

## DAFTAR PUSTAKA

- Adrianto, A., Wirianata, W., & Andayani, A. (2023). Respon pertumbuhan bibit kelapa sawit (*Elaeis guineensis* Jacq) di main-nursery dengan dosis pupuk N dan P serta volume penyiraman. *AGROFORETECH*, 1(3), 45–54.
- Afrillah, A., dkk. (2020). Respon pertumbuhan vegetatif beberapa varietas kelapa sawit terhadap berbagai komposisi media tanam limbah di pre-nursery. *Jurnal Agrotek Lestari*, 6(2), 1–9.
- Albari, A., Supijatno, S., & Sudradjat, S. (2018). Peranan pupuk nitrogen dan fosfor pada tanaman kelapa sawit (*Elaeis guineensis* Jacq) belum menghasilkan umur tiga tahun. *Buletin Agrohorti*, 6(1), 42–49.
- Brundrett, M. C. (2009). Mycorrhizal associations and other means of nutrition of vascular plants: Understanding the global diversity of host plants by resolving conflicting information and developing reliable means of diagnosis. *Plant and Soil*, 320(1), 37–77. <https://doi.org/10.1007/s11104-008-9877-9>
- Corley, R. H. V., & Tinker, P. B. (2016). *The oil palm* (5th ed.). Wiley-Blackwell.
- Fageria, N. K. (2009). *The use of nutrients in crop plants*. CRC Press.
- Fahrizal, F., Rahayu, S., & Rochman, R. (2017). Respon tanaman kedelai terhadap inokulasi mikoriza arbuskula dan pemberian pupuk fosfor pada tanah masam. *Jurnal Agronida*, 3(2), 101–110.
- Ginting, G. (2017). Pengaruh pemberian nitrogen dan fosfor terhadap pertumbuhan legum *Calopogonium mucunoides*, *Centrosema pubescens* dan *Arachis pintoi*. [Artikel ilmiah].
- Havlin, J. L., Tisdale, S. L., Nelson, W. L., & Beaton, J. D. (2014). *Soil fertility and fertilizers: An introduction to nutrient management* (8th ed.). Pearson.
- Irawan, F., Sumijan, S., & Yuhandri, Y. (2021). Prediksi tingkat produksi buah kelapa sawit dengan metode single moving average. *Jurnal Informasi dan Teknologi*, 251–256.
- Jeffries, P., Gianinazzi, S., Perotto, S., Turnau, K., & Barea, J. M. (2003). The contribution of arbuscular mycorrhizal fungi in sustainable maintenance of plant health and soil fertility. *Biology and Fertility of Soils*, 37(1), 1–16. <https://doi.org/10.1007/s00374-002-0546-5>
- Marschner, P. (2012). *Marschner's mineral nutrition of higher plants* (3rd ed.). Academic Press.

- Mustaqim, M., Kristalisasi, K., & Rusmarini, R. (2023). Pengaruh mikoriza dan penyiraman terhadap pertumbuhan bibit kelapa sawit di pre-nursery. *AGRITECH: Jurnal Ilmu-Ilmu Pertanian*, 25(2), 55–63.
- Nugroho, A. (2019). *Teknologi agroindustri kelapa sawit*. Lambung Mengkurat Universitas Press.
- Nursanti, I. (2010). Penggunaan pupuk hayati pelarut fosfat dan pupuk P terhadap pertumbuhan kelapa sawit (*Elaeis guineensis* Jacq) di pembibitan utama pada tanah ultisol. *Jurnal Ilmiah Universitas Batanghari Jambi*, 10(3), 123–130.
- Same, M. (2017). Serapan fosfat dan pertumbuhan bibit kelapa sawit pada 35 tanah ultisol akibat cendawan mikoriza abuskula. *Jurnal Polinela*, 1–9.
- Singh, S. K., Badgujar, G., Reddy, V. R., Fleisher, D. H., & Bunce, J. A. (2018). Carbon dioxide diffusion across stomata and mesophyll and photo-biochemical processes as affected by growth CO<sub>2</sub> and phosphorus nutrition in cotton. *Journal of Plant Physiology*, 231, 186–194. <https://doi.org/10.1016/j.jplph.2018.09.013>
- Smith, S. E., & Read, D. J. (2008). *Mycorrhizal symbiosis* (3rd ed.). Academic Press.
- Sofian, S., Syah, A., & Hastuti, H. (2022). Aplikasi trichoderma dan mikoriza: Meningkatkan pertumbuhan bibit kelapa sawit di pre-nursery. *Agroista: Jurnal Agroteknologi*, 6(1), 1–10.
- Supriyadi, S., Hartati, H., & Aminudin, A. (2014). Kajian pemberian pupuk P, pupuk mikro dan pupuk organik terhadap serapan P dan hasil kedelai (*Glycine max* L) varietas Kaba di Inseptisol Gunung Gajah Klaten. *Jurnal Ilmu Pertanian*, 29(1), 15–24.
- Sudradjat, S., & Siagian, N. A. (2014). Pengaruh pemupukan fosfor dan kalium terhadap pertumbuhan tanaman kelapa sawit (*Elaeis guineensis* Jacq) di pembibitan utama. *Jurnal Agrovigor IPB*, 7(2), 89–96.
- Sutanto, R. (2019). *Pengelolaan kesuburan tanah dan pemupukan berimbang*. Kanisius.

