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## LAMPIRAN

Lampiran 1. Hasil Uji ANOVA Parameter Pengujian Rendemen Giling Beras Merah Berkecambah

### Tests of Between-Subjects Effects

Dependent Variable: Rendemen Giling

| Source                          | Type III Sum of Squares | df | Mean Square | F          | Sig. |
|---------------------------------|-------------------------|----|-------------|------------|------|
| Corrected Model                 | 1569.742 <sup>a</sup>   | 4  | 392.435     | 921.037    | .000 |
| Intercept                       | 78924.132               | 1  | 78924.132   | 185233.130 | .000 |
| Jenisperkecambahan              | 1373.238                | 1  | 1373.238    | 3222.958   | .000 |
| Perendaman                      | 96.163                  | 1  | 96.163      | 225.693    | .000 |
| Jenisperkecambahan * Perendaman | 54.315                  | 1  | 54.315      | 127.476    | .000 |
| Error                           | 4.261                   | 10 | .426        |            |      |
| Total                           | 85791.576               | 15 |             |            |      |
| Corrected Total                 | 1574.002                | 14 |             |            |      |

a. R Squared = ,997 (Adjusted R Squared = ,996)

### Rendemen Giling

Duncan<sup>a,b,c</sup>

| Jenis Perkecambahan | N | Subset  |         |         |
|---------------------|---|---------|---------|---------|
|                     |   | 1       | 2       | 3       |
| A1                  | 6 | 65.1083 |         |         |
| A0                  | 3 |         | 71.4267 |         |
| A2                  | 6 |         |         | 86.5033 |
| Sig.                |   | 1.000   | 1.000   | 1.000   |

Means for groups in homogeneous subsets are displayed.



Means.

1 Square(Error) = ,426.

n Sample Size = 4,500.

unequal. The harmonic mean of the group sizes is

s are not guaranteed.

### Rendemen Giling

Duncan<sup>a,b,c</sup>

| Perendaman | N | Subset  |         |         |
|------------|---|---------|---------|---------|
|            |   | 1       | 2       | 3       |
| B0         | 3 | 71.4267 |         |         |
| B2         | 6 |         | 72.9750 |         |
| B1         | 6 |         |         | 78.6367 |
| Sig.       |   | 1.000   | 1.000   | 1.000   |

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,426.

a. Uses Harmonic Mean Sample Size = 4,500.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = ,05.

### Rendemen Giling

Duncan<sup>a</sup>

| Jenis Bahan<br>PerkecambahxPeren<br>dam | N | Subset for alpha = 0.05 |         |         |         |         |
|-----------------------------------------|---|-------------------------|---------|---------|---------|---------|
|                                         |   | 1                       | 2       | 3       | 4       | 5       |
| A1B2                                    | 3 | 60.1500                 |         |         |         |         |
| A1B1                                    | 3 |                         | 70.0667 |         |         |         |
| A0B0                                    | 3 |                         |         | 71.4267 |         |         |
| A2B2                                    | 3 |                         |         |         | 85.8000 |         |
| A2B1                                    | 3 |                         |         |         |         | 87.2067 |
| Sig.                                    |   | 1.000                   | 1.000   | 1.000   | 1.000   | 1.000   |



Means for groups in homogeneous subsets are displayed.

Harmonic Mean Sample Size = 3,000.

## Lampiran 2. Hasil Uji ANOVA Parameter Pengujian Mutu Beras Beras Merah Berkecambah

### Tests of Between-Subjects Effects

Dependent Variable: Beras Kepala

| Source                          | Type III Sum of Squares | df | Mean Square | F         | Sig. |
|---------------------------------|-------------------------|----|-------------|-----------|------|
| Model                           | 90375.720 <sup>a</sup>  | 5  | 18075.144   | 24625.537 | .000 |
| Jenisperkecambahan              | 1867.507                | 1  | 1867.507    | 2544.288  | .000 |
| Perendaman                      | 150.521                 | 1  | 150.521     | 205.069   | .000 |
| Jenisperkecambahan * Perendaman | 147.701                 | 1  | 147.701     | 201.227   | .000 |
| Error                           | 7.340                   | 10 | .734        |           |      |
| Total                           | 90383.060               | 15 |             |           |      |

a. R Squared = 1,000 (Adjusted R Squared = 1,000)

### Beras Kepala

Duncan<sup>a,b,c</sup>

| Jenis Perkecamahan | N | Subset  |         |         |
|--------------------|---|---------|---------|---------|
|                    |   | 1       | 2       | 3       |
| A1                 | 6 | 62.6500 |         |         |
| A0                 | 3 |         | 82.6333 |         |
| A2                 | 6 |         |         | 87.6000 |
| Sig.               |   | 1.000   | 1.000   | 1.000   |

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,734.

a. Uses Harmonic Mean Sample Size = 4,500.



unequal. The harmonic mean of the group sizes is s are not guaranteed.

### Beras Kepala

|      |   | 1       | 2       | 3       |
|------|---|---------|---------|---------|
| B2   | 6 | 71.5833 |         |         |
| B1   | 6 |         | 78.6667 |         |
| B0   | 3 |         |         | 82.6333 |
| Sig. |   | 1.000   | 1.000   | 1.000   |

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,734.

- Uses Harmonic Mean Sample Size = 4,500.
- The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
- Alpha = ,05.

### Beras Kepala

Duncan<sup>a</sup>

| Jenis Bahan            |   | Subset for alpha = 0.05 |         |         |         |
|------------------------|---|-------------------------|---------|---------|---------|
| PerkecambahanxPerendam | N | 1                       | 2       | 3       | 4       |
| A1B2                   | 3 | 55.6000                 |         |         |         |
| A1B1                   | 3 |                         | 69.7000 |         |         |
| A0B0                   | 3 |                         |         | 82.6333 |         |
| A2B2                   | 3 |                         |         |         | 87.5667 |
| A2B1                   | 3 |                         |         |         | 87.6333 |
| Sig.                   |   | 1.000                   | 1.000   | 1.000   | .926    |

Means for groups in homogeneous subsets are displayed.

- Uses Harmonic Mean Sample Size = 3,000.

### Tests of Between-Subjects Effects

Dependent Variable: Beras Patah



| Type III Sum of Squares | df | Mean Square | F       | Sig. |
|-------------------------|----|-------------|---------|------|
| 1881.292 <sup>a</sup>   | 5  | 376.258     | 689.210 | .000 |
| 273.608                 | 1  | 273.608     | 501.180 | .000 |
| .141                    | 1  | .141        | .258    | .623 |

|                       |          |    |        |        |      |
|-----------------------|----------|----|--------|--------|------|
| Jenis perkecambahan * | 25.521   | 1  | 25.521 | 46.748 | .000 |
| Perendaman            |          |    |        |        |      |
| Error                 | 5.459    | 10 | .546   |        |      |
| Total                 | 1886.751 | 15 |        |        |      |

a. R Squared = ,997 (Adjusted R Squared = ,996)

### Beras Patah

Duncan<sup>a,b,c</sup>

| Jenis Perkecambahan | N | Subset |        |         |
|---------------------|---|--------|--------|---------|
|                     |   | 1      | 2      | 3       |
| A2                  | 6 | 5.9833 |        |         |
| A0                  | 3 |        | 8.0233 |         |
| A1                  | 6 |        |        | 15.5333 |
| Sig.                |   | 1.000  | 1.000  | 1.000   |

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,546.

a. Uses Harmonic Mean Sample Size = 4,500.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = ,05.

### Beras Patah

Duncan<sup>a,b,c</sup>

| Perendaman | N | Subset |         |
|------------|---|--------|---------|
|            |   | 1      | 2       |
| B0         | 3 | 8.0233 |         |
| B1         | 6 |        | 10.6500 |
| B2         | 6 |        | 10.8667 |
| Sig.       |   | 1.000  | .669    |



homogeneous subsets are

means.

Mean Square(Error) = ,546.

Harmonic Mean Sample Size = 4,500.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = ,05.

