 422,62  | 211,31 | 5,02 <sup>*</sup>  | 4,46     | 8,65 |
| B                | 2  | 343,64  | 171,82 | 4,08 <sup>tn</sup> | 4,46     | 8,65 |
| A x B            | 4  | 78,01   | 19,50  | 0,46 <sup>tn</sup> | 3,84     | 7,01 |
| Blok             | 1  | 184,13  | 184,13 |                    |          |      |
| Error            | 8  | 336,46  | 42,06  |                    |          |      |
| Total            | 17 | 1364,86 | 628,82 |                    |          |      |

Keterangan : \*(Berpengaruh Nyata)  
tn (Tidak Berpengaruh Nyata)

Tabel Rerata Uji Aktivitas Antioksidan

| Konsentrasi Natrium Alginat | Konsentrasi Kalsium Laktat |       |       |                    |
|-----------------------------|----------------------------|-------|-------|--------------------|
|                             | B1                         | B2    | B3    | Rerata A           |
| A1                          | 13,00                      | 25,54 | 28,79 | 22,42 <sup>z</sup> |
| A2                          | 18,44                      | 28,58 | 30,23 | 25,75 <sup>y</sup> |
| A3                          | 30,08                      | 31,43 | 37,18 | 32,89 <sup>x</sup> |
| Rerata B                    | 20,48                      | 28,52 | 32,07 |                    |

Keterangan : Rerata yang diikuti huruf yang berbeda dengan kolom maupun baris menunjukkan adanya perbedaan berdasarkan uji jarak berganda *Duncan* pada jenjang nyata 5%.

#### 4. Uji Warna Colorimeter

Tabel Data Primer Analisa Warna Colorimeter

| Perlakuan | BLOK     |          | Jumlah   | Rata-Rata |
|-----------|----------|----------|----------|-----------|
|           | I        | II       |          |           |
|           | B1       |          |          |           |
| A1        | 32,2266  | 36,2615  | 68,4881  | 34,2441   |
| A2        | 30,2752  | 40,2465  | 70,5217  | 35,2609   |
| A3        | 33,7372  | 38,9674  | 72,7046  | 36,3523   |
|           | B2       |          |          |           |
| A1        | 30,8283  | 32,8967  | 63,7250  | 31,8625   |
| A2        | 29,8609  | 35,9433  | 65,8042  | 32,9021   |
| A3        | 35,2934  | 32,3369  | 67,6303  | 33,8152   |
|           | B3       |          |          |           |
| A1        | 30,2752  | 39,2668  | 69,5420  | 34,7710   |
| A2        | 36,6379  | 33,3134  | 69,9513  | 34,9757   |
| A3        | 34,4746  | 35,5339  | 70,0085  | 35,0043   |
| Jumlah    | 293,6093 | 324,7664 | 618,3757 | 309,1879  |
| Rerata    | 32,6233  | 36,0852  | 68,7084  | 34,3542   |

$$GT = 32,2266 + 30,8283 + 30,2752 + \dots + 35,5339 = 618,37$$

$$FK = \frac{\sum(GT)^2}{r \times R \times P} = \frac{(618,37)^2}{2 \times 3 \times 3} = 21243,80$$

$$\begin{aligned}
 \text{JK Total} &= \sum(a^2+b^2+c^2+\dots+n^2) - \text{FK} \\
 &= \sum(32,2266^2 + 30,8283^2 + 30,2752^2+\dots+ 35,5339^2) - 21243,80 \\
 &= 21415,68 - 21243,80 \\
 &= 171,88
 \end{aligned}$$

$$\begin{aligned}
 \text{JK Perlakuan} &= \frac{\sum JT_1^2 + JT_2^2 + JT_3^2 + \dots + JT_n^2}{r} - \text{FK} \\
 &= \frac{\sum 68,4881^2 + 63,7250^2 + 69,5420^2 + \dots + 70,0085^2}{r} - 21243,80 \\
 &= \frac{42545,27}{2} - 21243,80 = 21272,63 - 21243,80 = 28,83
 \end{aligned}$$