## LAMPIRAN

Lampiran 1. Sidik ragam pertambahan tinggi tanaman

### Descriptive Statistics

Dependent Variable: PTT

| Mikoriza |        | Std.    |           |    |
|----------|--------|---------|-----------|----|
| a        | Fosfor | Mean    | Deviation | N  |
| M0       | P1     | 10.5000 | 2.88675   | 4  |
|          | P2     | 10.0000 | 4.32049   | 4  |
|          | P3     | 7.5000  | 2.38048   | 4  |
|          | Total  | 9.3333  | 3.28449   | 12 |
| M1       | P1     | 9.2500  | 2.50000   | 4  |
|          | P2     | 10.0000 | 1.63299   | 4  |
|          | P3     | 9.2500  | 1.70783   | 4  |
|          | Total  | 9.5000  | 1.83402   | 12 |
| M2       | P1     | 7.0000  | 2.16025   | 4  |
|          | P2     | 11.5000 | 3.41565   | 4  |
|          | P3     | 10.2500 | 1.89297   | 4  |
|          | Total  | 9.5833  | 3.05877   | 12 |
| M3       | P1     | 7.7500  | 3.09570   | 4  |
|          | P2     | 10.7500 | 4.34933   | 4  |
|          | P3     | 14.0000 | 3.55903   | 4  |
|          | Total  | 10.8333 | 4.28174   | 12 |
| Total    | P1     | 8.6250  | 2.77789   | 16 |
|          | P2     | 10.5625 | 3.28570   | 16 |
|          | P3     | 10.2500 | 3.31662   | 16 |
|          | Total  | 9.8125  | 3.18678   | 48 |

### Tests of Between-Subjects Effects

Dependent Variable: PTT

| Source            | Type III Sum of Squares | df | Mean Square | F       | Sig. |
|-------------------|-------------------------|----|-------------|---------|------|
| Corrected Model   | 160.563 <sup>a</sup>    | 11 | 14.597      | 1.659   | .124 |
| Intercept         | 4621.687                | 1  | 4621.687    | 525.275 | .000 |
| Mikoriza          | 17.062                  | 3  | 5.687       | .646    | .590 |
| Fosfor            | 34.625                  | 2  | 17.312      | 2.968   | .025 |
| Mikoriza * Fosfor | 108.875                 | 6  | 18.146      | 2.062   | .082 |
| Error             | 316.750                 | 36 | 8.799       |         |      |
| Total             | 5099.000                | 48 |             |         |      |
| Corrected Total   | 477.313                 | 47 |             |         |      |

a. R Squared = .336 (Adjusted R Squared = .134)