### Beras Patah

Duncan<sup>a</sup>

| Jenis Bahan            |   | Subset for alpha = 0.05 |        |         |         |
|------------------------|---|-------------------------|--------|---------|---------|
| PerkecambahanxPerendam | N | 1                       | 2      | 3       | 4       |
| A2B2                   | 3 | 4.6333                  |        |         |         |
| A2B1                   | 3 |                         | 7.3333 |         |         |
| A0B0                   | 3 |                         | 8.0233 |         |         |
| A1B1                   | 3 |                         |        | 13.9667 |         |
| A1B2                   | 3 |                         |        |         | 17.1000 |
| Sig.                   |   | 1.000                   | .279   | 1.000   | 1.000   |

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

### Tests of Between-Subjects Effects

Dependent Variable: Beras Menir

| Source                          | Type III Sum of Squares | df | Mean Square | F       | Sig. |
|---------------------------------|-------------------------|----|-------------|---------|------|
| Model                           | 3556.060 <sup>a</sup>   | 5  | 711.212     | 745.505 | .000 |
| Jenisperkecambahan              | 711.480                 | 1  | 711.480     | 745.786 | .000 |
| Perendaman                      | 141.453                 | 1  | 141.453     | 148.274 | .000 |
| Jenisperkecambahan * Perendaman | 50.430                  | 1  | 50.430      | 52.862  | .000 |
| Error                           | 9.540                   | 10 | .954        |         |      |
| Total                           | 3565.600                | 15 |             |         |      |

.adjusted R Squared = ,996)

### Beras Menir



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| Subset |        |   |   |  |
|--------|--------|---|---|--|
| N      | 1      | 2 | 3 |  |
| 6      | 6.4167 |   |   |  |

|      |   |       |        |         |
|------|---|-------|--------|---------|
| A0   | 3 |       | 9.3333 |         |
| A1   | 6 |       |        | 21.8167 |
| Sig. |   | 1.000 | 1.000  | 1.000   |

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,954.

a. Uses Harmonic Mean Sample Size = 4,500.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = ,05.

### Beras Menir

Duncan<sup>a,b,c</sup>

| Perendaman | N | Subset  |         |
|------------|---|---------|---------|
|            |   | 1       | 2       |
| B0         | 3 | 9.3333  |         |
| B1         | 6 | 10.6833 |         |
| B2         | 6 |         | 17.5500 |
| Sig.       |   | .065    | 1.000   |

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,954.

a. Uses Harmonic Mean Sample Size = 4,500.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = ,05.

### Beras Menir



| N | Subset for alpha = 0.05 |   |   |   |
|---|-------------------------|---|---|---|
|   | 1                       | 2 | 3 | 4 |
| 3 | 5.0333                  |   |   |   |

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|      |   |       |        |         |         |
|------|---|-------|--------|---------|---------|
| A2B2 | 3 |       | 7.8000 |         |         |
| A0B0 | 3 |       | 9.3333 |         |         |
| A1B1 | 3 |       |        | 16.3333 |         |
| A1B2 | 3 |       |        |         | 27.3000 |
| Sig. |   | 1.000 | .083   | 1.000   | 1.000   |

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

### Lampiran 3. Hasil Uji ANOVA Parameter Pengujian Organoleptik Beras Merah Berkecambah

| No | Nama Panelis     | KONTROL |      |     | GKG + AIR |      |     | GKG + KITOSAN |      |      | BERAS MERAH + AIR |      |      | BERAS MERAH + KITOSAN |      |      |
|----|------------------|---------|------|-----|-----------|------|-----|---------------|------|------|-------------------|------|------|-----------------------|------|------|
|    |                  | 411     | 762  | 910 | 802       | 742  | 610 | 661           | 112  | 315  | 676               | 815  | 210  | 975                   | 283  | 711  |
| 1  | A. Putri Aulia   | 3       | 3    | 3   | 4         | 3    | 3   | 4             | 4    | 3    | 3                 | 4    | 4    | 4                     | 3    | 4    |
| 2  | Dinal Try        | 2       | 2    | 4   | 4         | 3    | 2   | 2             | 2    | 3    | 3                 | 3    | 2    | 3                     | 4    | 3    |
| 3  | Mauri Rahman     | 3       | 3    | 3   | 3         | 2    | 4   | 2             | 3    | 4    | 3                 | 4    | 1    | 3                     | 3    | 3    |
| 4  | A.BW Alifidrihah | 4       | 5    | 2   | 2         | 2    | 2   | 2             | 2    | 4    | 2                 | 3    | 5    | 3                     | 2    | 5    |
| 5  | Agnis Talitha    | 3       | 3    | 5   | 4         | 4    | 3   | 5             | 5    | 3    | 5                 | 4    | 4    | 3                     | 5    | 4    |
| 6  | Denizer Sakti    | 4       | 3    | 2   | 3         | 3    | 4   | 2             | 2    | 2    | 3                 | 3    | 2    | 2                     | 2    | 2    |
| 7  | Alfarizi         | 2       | 1    | 2   | 3         | 3    | 3   | 2             | 3    | 3    | 2                 | 2    | 2    | 2                     | 4    | 2    |
| 8  | Widya Nurhidiah  | 2       | 4    | 3   | 4         | 4    | 4   | 4             | 5    | 4    | 3                 | 5    | 4    | 3                     | 2    | 4    |
| 9  | Dwi Soemo        | 3       | 2    | 2   | 4         | 4    | 4   | 4             | 3    | 3    | 3                 | 3    | 2    | 4                     | 4    | 4    |
| 10 | Nabila Raisati   | 2       | 1    | 2   | 1         | 4    | 1   | 1             | 3    | 3    | 3                 | 3    | 2    | 2                     | 3    | 3    |
| 11 | Nurul Annisya    | 4       | 3    | 4   | 5         | 4    | 5   | 2             | 5    | 4    | 3                 | 3    | 2    | 3                     | 4    | 2    |
| 12 | Yoseph Dian      | 2       | 2    | 2   | 4         | 3    | 2   | 4             | 4    | 4    | 3                 | 3    | 3    | 2                     | 3    | 2    |
| 13 | Sutisani         | 3       | 3    | 3   | 4         | 3    | 4   | 3             | 4    | 4    | 2                 | 3    | 3    | 3                     | 4    | 4    |
| 14 | Adhelis Gita     | 3       | 4    | 4   | 4         | 4    | 4   | 4             | 4    | 3    | 4                 | 3    | 4    | 4                     | 4    | 3    |
| 15 | Jeniver Thresya  | 4       | 3    | 3   | 4         | 4    | 4   | 2             | 3    | 1    | 2                 | 3    | 3    | 2                     | 2    | 2    |
| 16 | A. Raudhah       | 2       | 3    | 2   | 4         | 4    | 4   | 4             | 5    | 5    | 5                 | 4    | 4    | 3                     | 2    | 3    |
| 17 | Nurul Hikmah     | 2       | 2    | 2   | 4         | 3    | 4   | 4             | 4    | 4    | 3                 | 3    | 3    | 2                     | 3    | 3    |
| 18 | Nursetiawati     | 1       | 2    | 2   | 3         | 3    | 4   | 4             | 2    | 2    | 3                 | 3    | 3    | 2                     | 2    | 4    |
| 19 | Nur Aida         | 4       | 4    | 4   | 3         | 4    | 4   | 4             | 3    | 3    | 3                 | 4    | 4    | 3                     | 4    | 3    |
| 20 | Andi Rafiqah     | 3       | 2    | 2   | 4         | 4    | 3   | 3             | 3    | 4    | 2                 | 3    | 3    | 4                     | 3    | 3    |
| 21 | Nurul Arifin     | 1       | 2    | 2   | 2         | 2    | 2   | 4             | 2    | 3    | 4                 | 3    | 4    | 4                     | 3    | 4    |
| 22 | Anugrah Indah    | 4       | 3    | 3   | 3         | 4    | 5   | 4             | 3    | 2    | 4                 | 4    | 2    | 4                     | 4    | 3    |
| 23 | Syifa Az-Zahrah  | 2       | 3    | 3   | 3         | 2    | 3   | 3             | 3    | 4    | 4                 | 3    | 4    | 4                     | 3    | 5    |
| 24 | Muhammad Ribi    | 1       | 1    | 3   | 2         | 3    | 3   | 2             | 4    | 3    | 2                 | 2    | 2    | 2                     | 3    | 4    |
| 25 | Nasywa Adisah    | 3       | 3    | 3   | 4         | 4    | 4   | 4             | 5    | 4    | 3                 | 4    | 5    | 5                     | 5    | 5    |
|    |                  | 2.68    | 2.68 | 2.8 | 3.4       | 3.32 | 3.4 | 3.16          | 3.44 | 3.28 | 3.08              | 3.28 | 3.08 | 3.04                  | 3.24 | 3.36 |