$$\begin{aligned}
 \text{JK Blok} &= \frac{\sum JB_1^2 + JB_2^2}{A \times B} - \text{FK} \\
 &= \frac{293,6093^2 + 324,7664^2}{9} - 21243,80 \\
 &= 21297,73 - 21243,80 = 53,93
 \end{aligned}$$

$$\begin{aligned}
 \text{JK Error} &= \text{JK total} - \text{JK Perlakuan} - \text{JK Blok} \\
 &= 171,88 - 28,83 - 53,93 \\
 &= 89,12
 \end{aligned}$$

Tabel AxB

|       | B1       | B2       | B3       | Jlh A   |
|-------|----------|----------|----------|---------|
| A1    | 68,4881  | 70,5217  | 72,7046  | 211,714 |
| A2    | 63,725   | 65,8042  | 67,6303  | 197,159 |
| A3    | 69,542   | 69,9513  | 70,0085  | 209,502 |
| Jlh B | 201,7551 | 206,2772 | 210,3434 |         |

$$\begin{aligned}
 \text{JK B} &= \frac{\sum(B)^2}{r \times R} - \text{FK} \\
 &= \frac{127493,29}{2 \times 3} - 21243,80 \\
 &= 21248,88 - 21243,80 = 5,08
 \end{aligned}$$

$$\begin{aligned}
 \text{JK A} &= \frac{\sum(A)^2}{r \times R} - \text{FK} \\
 &= \frac{127579,49}{2 \times 3} - 21243,80 \\
 &= 21263,24 - 21243,80 = 19,44
 \end{aligned}$$

$$\begin{aligned}
 \text{JK AxB} &= \text{JK Perlakuan} - \text{JK A} - \text{JK B} \\
 &= 28,83 - 19,44 - 5,08 \\
 &= 4,31
 \end{aligned}$$

Tabel Analisa Keragaman Warna Colorimeter

| Sumber Keragaman | db | JK     | RK    | F.Hitung             | F. Tabel |      |
|------------------|----|--------|-------|----------------------|----------|------|
|                  |    |        |       |                      | 5%       | 1%   |
| A                | 2  | 6,15   | 3,08  | 0,2761 <sup>tn</sup> | 4,46     | 8,65 |
| B                | 2  | 20,50  | 10,25 | 0,9203 <sup>tn</sup> | 4,46     | 8,65 |
| A x B            | 4  | 2,18   | 0,54  | 0,0489 <sup>tn</sup> | 3,84     | 7,01 |
| Blok             | 1  | 53,93  | 53,93 |                      |          |      |
| Error            | 8  | 89,12  | 11,14 |                      |          |      |
| Total            | 17 | 171,88 | 78,94 |                      |          |      |

Keterangan : tn (Tidak Berpengaruh Nyata)

## 5. Uji Kesukaan Warna

Tabel Data Primer Uji Kesukaan Warna

| Perlakuan | BLOK  |       | Jumlah | Rata-Rata |
|-----------|-------|-------|--------|-----------|
|           | I     | II    |        |           |
|           | B1    |       |        |           |
| A1        | 4,30  | 3,95  | 8,25   | 4,13      |
| A2        | 4,25  | 3,95  | 8,20   | 4,10      |
| A3        | 4,35  | 4,10  | 8,15   | 4,08      |
|           | B2    |       |        |           |
| A1        | 4,35  | 4,15  | 8,50   | 4,25      |
| A2        | 4,50  | 4,10  | 8,35   | 4,18      |
| A3        | 4,25  | 4,00  | 8,25   | 4,13      |
|           | B3    |       |        |           |
| A1        | 4,45  | 3,95  | 8,40   | 4,20      |
| A2        | 4,40  | 3,95  | 8,35   | 4,18      |
| A3        | 4,20  | 3,95  | 8,15   | 4,08      |
| Jumlah    | 38,50 | 36,10 | 74,60  | 37,30     |
| Rerata    | 4,14  | 6,15  | 6,22   | 4,14      |