Lampiran 2. Sidik ragam pertambahan jumlah daun

**Descriptive Statistics**

Dependent Variable: PJD

| Mikoriz<br>a | Fosfor | Mean   | Std.<br>Deviation | N  |
|--------------|--------|--------|-------------------|----|
| M0           | P1     | 3.5000 | .57735            | 4  |
|              | P2     | 3.2500 | .50000            | 4  |
|              | P3     | 2.7500 | .95743            | 4  |
|              | Total  | 3.1667 | .71774            | 12 |
| M1           | P1     | 4.0000 | 1.15470           | 4  |
|              | P2     | 3.2500 | .50000            | 4  |
|              | P3     | 3.2500 | .50000            | 4  |
|              | Total  | 3.5000 | .79772            | 12 |
| M2           | P1     | 3.0000 | .81650            | 4  |
|              | P2     | 3.5000 | .57735            | 4  |
|              | P3     | 3.5000 | 1.73205           | 4  |
|              | Total  | 3.3333 | 1.07309           | 12 |
| M3           | P1     | 3.0000 | .00000            | 4  |
|              | P2     | 3.5000 | .57735            | 4  |
|              | P3     | 3.2500 | .50000            | 4  |
|              | Total  | 3.2500 | .45227            | 12 |
| Total        | P1     | 3.3750 | .80623            | 16 |
|              | P2     | 3.3750 | .50000            | 16 |
|              | P3     | 3.1875 | .98107            | 16 |
|              | Total  | 3.3125 | .77614            | 48 |

**Tests of Between-Subjects Effects**

Dependent Variable: PJD

| Source               | Type III Sum<br>of Squares | df | Mean Square | F       | Sig. |
|----------------------|----------------------------|----|-------------|---------|------|
| Corrected Model      | 4.563 <sup>a</sup>         | 11 | .415        | .629    | .792 |
| Intercept            | 526.687                    | 1  | 526.687     | 798.347 | .000 |
| Mikoriza             | .729                       | 3  | .243        | .368    | .776 |
| Fosfor               | .375                       | 2  | .187        | .284    | .754 |
| Mikoriza *<br>Fosfor | 3.458                      | 6  | .576        | .874    | .524 |
| Error                | 23.750                     | 36 | .660        |         |      |
| Total                | 555.000                    | 48 |             |         |      |
| Corrected Total      | 28.313                     | 47 |             |         |      |

a. R Squared = .161 (Adjusted R Squared = -.095)

Lampiran 3. Sidik ragam berat segar tanaman

**Descriptive Statistics**

Dependent Variable: BST

| Mikoriz |        | Std.    |           | N  |
|---------|--------|---------|-----------|----|
| a       | Fosfor | Mean    | Deviation |    |
| M0      | P1     | 42.0000 | 9.96661   | 4  |
|         | P2     | 30.2500 | 7.04154   | 4  |
|         | P3     | 31.5000 | 13.77195  | 4  |
|         | Total  | 34.5833 | 11.07379  | 12 |
| M1      | P1     | 36.7500 | 6.29153   | 4  |
|         | P2     | 37.5000 | 2.51661   | 4  |
|         | P3     | 32.7500 | 7.93200   | 4  |
|         | Total  | 35.6667 | 5.86722   | 12 |
| M2      | P1     | 29.2500 | 8.46069   | 4  |
|         | P2     | 38.0000 | 5.83095   | 4  |
|         | P3     | 32.7500 | 10.68878  | 4  |
|         | Total  | 33.3333 | 8.60585   | 12 |
| M3      | P1     | 31.2500 | 4.34933   | 4  |
|         | P2     | 46.5000 | 16.94107  | 4  |
|         | P3     | 43.0000 | 8.52447   | 4  |
|         | Total  | 40.2500 | 12.23352  | 12 |
| Total   | P1     | 34.8125 | 8.50270   | 16 |
|         | P2     | 38.0625 | 10.52279  | 16 |
|         | P3     | 35.0000 | 10.53249  | 16 |
|         | Total  | 35.9583 | 9.80221   | 48 |

**Tests of Between-Subjects Effects**

Dependent Variable: BST

| Source            | Type III Sum of Squares | df | Mean Square | F       | Sig. |
|-------------------|-------------------------|----|-------------|---------|------|
| Corrected Model   | 1378.417 <sup>a</sup>   | 11 | 125.311     | 1.438   | .199 |
| Intercept         | 62064.083               | 1  | 62064.083   | 712.130 | .000 |
| Mikoriza          | 327.417                 | 3  | 109.139     | 1.252   | .305 |
| Fosfor            | 106.542                 | 2  | 53.271      | .611    | .548 |
| Mikoriza * Fosfor | 944.458                 | 6  | 157.410     | 1.806   | .126 |
| Error             | 3137.500                | 36 | 87.153      |         |      |
| Total             | 66580.000               | 48 |             |         |      |
| Corrected Total   | 4515.917                | 47 |             |         |      |

a. R Squared = .305 (Adjusted R Squared = .093)