### Tests of Between-Subjects Effects

Dependent Variable: Warna

| Source          | Type III Sum of Squares | df | Mean Square | F         | Sig. |
|-----------------|-------------------------|----|-------------|-----------|------|
| Corrected Model | .778 <sup>a</sup>       | 4  | .195        | 14.706    | .000 |
| Intercept       | 136.484                 | 1  | 136.484     | 10318.880 | .000 |
|                 | .071                    | 1  | .071        | 5.333     | .044 |
|                 | .000                    | 1  | .000        | .010      | .922 |
|                 | .016                    | 1  | .016        | 1.220     | .295 |
|                 | .132                    | 10 | .013        |           |      |



|                 |         |    |  |  |  |
|-----------------|---------|----|--|--|--|
| Total           | 149.685 | 15 |  |  |  |
| Corrected Total | .910    | 14 |  |  |  |

a. R Squared = ,855 (Adjusted R Squared = ,797)

### Tests of Between-Subjects Effects

Dependent Variable: Aroma

| Source                          | Type III Sum of Squares | df | Mean Square | F        | Sig. |
|---------------------------------|-------------------------|----|-------------|----------|------|
| Corrected Model                 | .178 <sup>a</sup>       | 4  | .044        | 1.472    | .282 |
| Intercept                       | 141.786                 | 1  | 141.786     | 4696.961 | .000 |
| Jenisperkecambahan              | .026                    | 1  | .026        | .866     | .374 |
| Perendaman                      | .105                    | 1  | .105        | 3.463    | .092 |
| Jenisperkecambahan * Perendaman | .034                    | 1  | .034        | 1.131    | .313 |
| Error                           | .302                    | 10 | .030        |          |      |
| Total                           | 150.770                 | 15 |             |          |      |
| Corrected Total                 | .480                    | 14 |             |          |      |

a. R Squared = ,371 (Adjusted R Squared = ,119)

### Tests of Between-Subjects Effects

Dependent Variable: Tekstur

| Source                          | Type III Sum of Squares | df | Mean Square | F        | Sig. |
|---------------------------------|-------------------------|----|-------------|----------|------|
| Corrected Model                 | .231 <sup>a</sup>       | 4  | .058        | 2.013    | .169 |
| Intercept                       | 137.661                 | 1  | 137.661     | 4797.679 | .000 |
| Jenisperkecambahan              | .105                    | 1  | .105        | 3.643    | .085 |
| Perendaman                      | .120                    | 1  | .120        | 4.182    | .068 |
| Jenisperkecambahan * Perendaman | .005                    | 1  | .005        | .167     | .691 |
| Error                           | .287                    | 10 | .029        |          |      |
| Total                           | 146.035                 | 15 |             |          |      |
| Corrected Total                 | .518                    | 14 |             |          |      |



Adjusted R Squared = ,224)

ANOVA Parameter Pengujian Intensitas Warna Beras Merah

### Tests of Between-Subjects Effects

Dependent Variable: L\* (Kecerahan)

| Source                          | Type III Sum of Squares | df | Mean Square | F        | Sig. |
|---------------------------------|-------------------------|----|-------------|----------|------|
| Model                           | 37180.232 <sup>a</sup>  | 5  | 7436.046    | 1502.713 | .000 |
| Jenisperkecambahan              | 3.350                   | 1  | 3.350       | .677     | .430 |
| Perendaman                      | 3.608                   | 1  | 3.608       | .729     | .413 |
| Jenisperkecambahan * Perendaman | 24.083                  | 1  | 24.083      | 4.867    | .052 |
| Error                           | 49.484                  | 10 | 4.948       |          |      |
| Total                           | 37229.716               | 15 |             |          |      |

a. R Squared = ,999 (Adjusted R Squared = ,998)

### Tests of Between-Subjects Effects

Dependent Variable: a\* (Kemerahan)

| Source                          | Type III Sum of Squares | df | Mean Square | F      | Sig. |
|---------------------------------|-------------------------|----|-------------|--------|------|
| Model                           | 368.586 <sup>a</sup>    | 5  | 73.717      | 18.003 | .000 |
| Jenisperkecambahan              | .074                    | 1  | .074        | .018   | .896 |
| Perendaman                      | .663                    | 1  | .663        | .162   | .696 |
| Jenisperkecambahan * Perendaman | 7.712                   | 1  | 7.712       | 1.883  | .200 |
| Error                           | 40.948                  | 10 | 4.095       |        |      |
| Total                           | 409.534                 | 15 |             |        |      |

a. R Squared = ,900 (Adjusted R Squared = ,850)

### Tests of Between-Subjects Effects

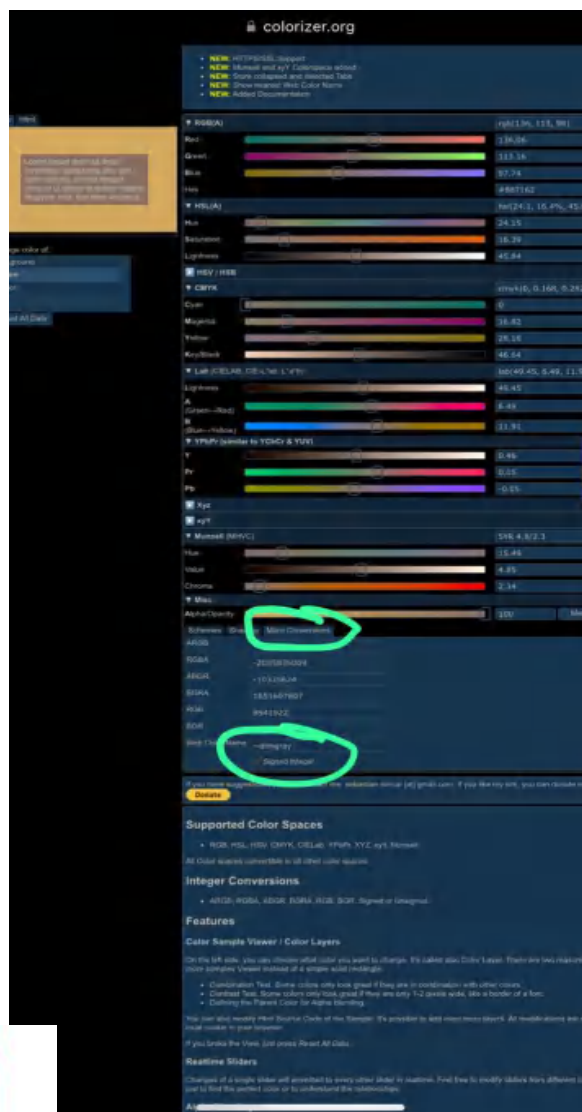
Dependent Variable: b\* (Kekuningan)



| Type III Sum of Squares | df | Mean Square | F       | Sig. |
|-------------------------|----|-------------|---------|------|
| 1560.394 <sup>a</sup>   | 5  | 312.079     | 333.793 | .000 |
| .667                    | 1  | .667        | .714    | .418 |
| 1.833                   | 1  | 1.833       | 1.961   | .192 |

|                      |          |    |       |       |      |
|----------------------|----------|----|-------|-------|------|
| Jenisperkecambahan * | 4.025    | 1  | 4.025 | 4.305 | .065 |
| Perendaman           |          |    |       |       |      |
| Error                | 9.349    | 10 | .935  |       |      |
| Total                | 1569.743 | 15 |       |       |      |

a. R Squared = ,994 (Adjusted R Squared = ,991)