$$GT = 4,30 + 4,35 + 4,45 + \dots + 3,95 = 74,60$$

$$FK = \frac{\sum(GT)^2}{r \times R \times P} = \frac{(74,60)^2}{2 \times 3 \times 3} = 309,17$$

$$\begin{aligned} JK \text{ Total} &= \sum(a^2 + b^2 + c^2 + \dots + n^2) - FK \\ &= \sum(4,30^2 + 4,35^2 + 4,45^2 + \dots + 3,95^2) - 309,17 \\ &= 0,49 \end{aligned}$$

$$\begin{aligned} JK \text{ Perlakuan} &= \frac{\sum JT_1^2 + JT_2^2 + JT_3^2 + \dots + JT_n^2}{r} - FK \\ &= \frac{\sum 8,25^2 + 8,50^2 + 8,40^2 + \dots + 8,15^2}{r} - 309,17 \\ &= \frac{618,47}{2} - 309,17 \\ &= 0,06 \end{aligned}$$

$$JK \text{ Blok} = \frac{\sum JB_1^2 + JB_2^2}{A \times B} - FK$$

$$= \frac{38,50^2 + 36,10^2}{9} - 309,17$$

$$= 0,32$$

$$\text{JK Error} = \text{JK total} - \text{JK Perlakuan} - \text{JK Blok}$$

$$= 0,49 - 0,06 - 0,32$$

$$= 0,11$$

Tabel AxB

|       | A1    | A2    | A3    | Jlh B |
|-------|-------|-------|-------|-------|
| B1    | 8,25  | 8,20  | 8,15  | 24,60 |
| B2    | 8,50  | 8,35  | 8,25  | 25,10 |
| B3    | 8,40  | 8,35  | 8,15  | 24,90 |
| Jlh A | 25,15 | 24,90 | 24,55 |       |

$$\begin{aligned} \text{JK B} &= \frac{\sum(B)^2}{r \times R} - \text{FK} \\ &= \frac{1855,18}{2 \times 3} - 309,17 \\ &= 0,02 \end{aligned}$$

$$\begin{aligned} \text{JK A} &= \frac{\sum(A)^2}{r \times R} - \text{FK} \\ &= \frac{1855,23}{2 \times 3} - 309,17 \\ &= 0,03 \end{aligned}$$

$$\begin{aligned} \text{JK AxB} &= \text{JK Perlakuan} - \text{JK A} - \text{JK B} \\ &= 0,06 - 0,03 - 0,02 \\ &= 0,01 \end{aligned}$$

Tabel Analisa Keragaman Uji Kesukaan Warna

| Sumber Keragaman | db | JK   | RK   | F.Hitung           | F. Tabel |      |
|------------------|----|------|------|--------------------|----------|------|
|                  |    |      |      |                    | 5%       | 1%   |
| A                | 2  | 0,03 | 0,02 | 1,13 <sup>tn</sup> | 4,46     | 8,65 |
| B                | 2  | 0,02 | 0,01 | 0,79 <sup>tn</sup> | 4,46     | 8,65 |
| A x B            | 4  | 0,01 | 0,00 | 0,10 <sup>tn</sup> | 3,84     | 7,01 |
| Blok             | 1  | 0,32 | 0,32 |                    |          |      |
| Error            | 8  | 0,11 | 0,01 |                    |          |      |
| Total            | 17 | 0,48 | 0,36 |                    |          |      |

Keterangan: tn (Tidak Berpengaruh Nyata)