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### Lampiran 5. Hasil Uji ANOVA Parameter Pengujian Kadar GABA Beras Merah Berkecambah

| No | No. Sampel  | Makanan | Berat (g)<br>Volume (mL) | T <sub>1</sub> | V. Air (mL) | RT (menit) |       | Area    |           | R <sub>avg</sub> | Kadar |      | Ketegangan |
|----|-------------|---------|--------------------------|----------------|-------------|------------|-------|---------|-----------|------------------|-------|------|------------|
|    |             |         |                          |                |             | GABA       | AA    | GABA    | AA        |                  | mg/kg | mg/L |            |
| 1  | 402.R.202   | Beras   | 2.0144                   | 100000         | 1.00        | 8.485      | 9.971 | 1408.25 | 3994.25   | 0.2224           | 14.27 | 0.08 |            |
| 2  | 402.R.202-2 | Beras   | 2.0093                   | 100000         | 1.00        | 8.481      | 9.969 | 1416.03 | 3738.25   | 0.2222           | 13.78 | 0.08 |            |
| 3  | 402.R.203   | Beras   | 2.0238                   | 100000         | 1.00        | 8.482      | 9.983 | 1348.89 | 4588.54   | 0.1945           | 13.73 | 0.07 |            |
| 4  | 402.R.205-2 | Beras   | 2.0094                   | 100000         | 1.00        | 8.477      | 9.940 | 1708.28 | 4884.33   | 0.1945           | 13.73 | 0.07 |            |
| 5  | 402.R.204   | Beras   | 2.0415                   | 100000         | 1.00        | 8.478      | 9.943 | 1703.14 | 4697.89   | 0.1941           | 13.65 | 0.07 |            |
| 6  | 402.R.204-2 | Beras   | 2.0020                   | 100000         | 1.00        | 8.470      | 9.929 | 1615.98 | 3887.62   | 0.1947           | 14.88 | 0.08 |            |
| 7  | 402.R.205   | Beras   | 2.0047                   | 100000         | 1.00        | 8.467      | 9.931 | 1330.43 | 4018.11   | 0.1948           | 14.07 | 0.07 |            |
| 8  | 402.R.208-2 | Beras   | 2.0058                   | 100000         | 1.00        | 8.465      | 9.925 | 1529.86 | 4788.41   | 0.1948           | 14.74 | 0.07 |            |
| 9  | 402.R.209   | Beras   | 2.0089                   | 100000         | 1.00        | 8.448      | 9.914 | 1894.41 | 45718.57  | 0.1937           | 18.93 | 0.08 |            |
| 10 | 402.R.208-2 | Beras   | 2.0322                   | 100000         | 1.00        | 8.434      | 9.891 | 4028.80 | 57771.28  | 0.1874           | 40.87 | 0.18 |            |
| 11 | 402.R.207   | Beras   | 2.0535                   | 100000         | 1.00        | 8.419      | 9.933 | 1838.18 | 46235.88  | 0.1848           | 18.38 | 0.08 |            |
| 12 | 402.R.207-2 | Beras   | 2.0351                   | 100000         | 1.00        | 8.410      | 9.924 | 1848.82 | 46978.81  | 0.1850           | 18.47 | 0.08 |            |
| 13 | 402.R.206   | Beras   | 2.0101                   | 100000         | 1.00        | 8.404      | 9.909 | 1723.43 | 110235.98 | 0.1869           | 17.23 | 0.07 |            |
| 14 | 402.R.208-2 | Beras   | 2.0348                   | 100000         | 1.00        | 8.444      | 9.918 | 1851.34 | 38458.28  | 0.1824           | 18.51 | 0.08 |            |

### Tests of Between-Subjects Effects

Dependent Variable: Kadar GABA

| Source                             | Type III<br>Sum of<br>Squares | df | Mean<br>Square | F            | Sig. |
|------------------------------------|-------------------------------|----|----------------|--------------|------|
| Model                              | 183613.0<br>64 <sup>a</sup>   | 5  | 36722.6<br>13  | 2154.<br>886 | .000 |
| Jenisperkecambahan                 | 40752.27<br>0                 | 1  | 40752.2<br>70  | 2391.<br>346 | .000 |
| Perendaman                         | 4941.174                      | 1  | 4941.17        | 289.9<br>4   | .000 |
| Jenisperkecambahan *<br>Perendaman | 2914.661                      | 1  | 2914.66        | 171.0<br>1   | .000 |
| Error                              | 85.208                        | 5  | 17.042         |              |      |
| Total                              | 183698.2<br>72                | 10 |                |              |      |

a. R Squared = 1,000 (Adjusted R Squared = ,999)

### Kadar GABA

Duncan<sup>a,b,c</sup>



| Subset |   |   |
|--------|---|---|
| 1      | 2 | 3 |
| 45.27  |   |   |
| 50     |   |   |

|      |   |       |              |              |
|------|---|-------|--------------|--------------|
| A0   | 2 |       | 114.3<br>500 |              |
| A1   | 4 |       |              | 188.0<br>200 |
| Sig. |   | 1.000 | 1.000        | 1.000        |

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) =

17,042.

a. Uses Harmonic Mean Sample Size = 3,000.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = ,05.

### Kadar GABA

Duncan<sup>a,b,c</sup>

| Perendaman | N | Subset  |          |          |
|------------|---|---------|----------|----------|
|            |   | 1       | 2        | 3        |
| B1         | 4 | 91.7950 |          |          |
| B0         | 2 |         | 114.3500 |          |
| B2         | 4 |         |          | 141.5000 |
| Sig.       |   | 1.000   | 1.000    | 1.000    |

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 17,042.

a. Uses Harmonic Mean Sample Size = 3,000.

b. The group sizes are unequal. The harmonic mean of the group

error levels are not guaranteed.



### Kadar GABA

| Jenis Bahan         |   |         |         |          |          |          |
|---------------------|---|---------|---------|----------|----------|----------|
| PerkecambahanxPeren |   |         |         |          |          |          |
| dam                 |   | 1       | 2       | 3        | 4        | 5        |
| A2B1                | 2 | 39.5100 |         |          |          |          |
| A2B2                | 2 |         | 51.0400 |          |          |          |
| A0B0                | 2 |         |         | 114.3500 |          |          |
| A1B1                | 2 |         |         |          | 144.0800 |          |
| A1B2                | 2 |         |         |          |          | 231.9600 |
| Sig.                |   | 1.000   | 1.000   | 1.000    | 1.000    | 1.000    |

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 2,000.

Lampiran 6. Hasil Uji ANOVA Parameter Pengujian Kadar Protein Beras Merah Berkecambah

### Tests of Between-Subjects Effects

Dependent Variable: Kadar Protein

| Source                          | Type III Sum of Squares | df | Mean Square | F       | Sig. |
|---------------------------------|-------------------------|----|-------------|---------|------|
| Corrected Model                 | 7.718 <sup>a</sup>      | 4  | 1.929       | .749    | .599 |
| Intercept                       | 1009.902                | 1  | 1009.902    | 392.206 | .000 |
| Jenisperkecambahan              | 2.387                   | 1  | 2.387       | .927    | .380 |
| Perendaman                      | 1.059                   | 1  | 1.059       | .411    | .550 |
| Jenisperkecambahan * Perendaman | .690                    | 1  | .690        | .268    | .627 |
| Error                           | 12.875                  | 5  | 2.575       |         |      |
| Total                           | 1057.528                | 10 |             |         |      |
| Corrected Total                 | 20.593                  | 9  |             |         |      |

a. R Squared = .375 (Adjusted R Squared = -.125)



ANOVA Parameter Pengujian Kadar Air Beras Merah

### Tests of Between-Subjects Effects

Kadar Air

| Source                          | Type III Sum of Squares | df | Mean Square | F        | Sig. |
|---------------------------------|-------------------------|----|-------------|----------|------|
| Model                           | 1603.687 <sup>a</sup>   | 5  | 320.737     | 1386.473 | .000 |
| Jenisperkecambahan              | .083                    | 1  | .083        | .360     | .562 |
| Perendaman                      | .853                    | 1  | .853        | 3.689    | .084 |
| Jenisperkecambahan * Perendaman | 16.803                  | 1  | 16.803      | 72.637   | .000 |
| Error                           | 2.313                   | 10 | .231        |          |      |
| Total                           | 1606.000                | 15 |             |          |      |

a. R Squared = ,999 (Adjusted R Squared = ,998)

### KADARAIR

Duncan<sup>a</sup>

| JENISSAMPELXPERENDA |   | Subset for alpha = 0.05 |         |
|---------------------|---|-------------------------|---------|
| M                   | N | 1                       | 2       |
| A1B2                | 3 | 8.6333                  |         |
| A2B1                | 3 | 9.3333                  |         |
| A0B0                | 3 |                         | 10.7333 |
| A2B2                | 3 |                         | 11.1667 |
| A1B1                | 3 |                         | 11.5333 |
| Sig.                |   | .105                    | .080    |

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

Lampiran 8. Hasil Uji ANOVA Parameter Pengujian Kadar Abu Beras Merah Berkecambah

### Tests of Between-Subjects Effects

Dependent Variable: Kadar Abu

| Source | Type III Sum of Squares | df | Mean Square | F      | Sig. |
|--------|-------------------------|----|-------------|--------|------|
|        | 17.695 <sup>a</sup>     | 5  | 3.539       | 53.492 | .000 |
|        | .426                    | 1  | .426        | 6.433  | .030 |
|        | .090                    | 1  | .090        | 1.362  | .270 |
|        | .015                    | 1  | .015        | .222   | .647 |



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|       |        |    |      |  |  |
|-------|--------|----|------|--|--|
| Error | .662   | 10 | .066 |  |  |
| Total | 18.357 | 15 |      |  |  |

a. R Squared = ,964 (Adjusted R Squared = ,946)

### Kadar Abu

Duncan<sup>a,b,c</sup>

| Jenis Perkecamahan | N | Subset |        |
|--------------------|---|--------|--------|
|                    |   | 1      | 2      |
| A2                 | 6 | .7850  |        |
| A1                 | 6 | 1.1617 | 1.1617 |
| A0                 | 3 |        | 1.3900 |
| Sig.               |   | .053   | .213   |

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,066.

a. Uses Harmonic Mean Sample Size = 4,500.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = ,05.

Lampiran 9. Hasil Uji ANOVA Parameter Pengujian Kadar Lemak Beras Merah Berkecambah

### Tests of Between-Subjects Effects

Dependent Variable: Kadar Lemak

| Source             | Type III Sum of Squares | df | Mean Square | F      | Sig. |
|--------------------|-------------------------|----|-------------|--------|------|
| Corrected Model    | 12.335 <sup>a</sup>     | 4  | 3.084       | 7.382  | .025 |
| Intercept          | 37.004                  | 1  | 37.004      | 88.579 | .000 |
| Jenisperkecambahan | 7.069                   | 1  | 7.069       | 16.921 | .009 |
| Perendaman         | 3.781                   | 1  | 3.781       | 9.051  | .030 |
|                    | 1.445                   | 1  | 1.445       | 3.459  | .122 |
|                    | 2.089                   | 5  | .418        |        |      |
|                    | 54.064                  | 10 |             |        |      |
|                    | 14.423                  | 9  |             |        |      |



a. R Squared = .855 (Adjusted R Squared = .739)

### Kadar Lemak

Duncan<sup>a,b,c</sup>

| Jenis Perkecamahan | N | Subset |        |
|--------------------|---|--------|--------|
|                    |   | 1      | 2      |
| A2                 | 4 | 1.0825 |        |
| A0                 | 2 | 1.8650 | 1.8650 |
| A1                 | 4 |        | 2.9625 |
| Sig.               |   | .198   | .092   |

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .418.

a. Uses Harmonic Mean Sample Size = 3.000.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

### Kadar Lemak

Duncan<sup>a,b,c</sup>

| Perendaman | N | Subset |
|------------|---|--------|
|            |   | 1      |
| B2         | 4 | 1.3350 |
| B0         | 2 | 1.8650 |
| B1         | 4 | 2.7100 |
| Sig.       |   | .053   |

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .418.



n Sample Size =

unequal. The

group sizes is

s are not

c. Alpha = ,05.

### Kadar Lemak

Duncan<sup>a</sup>

| Jenis Bahan<br>PerkecambahanxPerendam | N | Subset for alpha = 0.05 |        |
|---------------------------------------|---|-------------------------|--------|
|                                       |   | 1                       | 2      |
| A2B2                                  | 2 | .8200                   |        |
| A2B1                                  | 2 | 1.3450                  |        |
| A1B2                                  | 2 | 1.8500                  |        |
| A0B0                                  | 2 | 1.8650                  |        |
| A1B1                                  | 2 |                         | 4.0750 |
| Sig.                                  |   | .179                    | 1.000  |

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 2.000.

Lampiran 10. Hasil Uji ANOVA Parameter Pengujian Kadar Karbohidrat Beras Merah Berkecambah

### Tests of Between-Subjects Effects

Dependent Variable: Kadar Karbohidrat

| Source                          | Type III Sum of Squares | df | Mean Square | F         | Sig. |
|---------------------------------|-------------------------|----|-------------|-----------|------|
| Corrected Model                 | 22.044 <sup>a</sup>     | 4  | 5.511       | 2.599     | .162 |
| Intercept                       | 55381.708               | 1  | 55381.708   | 26122.708 | .000 |
| Jenisperkecambahan              | 1.748                   | 1  | 1.748       | .825      | .405 |
| Perendaman                      | 2.928                   | 1  | 2.928       | 1.381     | .293 |
| Jenisperkecambahan * Perendaman | 13.886                  | 1  | 13.886      | 6.550     | .051 |
| Error                           | 10.600                  | 5  | 2.120       |           |      |
| Total                           | 58692.925               | 10 |             |           |      |
|                                 | 32.644                  | 9  |             |           |      |

Adjusted R Squared = .416)



Lampiran 11. Hasil Uji ANOVA Parameter Pengujian Kadar Kalori Beras Merah Berkecambah

### Tests of Between-Subjects Effects

Dependent Variable: Kalori

| Source                          | Type III Sum of Squares | df | Mean Square | F         | Sig. |
|---------------------------------|-------------------------|----|-------------|-----------|------|
| Corrected Model                 | 255.770 <sup>a</sup>    | 4  | 63.942      | 1.574     | .312 |
| Intercept                       | 1261570.208             | 1  | 1261570.208 | 31052.484 | .000 |
| Jenisperkecambahan              | 155.232                 | 1  | 155.232     | 3.821     | .108 |
| Perendaman                      | 42.781                  | 1  | 42.781      | 1.053     | .352 |
| Jenisperkecambahan * Perendaman | 54.915                  | 1  | 54.915      | 1.352     | .297 |
| Error                           | 203.135                 | 5  | 40.627      |           |      |
| Total                           | 1332789.206             | 10 |             |           |      |
| Corrected Total                 | 458.905                 | 9  |             |           |      |

a. R Squared = .557 (Adjusted R Squared = .203)

Lampiran 12. Hasil Uji ANOVA Parameter Pengujian Kadar Serat Kasar Beras Merah Berkecambah

### Tests of Between-Subjects Effects

Dependent Variable: Kadar Serat

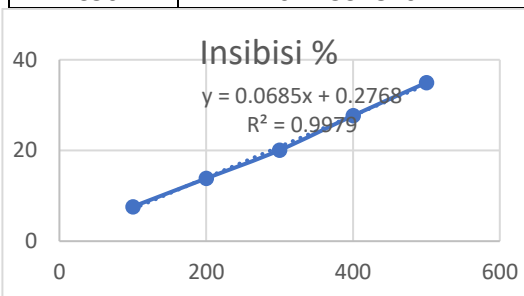
| Source                          | Type III Sum of Squares | df | Mean Square | F       | Sig. |
|---------------------------------|-------------------------|----|-------------|---------|------|
| Model                           | 1036.571 <sup>a</sup>   | 5  | 207.314     | 779.396 | .000 |
| Jenisperkecambahan              | .273                    | 1  | .273        | 1.026   | .335 |
| Perendaman                      | .310                    | 1  | .310        | 1.167   | .305 |
| Jenisperkecambahan * Perendaman | .452                    | 1  | .452        | 1.701   | .221 |
| Error                           | 2.660                   | 10 | .266        |         |      |
| Total                           | 1039.231                | 15 |             |         |      |

a. Adjusted R Squared = .996



Lampiran 13. Hasil Uji ANOVA Parameter Pengujian Antioksidan Beras Merah Berkecambah

| P1U1        |             |         |            |
|-------------|-------------|---------|------------|
| Konsentrasi | ABS         | Kontrol | Insibisi % |
| 100         | 0.534       | 0.578   | 7.612457   |
| 200         | 0.498       | 0.578   | 13.84083   |
| 300         | 0.462       | 0.578   | 20.0692    |
| 400         | 0.418       | 0.578   | 27.68166   |
| 500         | 0.376       | 0.578   | 34.9481    |
| IC50        | 671.5328467 |         |            |



### Tests of Between-Subjects Effects

Dependent Variable: Aktivitas Antioksidan (IC50)

| Source                          | Type III Sum of Squares  | df | Mean Square | F         | Sig. |
|---------------------------------|--------------------------|----|-------------|-----------|------|
| Corrected Model                 | 2321120.569 <sup>a</sup> | 4  | 580280.142  | 1568.335  | .000 |
| Intercept                       | 9989010.053              | 1  | 9989010.053 | 26997.495 | .000 |
| Jenisperkecambahan              | 67140.969                | 1  | 67140.969   | 181.463   | .000 |
| Perendaman                      | 1593942.633              | 1  | 1593942.633 | 4307.980  | .000 |
| Jenisperkecambahan * Perendaman | 265170.390               | 1  | 265170.390  | 716.681   | .000 |
|                                 | 1849.988                 | 5  | 369.998     |           |      |
|                                 | 13846993.057             | 10 |             |           |      |
|                                 | 2322970.557              | 9  |             |           |      |



### Aktivitas Antioksidan (IC50)

Duncan<sup>a,b,c</sup>

| Jenis Perkecamahan | N | Subset   |           |           |
|--------------------|---|----------|-----------|-----------|
|                    |   | 1        | 2         | 3         |
| A0                 | 2 | 676.0750 |           |           |
| A1                 | 4 |          | 1081.2450 |           |
| A2                 | 4 |          |           | 1264.4675 |
| Sig.               |   | 1.000    | 1.000     | 1.000     |

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 369.998.

a. Uses Harmonic Mean Sample Size = 3.000.

b. The group sizes are unequal. The harmonic mean of the group sizes is used.