## 6. Uji Kesukaan Aroma

Tabel Data Primer Uji Kesukaan Aroma

| Perlakuan | BLOK  |       | Jumlah | Rata-Rata |
|-----------|-------|-------|--------|-----------|
|           | I     | II    |        |           |
|           | B1    |       |        |           |
| A1        | 4,20  | 4,15  | 8,35   | 4,18      |
| A2        | 3,95  | 3,85  | 7,80   | 3,90      |
| A3        | 3,95  | 3,95  | 7,70   | 3,85      |
|           | B2    |       |        |           |
| A1        | 4,35  | 3,70  | 8,05   | 4,03      |
| A2        | 4,00  | 3,90  | 7,90   | 3,95      |
| A3        | 4,00  | 3,80  | 7,80   | 3,90      |
|           | B3    |       |        |           |
| A1        | 4,30  | 3,95  | 8,25   | 4,13      |
| A2        | 3,90  | 4,05  | 7,95   | 3,98      |
| A3        | 3,95  | 3,85  | 7,80   | 3,90      |
| Jumlah    | 36,75 | 34,85 | 71,60  | 35,80     |
| Rerata    | 3,98  | 5,91  | 5,97   | 3,98      |

$$GT = 4,20 + 4,35 + 4,30 + \dots + 3,95 = 71,60$$

$$FK = \frac{\sum(GT)^2}{r \times R \times P} = \frac{(71,60)^2}{2 \times 3 \times 3} = 284,80$$

$$\begin{aligned} JK \text{ Total} &= \sum(a^2 + b^2 + c^2 + \dots + n^2) - FK \\ &= \sum(4,20^2 + 4,35^2 + 4,30^2 + \dots + 3,95^2) - 284,80 \\ &= 0,65 \end{aligned}$$

$$\begin{aligned}
 \text{JK Perlakuan} &= \frac{\sum JT_1^2 + JT_2^2 + JT_3^2 + \dots + JT_n^2}{r} - \text{FK} \\
 &= \frac{\sum 8,35^2 + 8,05^2 + 8,25^2 + \dots + 7,80^2}{r} - 284,80 \\
 &= \frac{570,01}{2} - 284,80 \\
 &= 0,20
 \end{aligned}$$

$$\begin{aligned}
 \text{JK Blok} &= \frac{\sum JB_1^2 + JB_2^2}{A \times B} - \text{FK} \\
 &= \frac{36,75^2 + 34,85^2}{9} - 284,80 \\
 &= 0,20
 \end{aligned}$$

$$\begin{aligned}
 \text{JK Error} &= \text{JK total} - \text{JK Perlakuan} - \text{JK Blok} \\
 &= 0,65 - 0,20 - 0,20 \\
 &= 0,25
 \end{aligned}$$

Tabel AxB

|       | A1    | A2    | A3    | Jlh B |
|-------|-------|-------|-------|-------|
| B1    | 8,35  | 7,80  | 7,70  | 23,85 |
| B2    | 8,05  | 7,90  | 7,80  | 23,75 |
| B3    | 8,25  | 7,95  | 7,80  | 24,00 |
| Jlh A | 24,65 | 23,65 | 23,30 |       |

$$\begin{aligned}
 \text{JK B} &= \frac{\sum(B)^2}{r \times R} - \text{FK} \\
 &= \frac{1708,89}{2 \times 3} - 284,80 \\
 &= 0,01
 \end{aligned}$$

$$\begin{aligned}
 \text{JK A} &= \frac{\sum(A)^2}{r \times R} - \text{FK} \\
 &= \frac{1709,83}{2 \times 3} - 284,80 \\
 &= 0,17
 \end{aligned}$$



$$\begin{aligned}
 JK_{A \times B} &= JK_{\text{Perlakuan}} - JK_A - JK_B \\
 &= 0,20 - 0,17 - 0,01 \\
 &= 0,02
 \end{aligned}$$