Type I error levels are not guaranteed.

c. Alpha = ,05.

### Aktivitas Antioksidan (IC50)

Duncan<sup>a,b,c</sup>

| Perendaman | N | Subset   |          |           |
|------------|---|----------|----------|-----------|
|            |   | 1        | 2        | 3         |
| B0         | 2 | 676.0750 |          |           |
| B2         | 4 |          | 726.4900 |           |
| B1         | 4 |          |          | 1619.2225 |
| Sig.       |   | 1.000    | 1.000    | 1.000     |

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 369.998.

a. Uses Harmonic Mean Sample Size = 3.000.

unequal. The harmonic mean of the group sizes  
els are not guaranteed.



### Aktivitas Antioksidan (IC50)

Jenis Bahan

PerkecambahanxPerend

am

|      |   | 1        | 2        | 3         | 4         |
|------|---|----------|----------|-----------|-----------|
| A2B2 | 2 | 636.0400 |          |           |           |
| A0B0 | 2 | 676.0750 |          |           |           |
| A1B2 | 2 |          | 816.9400 |           |           |
| A1B1 | 2 |          |          | 1345.5500 |           |
| A2B1 | 2 |          |          |           | 1892.8950 |
| Sig. |   | .092     | 1.000    | 1.000     | 1.000     |

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 2.000.

#### Lampiran 14. Hasil Uji ANOVA Parameter Pengujian Antosianin Beras Merah Berkecambah

**SIG****REKAMAN PENGUJIAN SPEKTROFOTOMETER**No. : 19-0-10.1P-ABJ  
Revisi : 4

Parameter Uji : Antosianin  
Metode : Asam  
Tanggal Pengujian : 10/05/24  
Tanggal Pengiriman : 10/05/24  
No. Instrumen : SIG / PNU / ALB / IN-0153



| No. | No. Sampel  | Matriks     | Bobot gr.<br>Volume (mL) | Faktor<br>Pengenceran | V/L Asam (mL) | Absorbansi pH 1 |          |                  |          | Absorbansi pH 4.5 |                  |          |          | MW | D | Kadar<br>(mg/kg, mg/g) | Keterangan |
|-----|-------------|-------------|--------------------------|-----------------------|---------------|-----------------|----------|------------------|----------|-------------------|------------------|----------|----------|----|---|------------------------|------------|
|     |             |             |                          |                       |               | λ 520 nm        | λ 700 nm | λ 520 - λ 700 nm | λ 520 nm | λ 700 nm          | λ 520 - λ 700 nm | λ 520 nm | λ 700 nm |    |   |                        |            |
| 1   | 405.R.124   | Beras Merah | 5.0015                   | 10                    | 25            | 0.4754          | 0.3712   | 0.1042           | 0.4790   | 0.3694            | 0.1106           | 440.2    | 20900    |    |   | Not detected           | -          |
| 2   | 405.R.124_2 | Beras Merah | 5.0051                   | 10                    | 25            | 0.4740          | 0.3707   | 0.1033           | 0.4786   | 0.3693            | 0.1105           | 440.2    | 20900    |    |   | Not detected           | -          |
| 3   | 405.R.125   | Gabah       | 5.0085                   | 10                    | 25            | 0.1084          | 0.1162   | 0.0402           | 0.1020   | 0.1126            | 0.0262           | 440.2    | 20900    |    |   | 0.83                   | -          |
| 4   | 405.R.125_2 | Gabah       | 5.2019                   | 10                    | 25            | 0.1079          | 0.1175   | 0.0404           | 0.1019   | 0.1126            | 0.0263           | 440.2    | 20900    |    |   | 0.87                   | -          |
| 5   | 405.R.126   | Beras Merah | 5.0062                   | 10                    | 25            | 0.1394          | 0.0910   | 0.0404           | 0.1334   | 0.0880            | 0.0460           | 440.2    | 20900    |    |   | 1.48                   | -          |
| 6   | 405.R.126_2 | Beras Merah | 5.0228                   | 10                    | 25            | 0.1392          | 0.0908   | 0.0404           | 0.1331   | 0.0884            | 0.0467           | 440.2    | 20900    |    |   | 1.41                   | -          |
| 7   | 405.R.126   | Beras Merah | 5.0131                   | 10                    | 25            | 0.3707          | 0.2125   | 0.1582           | 0.4810   | 0.2912            | 0.1898           | 440.2    | 20900    |    |   | Not detected           | -          |
| 8   | 405.R.126_2 | Beras Merah | 5.0051                   | 10                    | 25            | 0.3713          | 0.2129   | 0.1584           | 0.4845   | 0.2941            | 0.1905           | 440.2    | 20900    |    |   | Not detected           | -          |
| 9   | 405.R.126   | Gabah       | 5.0209                   | 10                    | 25            | 0.1083          | 0.0722   | 0.0361           | 0.1036   | 0.0684            | 0.0352           | 440.2    | 20900    |    |   | 0.75                   | -          |
| 10  | 405.R.129_2 | Gabah       | 5.3351                   | 10                    | 25            | 0.1079          | 0.0718   | 0.0361           | 0.1030   | 0.0679            | 0.0351           | 440.2    | 20900    |    |   | 0.78                   | -          |
| 11  | 405.R.130   | Beras Merah | 5.0279                   | 10                    | 25            | 0.7295          | 0.5965   | 0.1330           | 0.7306   | 0.5894            | 0.1442           | 440.2    | 20900    |    |   | Not detected           | -          |
| 12  | 405.R.130_2 | Beras Merah | 5.0310                   | 10                    | 25            | 0.7285          | 0.5963   | 0.1322           | 0.7307   | 0.5871            | 0.1436           | 440.2    | 20900    |    |   | Not detected           | -          |

### Tests of Between-Subjects Effects

Dependent Variable: Antosianin

| Source          | Type III Sum<br>of Squares | df | Mean<br>Square | F        | Sig. |
|-----------------|----------------------------|----|----------------|----------|------|
| Corrected Model | 3.046 <sup>a</sup>         | 4  | .762           | 1029.074 | .000 |
|                 | 2.763                      | 1  | 2.763          | 3733.824 | .000 |
|                 | .014                       | 1  | .014           | 19.527   | .007 |
|                 | 1.170                      | 1  | 1.170          | 1581.689 | .000 |
|                 | .925                       | 1  | .925           | 1249.730 | .000 |



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|                 |       |    |      |  |  |
|-----------------|-------|----|------|--|--|
| Error           | .004  | 5  | .001 |  |  |
| Total           | 6.795 | 10 |      |  |  |
| Corrected Total | 3.050 | 9  |      |  |  |

a. R Squared = .999 (Adjusted R Squared = .998)

### Antosianin

Duncan<sup>a,b,c</sup>

| Jenis Perkecamahan | N | Subset |       |       |
|--------------------|---|--------|-------|-------|
|                    |   | 1      | 2     | 3     |
| A0                 | 2 | .0000  |       |       |
| A2                 | 4 |        | .7225 |       |
| A1                 | 4 |        |       | .8075 |
| Sig.               |   | 1.000  | 1.000 | 1.000 |

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .001.

a. Uses Harmonic Mean Sample Size = 3.000.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

### Antosianin

Duncan<sup>a,b,c</sup>

| Perendaman | N | Subset |       |        |
|------------|---|--------|-------|--------|
|            |   | 1      | 2     | 3      |
| B0         | 2 | .0000  |       |        |
| B2         | 4 |        | .3825 |        |
| B1         | 4 |        |       | 1.1475 |
| Sig.       |   | 1.000  | 1.000 | 1.000  |

Means for groups in homogeneous subsets are displayed.



Means.

Mean Square(Error) = .001.

Mean Sample Size = 3.000.

Means are unequal. The harmonic mean of the group

Mean error levels are not guaranteed.

## Antosianin

Duncan<sup>a</sup>

| Jenis Bahan           |   | Subset for alpha = 0.05 |       |       |        |
|-----------------------|---|-------------------------|-------|-------|--------|
| PerkecambahanxPerenda |   |                         |       |       |        |
| m                     | N | 1                       | 2     | 3     | 4      |
| A0B0                  | 2 | .0000                   |       |       |        |
| A2B2                  | 2 | .0000                   |       |       |        |
| A1B2                  | 2 |                         | .7650 |       |        |
| A1B1                  | 2 |                         |       | .8500 |        |
| A2B1                  | 2 |                         |       |       | 1.4450 |
| Sig.                  |   | 1.000                   | 1.000 | 1.000 | 1.000  |

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 2.000.

Lampiran 15. Hasil Uji ANOVA Parameter Pengujian Kadar Fosfor Beras Merah Berkecambah

| No. Sampel    | Metrik      | Element    | Bobot (g)<br>Volume (mL)<br>pH (molar) | V. kalsi (mL) | Fp | Indikator | C. Lonsan | Satuan<br>pengukuran | Kadar Sampel | Satuan kadar |
|---------------|-------------|------------|----------------------------------------|---------------|----|-----------|-----------|----------------------|--------------|--------------|
| Blanko Proses | Blanko      | Fosfor (P) | 1                                      | 1             | 1  | -0.58     |           |                      |              |              |
| 405 R 127 g   | Beras       | Fosfor (P) | 0.5640                                 | 50            | 1  | 20777.84  | 25.1699   | mg / L               | 2228.11      | mg / kg      |
| 405 R 127 g   | Beras       | Fosfor (P) | 0.5657                                 | 50            | 1  | 20772.51  | 25.2454   | mg / L               | 2231.34      | mg / kg      |
| 405 R 128 g   | Beras Merah | Fosfor (P) | 0.5246                                 | 50            | 1  | 24744.64  | 22.2368   | mg / L               | 2115.57      | mg / kg      |
| 405 R 128 g   | Beras Merah | Fosfor (P) | 0.5248                                 | 50            | 1  | 24900.85  | 22.3800   | mg / L               | 2153.46      | mg / kg      |
| 405 R 129 g   | Gabon       | Fosfor (P) | 0.5259                                 | 50            | 1  | 20191.13  | 18.1250   | mg / L               | 1723.23      | mg / kg      |
| 405 R 129 g   | Gabon       | Fosfor (P) | 0.5246                                 | 50            | 1  | 20213.05  | 18.1443   | mg / L               | 1726.39      | mg / kg      |
| 405 R 130 g   | Beras Merah | Fosfor (P) | 0.5317                                 | 50            | 1  | 28127.11  | 25.2947   | mg / L               | 2378.67      | mg / kg      |
| 405 R 130 g   | Beras Merah | Fosfor (P) | 0.5307                                 | 50            | 1  | 28273.83  | 25.4273   | mg / L               | 2395.64      | mg / kg      |

## Tests of Between-Subjects Effects

Dependent Variable: Kadar Fosfor

| Source          | Type III Sum<br>of Squares | df | Mean<br>Square | F         | Sig. |
|-----------------|----------------------------|----|----------------|-----------|------|
| Corrected Model | 2042288.593 <sup>a</sup>   | 4  | 510572.148     | 11460.523 | .000 |
|                 | 23211083.16                | 1  | 23211083.16    | 521006.00 | .000 |
|                 | 538981.531                 | 1  | 538981.531     | 12098.212 | .000 |
|                 | 1335746.090                | 1  | 1335746.090    | 29982.734 | .000 |



|                      |             |    |           |         |      |
|----------------------|-------------|----|-----------|---------|------|
| Jenisperkecambahan * | 40169.117   | 1  | 40169.117 | 901.653 | .000 |
| Perendaman           |             |    |           |         |      |
| Error                | 222.753     | 5  | 44.551    |         |      |
| Total                | 27376995.40 | 10 |           |         |      |
|                      | 3           |    |           |         |      |
| Corrected Total      | 2042511.345 | 9  |           |         |      |

a. R Squared = 1,000 (Adjusted R Squared = 1,000)

### Kadar Fosfor

Duncan<sup>a,b,c</sup>

| Jenis Perkecambahan | N | Subset    |           |           |
|---------------------|---|-----------|-----------|-----------|
|                     |   | 1         | 2         | 3         |
| A0                  | 2 | 1365.9450 |           |           |
| A1                  | 4 |           | 1388.5525 |           |
| A2                  | 4 |           |           | 1907.6775 |
| Sig.                |   | 1.000     | 1.000     | 1.000     |

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 44,551.

a. Uses Harmonic Mean Sample Size = 3,000.

b. The group sizes are unequal. The harmonic mean of the group sizes is used.

Type I error levels are not guaranteed.

c. Alpha = ,05.

### Kadar Fosfor

Duncan<sup>a,b,c</sup>

| Perendaman | N | Subset    |           |           |
|------------|---|-----------|-----------|-----------|
|            |   | 1         | 2         | 3         |
| B1         | 4 | 1239.4975 |           |           |
|            | 2 |           | 1365.9450 |           |
|            | 4 |           |           | 2056.7325 |
|            |   | 1.000     | 1.000     | 1.000     |



Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 44,551.

- Uses Harmonic Mean Sample Size = 3,000.
- The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
- Alpha = ,05.

### Kadar Fosfor

Duncan<sup>a</sup>

| Jenis Bahan       |   | Subset for alpha = 0.05 |           |           |           |           |
|-------------------|---|-------------------------|-----------|-----------|-----------|-----------|
| PerkecambahanxPer |   |                         |           |           |           |           |
| endaman           | N | 1                       | 2         | 3         | 4         | 5         |
| A1B1              | 2 | 1050.7950               |           |           |           |           |
| A0B0              | 2 |                         | 1365.9450 |           |           |           |
| A2B1              | 2 |                         |           | 1428.2000 |           |           |
| A1B2              | 2 |                         |           |           | 1726.3100 |           |
| A2B2              | 2 |                         |           |           |           | 2387.1550 |
| Sig.              |   | 1.000                   | 1.000     | 1.000     | 1.000     | 1.000     |

Means for groups in homogeneous subsets are displayed.

- Uses Harmonic Mean Sample Size = 2,000.

### Lampiran 16. Hasil Uji ANOVA Parameter Pengujian Kadar Magnesium Beras Merah Berkecambah

| No. Sampel   | Metrik      | Elemen         | Substansi (g/L Volume (mL) (aplikasi) | V. Labu (mL) | Fp | Intensitas | C. Larutan | Saluran Pengukuran | Kadar Sampel | Satuan Kadar |
|--------------|-------------|----------------|---------------------------------------|--------------|----|------------|------------|--------------------|--------------|--------------|
| Berak Proses | Berak       | Magnesium (Mg) | 1                                     | 1            | 1  | 521.00     |            |                    |              |              |
| 405 R. 127   | Beras       | Magnesium (Mg) | 0.5646                                | 50           | 1  | 828622.96  | 8.9558     | mg / L             | 79.34        | mg / 100 g   |
| 405 R. 127 d | Beras       | Magnesium (Mg) | 0.5657                                | 50           | 1  | 831963.11  | 8.9961     | mg / L             | 79.51        | mg / 100 g   |
| 405 R. 125   | Beras Merah | Magnesium (Mg) | 0.5259                                | 50           | 1  | 868662.37  | 9.4046     | mg / L             | 89.47        | mg / 100 g   |
| 405 R. 125 d | Beras Merah | Magnesium (Mg) | 0.5245                                | 50           | 1  | 874161.56  | 9.4855     | mg / L             | 90.23        | mg / 100 g   |
| 405 R. 129   | Gabah       | Magnesium (Mg) | 0.5259                                | 50           | 1  | 861379.29  | 7.1917     | mg / L             | 68.39        | mg / 100 g   |
| 405 R. 129 d | Gabah       | Magnesium (Mg) | 0.5246                                | 50           | 1  | 858700.92  | 7.1620     | mg / L             | 69.27        | mg / 100 g   |
|              |             | in (Mg)        | 0.5317                                | 50           | 1  | 1062582.36 | 11.3854    | mg / L             | 111.86       | mg / 100 g   |
|              |             | in (Mg)        | 0.5307                                | 50           | 1  | 1099565.74 | 11.9620    | mg / L             | 112.70       | mg / 100 g   |