Tabel Analisa Keragaman Uji Kesukaan Aroma

| Sumber Keragaman | db | JK   | RK   | F.Hitung           | F. Tabel |      |
|------------------|----|------|------|--------------------|----------|------|
|                  |    |      |      |                    | 5%       | 1%   |
| A                | 2  | 0,16 | 0,08 | 2,68 <sup>tn</sup> | 4,46     | 8,65 |
| B                | 2  | 0,01 | 0,00 | 0,09 <sup>tn</sup> | 4,46     | 8,65 |
| A x B            | 4  | 0,03 | 0,01 | 0,22 <sup>tn</sup> | 3,84     | 7,01 |
| Blok             | 1  | 0,20 | 0,20 |                    |          |      |
| Error            | 8  | 0,24 | 0,03 |                    |          |      |
| Total            | 17 | 0,64 | 0,32 |                    |          |      |

Keterangan : tn (Tidak Berpengaruh Nyata)

## 7. Uji Kesukaan Tekstur

Tabel Data Primer Uji Kesukaan Tekstur

| Perlakuan | BLOK  |       | Jumlah | Rata-Rata |
|-----------|-------|-------|--------|-----------|
|           | I     | II    |        |           |
|           | B1    |       |        |           |
| A1        | 4,45  | 3,90  | 8,35   | 4,18      |
| A2        | 4,00  | 3,90  | 7,90   | 3,95      |
| A3        | 4,10  | 3,60  | 7,70   | 3,85      |
|           | B2    |       |        |           |
| A1        | 4,35  | 3,70  | 8,05   | 4,03      |
| A2        | 4,10  | 3,80  | 7,90   | 3,95      |
| A3        | 4,10  | 3,70  | 7,80   | 3,90      |
|           | B3    |       |        |           |
| A1        | 4,30  | 3,95  | 8,25   | 4,13      |
| A2        | 4,25  | 3,70  | 7,95   | 3,98      |
| A3        | 4,30  | 3,50  | 7,80   | 3,90      |
| Jumlah    | 37,95 | 33,75 | 71,70  | 35,85     |
| Rerata    | 3,98  | 5,86  | 5,98   | 3,98      |

$$GT = 4,45 + 4,35 + 4,30 + \dots + 4,30 = 71,70$$

$$FK = \frac{\sum(GT)^2}{r \times R \times x \times P} = \frac{(71,70)^2}{2 \times 3 \times 3 \times 3} = 285,60$$

$$JK_{\text{Total}} = \sum(a^2 + b^2 + c^2 + \dots + n^2) - FK$$

$$= \sum(4,45^2 + 4,35^2 + 4,30^2 + \dots + 4,30^2) - 285,60$$

$$= 1,34$$

$$\begin{aligned} \text{JK Perlakuan} &= \frac{\sum JT_1^2 + JT_2^2 + JT_3^2 + \dots + JT_n^2}{r} - \text{FK} \\ &= \frac{\sum 8,35^2 + 8,05^2 + 8,25^2 + \dots + 7,80^2}{r} - 285,60 \\ &= \frac{571,58}{2} - 285,60 \end{aligned}$$

$$= 0,19$$

$$\begin{aligned} \text{JK Blok} &= \frac{\sum JB_1^2 + JB_2^2}{A \times B} - \text{FK} \\ &= \frac{37,95^2 + 33,75^2}{9} - 285,60 \end{aligned}$$

$$= 0,98$$

$$\text{JK Error} = \text{JK total} - \text{JK Perlakuan} - \text{JK Blok}$$

$$= 1,34 - 0,19 - 0,98$$

$$= 0,17$$

Tabel AxB

|       | A1    | A2    | A3    | Jlh B |
|-------|-------|-------|-------|-------|
| B1    | 8,35  | 7,90  | 7,70  | 23,95 |
| B2    | 8,05  | 7,80  | 7,80  | 23,75 |
| B3    | 8,25  | 7,95  | 7,80  | 24,00 |
| Jlh A | 24,65 | 23,75 | 23,30 |       |

$$\begin{aligned} \text{JK B} &= \frac{\sum(B)^2}{r \times R} - \text{FK} \\ &= \frac{1714,57}{2 \times 3} - 285,60 \end{aligned}$$

$$= 0,01$$

$$\text{JK A} = \frac{\sum(A)^2}{r \times R} - \text{FK}$$

$$= \frac{1725,90}{2 \times 3} - 287,60$$

$$= 0,16$$

$$\text{JK AxB} = \text{JK Perlakuan} - \text{JK A} - \text{JK B}$$

$$= 0,19 - 0,16 - 0,01$$

$$= 0,02$$

Tabel Analisa Keragaman Uji Kesukaan Tekstur

| Sumber Keragaman | db | JK   | RK   | F.Hitung           | F. Tabel |      |
|------------------|----|------|------|--------------------|----------|------|
|                  |    |      |      |                    | 5%       | 1%   |
| A                | 2  | 0,16 | 0,08 | 3,71 <sup>tn</sup> | 4,46     | 8,65 |
| B                | 2  | 0,01 | 0,00 | 0,14 <sup>tn</sup> | 4,46     | 8,65 |
| A x B            | 4  | 0,02 | 0,01 | 0,25 <sup>tn</sup> | 3,84     | 7,01 |
| Blok             | 1  | 0,98 | 0,98 |                    |          |      |
| Eror             | 8  | 0,17 | 0,02 |                    |          |      |
| Total            | 17 | 1,33 | 1,09 |                    |          |      |

Keterangan : tn (Tidak Berpengaruh Nyata)

## 8. Uji Kesukaan Rasa

Tabel Data Primer Uji Kesukaan Rasa

| Perlakuan | BLOK  |       | Jumlah | Rata-Rata |
|-----------|-------|-------|--------|-----------|
|           | I     | II    |        |           |
|           | B1    |       |        |           |
| A1        | 4,00  | 4,00  | 8,00   | 4,00      |
| A2        | 4,05  | 3,85  | 7,90   | 3,95      |
| A3        | 4,15  | 3,15  | 7,30   | 3,65      |
|           | B2    |       |        |           |
| A1        | 4,25  | 4,20  | 8,45   | 4,23      |
| A2        | 4,25  | 4,10  | 8,35   | 4,18      |
| A3        | 4,15  | 4,00  | 8,15   | 4,08      |
|           | B3    |       |        |           |
| A1        | 4,95  | 3,95  | 8,90   | 4,45      |
| A2        | 4,55  | 4,25  | 8,80   | 4,40      |
| A3        | 4,35  | 4,10  | 8,45   | 4,23      |
| Jumla     | 38,70 | 35,60 | 74,30  | 37,15     |
| Rerata    | 4,13  | 6,11  | 6,19   | 4,13      |

GT

$$= 4,00 + 4,25 + 4,95 + \dots + 4,35 = 74,30$$

$$FK = \frac{\sum(GT)^2}{r \times R \times P} = \frac{(74,30)^2}{2 \times 3 \times 3} = 306,70$$

$$\begin{aligned} JK \text{ Total} &= \sum(a^2+b^2+c^2+\dots+n^2) - FK \\ &= \sum(4,00^2 + 4,25^2 + 4,95^2+\dots+ 4,35^2) - 306,70 \\ &= 2,07 \end{aligned}$$

$$\begin{aligned} JK \text{ Perlakuan} &= \frac{\sum JT_1^2 + JT_2^2 + JT_3^2 + \dots + JT_n^2}{r} - FK \\ &= \frac{\sum 8,00^2 + 8,45^2 + 8,90^2 + \dots + 8,45^2}{r} - 306,70 \\ &= \frac{615,30}{2} - 306,70 \\ &= 0,95 \end{aligned}$$

$$\begin{aligned} JK \text{ Blok} &= \frac{\sum JB_1^2 + JB_2^2}{A \times B} - FK \\ &= \frac{38,70^2 + 35,60^2}{9} - 306,70 \\ &= 0,52 \end{aligned}$$

$$\begin{aligned} JK \text{ Error} &= JK \text{ total} - JK \text{ Perlakuan} - JK \text{ Blok} \\ &= 2,07 - 0,95 - 0,52 \\ &= 0,6 \end{aligned}$$