### ests of Between-Subjects Effects

Kadar Magnesium

| Type III Sum of Squares | df | Mean Square | F | Sig. |
|-------------------------|----|-------------|---|------|
|-------------------------|----|-------------|---|------|

|                                  |                       |    |           |            |      |
|----------------------------------|-----------------------|----|-----------|------------|------|
| Corrected Model                  | 7814.530 <sup>a</sup> | 4  | 1953.632  | 22127.448  | .000 |
| Intercept                        | 34796.778             | 1  | 34796.778 | 394119.133 | .000 |
| Jenis perkecambahan              | 2011.365              | 1  | 2011.365  | 22781.349  | .000 |
| Perendaman                       | 5160.772              | 1  | 5160.772  | 58452.509  | .000 |
| Jenis perkecambahan * Perendaman | 299.758               | 1  | 299.758   | 3395.148   | .000 |
| Error                            | .441                  | 5  | .088      |            |      |
| Total                            | 46226.456             | 10 |           |            |      |
| Corrected Total                  | 7814.971              | 9  |           |            |      |

a. R Squared = 1,000 (Adjusted R Squared = 1,000)

### Kadar Magnesium

Duncan<sup>a,b,c</sup>

| Jenis Perkecambahan | N | Subset  |         |         |
|---------------------|---|---------|---------|---------|
|                     |   | 1       | 2       | 3       |
| A1                  | 4 | 49.0475 |         |         |
| A0                  | 2 |         | 50.2700 |         |
| A2                  | 4 |         |         | 80.7600 |
| Sig.                |   | 1.000   | 1.000   | 1.000   |

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,088.

a. Uses Harmonic Mean Sample Size = 3,000.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = ,05.



### Kadar Magnesium

| Subset |   |   |
|--------|---|---|
| 1      | 2 | 3 |

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|      |   |         |         |         |
|------|---|---------|---------|---------|
| B1   | 4 | 39.5050 |         |         |
| B0   | 2 |         | 50.2700 |         |
| B2   | 4 |         |         | 90.3025 |
| Sig. |   | 1.000   | 1.000   | 1.000   |

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = ,088.

a. Uses Harmonic Mean Sample Size = 3,000.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = ,05.

### Kadar Magnesium

Duncan<sup>a</sup>

| Jenis Bahan              |   | Subset for alpha = 0.05 |         |         |         |          |
|--------------------------|---|-------------------------|---------|---------|---------|----------|
| PerkecambahanxPerendaman |   | 1                       | 2       | 3       | 4       | 5        |
| A1B1                     | 2 | 29.7700                 |         |         |         |          |
| A2B1                     | 2 |                         | 49.2400 |         |         |          |
| A0B0                     | 2 |                         |         | 50.2700 |         |          |
| A1B2                     | 2 |                         |         |         | 68.3250 |          |
| A2B2                     | 2 |                         |         |         |         | 112.2800 |
| Sig.                     |   | 1.000                   | 1.000   | 1.000   | 1.000   | 1.000    |

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 2,000.



Lampiran 17. Dokumentasi Penelitian Pada Beras Merah Berkecambah

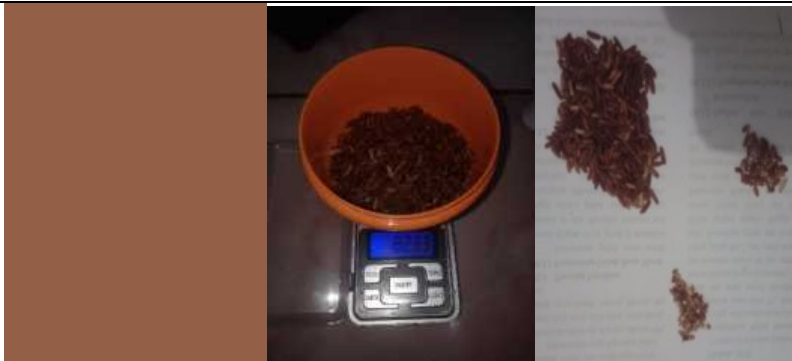


Perkecambahan Gabah Kering Giling





Perkecambahan beras pecah kulit



Perhitungan Mutu Beras Kepala, Beras Patah, dan Beras Menir



Pengujian Organoleptik Parameter Warna, Aroma dan Tekstur





Pengujian Warna dengan Colorimeter



Pengujian Kadar Air menggunakan *Moisture Analyzer*



Pengujian Kadar Abu Metode Tanur



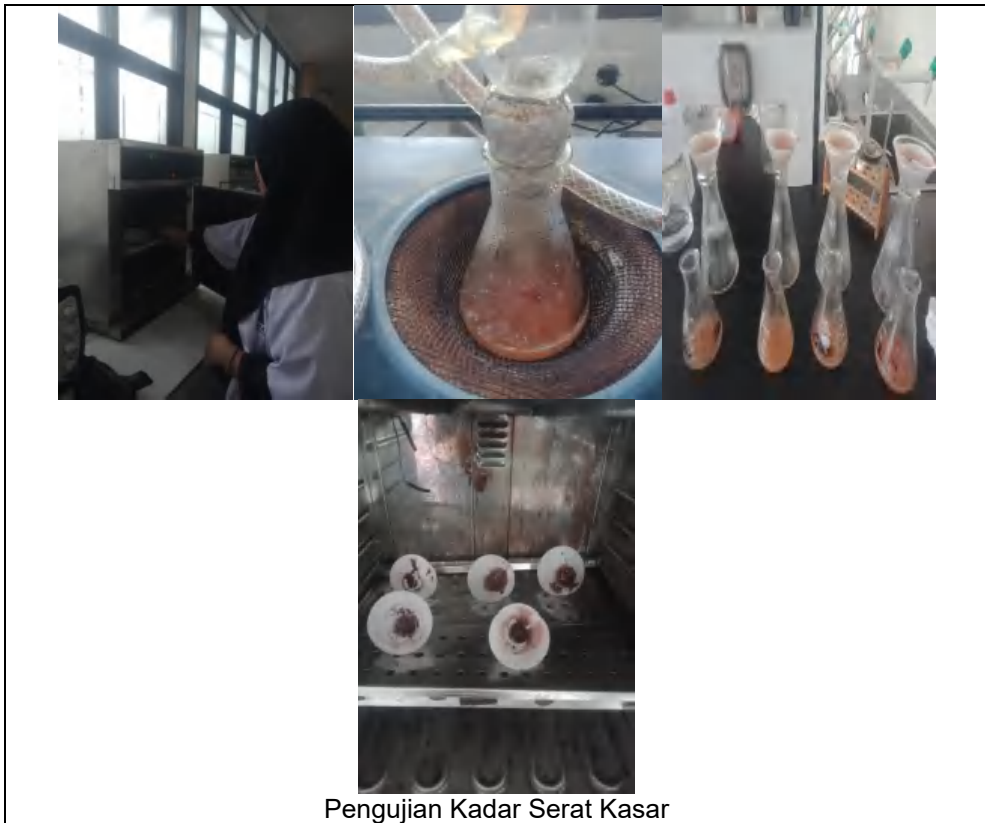


Pengujian Kadar Protein Metode Kjeldhal



Pengujian Kadar Lemak Metode Soxhlet





Pengujian Kadar Serat Kasar





Pengujian Antioksidan Metode DPPH



Pengujian mineral



## Lampiran 18. Daftar Riwayat Hidup Penulis

***CURRICULUM VITAE*****A. Data Pribadi**

1. Nama : Asmaul Husnah
2. Tempat, tgl. Lahir : Pangkajene, 23 Oktober 2002
3. Alamat : Barue, Kec. Bungoro, Pangkep
4. Kewarganegaraan : Warga Negara Indonesia

**B. Riwayat Pendidikan**

1. Tamat SD tahun 2014 di SDN 22/12 Salebbo
2. Tamat SMP tahun 2017 di SMPN 1 Bungoro
3. Tamat SMA tahun 2020 di SMAN 3 Pangkep

**C. Pekerjaan dan Riwayat Pekerjaan**

- Jenis Pekerjaan : Mahasiswa
- NIP atau Identitas lain (NIK) : 7310066310020001
- Pangkat/jabatan : -