Tabel AxB

|       | A1    | A2    | A3    | Jlh B |
|-------|-------|-------|-------|-------|
| B1    | 8,00  | 7,90  | 7,30  | 23,20 |
| B2    | 8,45  | 8,35  | 8,15  | 24,95 |
| B3    | 8,90  | 8,80  | 8,45  | 26,15 |
| Jlh A | 25,35 | 25,05 | 23,90 |       |

$$\begin{aligned} JK \text{ B} &= \frac{\sum(B)^2}{r \times R} - FK \\ &= \frac{1844,57}{2 \times 3} - 306,70 \end{aligned}$$

$$= 0,72$$

$$\begin{aligned} \text{JK A} &= \frac{\sum(A)^2}{r \times R} - \text{FK} \\ &= \frac{1841,33}{2 \times 3} - 306,70 \\ &= 0,18 \end{aligned}$$

$$\begin{aligned} \text{JK AxB} &= \text{JK Perlakuan} - \text{JK A} - \text{JK B} \\ &= 0,95 - 0,18 - 0,72 \\ &= 0,05 \end{aligned}$$

Tabel Analisa Keragaman Uji Kesukaan Rasa

| Sumber Keragaman | db | JK   | RK   | F.Hitung           | F. Tabel |      |
|------------------|----|------|------|--------------------|----------|------|
|                  |    |      |      |                    | 5%       | 1%   |
| A                | 2  | 0,20 | 0,10 | 1,33 <sup>tn</sup> | 4,46     | 8,65 |
| B                | 2  | 0,73 | 0,37 | 5,01 <sup>*</sup>  | 4,46     | 8,65 |
| A x B            | 4  | 0,03 | 0,01 | 0,09 <sup>tn</sup> | 3,84     | 7,01 |
| Blok             | 1  | 0,53 | 0,53 |                    |          |      |
| Error            | 8  | 0,59 | 0,07 |                    |          |      |
| Total            | 17 | 2,08 | 1,18 |                    |          |      |

Keterangan : \*(Berpengaruh Nyata)


tn (Tidak Berpengaruh Nyata)

**Lampiran 3. Dokumentasi Pembuatan Bulir Minuman Fungsional Kunyit Jeruk Nipis dengan Variasi Kalsium Laktat dan Natrium Alginat**



### Lampiran 4. Contoh Kuesioner Uji Organoleptik Minuman Herbal

Uji Organoleptik "Pembuatan Bulir Minuman Fungsional Kunyit Asam Dengan Variasi Kalsium Laktat Dan Natrium Alginat".

Nama : Astri Wulandari Hari/Tanggal : Kamis, 6 Juli 2023  
 NIM : 22272 Tanda Tangan : 

Dihadapan sodara disajikan 9 sampel yang mempunyai kode berbeda. Saudara diminta untuk memberikan penilaian terhadap kesukaan rasa dengan cara dicicipi, kesukaan aroma dengan cara dicium, kesukaan warna dengan cara melihat dan kesukaan tekstur dengan cara memegang. Lalu memberikan penilaian dengan skor 1-5.

| Kode Sampel | Rasa | Aroma | Warna | Tekstur |
|-------------|------|-------|-------|---------|
| 321         | 4    | 5     | 4     | 4       |
| 453         | 5    | 4     | 5     | 5       |
| 322         | 4    | 4     | 5     | 5       |
| 342         | 5    | 4     | 4     | 4       |
| 241         | 5    | 5     | 4     | 5       |
| 431         | 4    | 5     | 4     | 4       |
| 223         | 4    | 5     | 5     | 5       |
| 534         | 5    | 5     | 4     | 4       |
| 115         | 5    | 4     | 4     | 5       |

Keterangan :

- 1 : Sangat Tidak Suka
- 2 : Tidak Suka
- 3 : Cukup Suka
- 4 : Suka
- 5 : Sangat Suka