Lampiran 4. Sidik ragam berat kering tanaman

**Descriptive Statistics**

Dependent Variable: BKT

| Mikoriz |        | Std.    |           | N  |
|---------|--------|---------|-----------|----|
| a       | Fosfor | Mean    | Deviation |    |
| M0      | P1     | 12.6300 | 4.59400   | 4  |
|         | P2     | 8.0550  | 1.59843   | 4  |
|         | P3     | 10.0600 | 3.31770   | 4  |
|         | Total  | 10.2483 | 3.64411   | 12 |
| M1      | P1     | 10.8425 | .74504    | 4  |
|         | P2     | 11.3300 | .71414    | 4  |
|         | P3     | 10.3175 | 2.61836   | 4  |
|         | Total  | 10.8300 | 1.53190   | 12 |
| M2      | P1     | 9.0500  | 2.07520   | 4  |
|         | P2     | 11.5250 | 2.33623   | 4  |
|         | P3     | 9.7300  | 4.17232   | 4  |
|         | Total  | 10.1017 | 2.93255   | 12 |
| M3      | P1     | 9.1775  | 1.73803   | 4  |
|         | P2     | 13.9275 | 3.72626   | 4  |
|         | P3     | 12.9450 | 1.89333   | 4  |
|         | Total  | 12.0167 | 3.18758   | 12 |
| Total   | P1     | 10.4250 | 2.83895   | 16 |
|         | P2     | 11.2094 | 3.02251   | 16 |
|         | P3     | 10.7631 | 3.08384   | 16 |
|         | Total  | 10.7992 | 2.93741   | 48 |

**Tests of Between-Subjects Effects**

Dependent Variable: BKT

| Source            | Type III Sum of Squares | df | Mean Square | F       | Sig. |
|-------------------|-------------------------|----|-------------|---------|------|
| Corrected Model   | 134.779 <sup>a</sup>    | 11 | 12.253      | 1.629   | .132 |
| Intercept         | 5597.856                | 1  | 5597.856    | 744.304 | .000 |
| Mikoriza          | 27.278                  | 3  | 9.093       | 1.209   | .320 |
| Fosfor            | 4.953                   | 2  | 2.477       | .329    | .722 |
| Mikoriza * Fosfor | 102.548                 | 6  | 17.091      | 2.273   | .058 |
| Error             | 270.753                 | 36 | 7.521       |         |      |
| Total             | 6003.389                | 48 |             |         |      |
| Corrected Total   | 405.533                 | 47 |             |         |      |

a. R Squared = .332 (Adjusted R Squared = .128)

Lampiran 5. Sidik ragam panjang akar

**Descriptive Statistics**

Dependent Variable: PA

| Mikoriz |        | Std.    |           | N  |
|---------|--------|---------|-----------|----|
| a       | Fosfor | Mean    | Deviation |    |
| M0      | P1     | 60.7500 | 5.37742   | 4  |
|         | P2     | 51.0000 | 10.61446  | 4  |
|         | P3     | 57.7500 | 19.98958  | 4  |
|         | Total  | 56.5000 | 12.87351  | 12 |
| M1      | P1     | 59.7500 | 13.22561  | 4  |
|         | P2     | 50.7500 | 6.50000   | 4  |
|         | P3     | 55.5000 | 14.38749  | 4  |
|         | Total  | 55.3333 | 11.42034  | 12 |
| M2      | P1     | 59.2500 | 22.32151  | 4  |
|         | P2     | 53.0000 | 4.32049   | 4  |
|         | P3     | 56.7500 | 11.81454  | 4  |
|         | Total  | 56.3333 | 13.64707  | 12 |
| M3      | P1     | 53.2500 | 16.02862  | 4  |
|         | P2     | 54.7500 | 16.11159  | 4  |
|         | P3     | 56.0000 | 5.88784   | 4  |
|         | Total  | 54.6667 | 12.31653  | 12 |
| Total   | P1     | 58.2500 | 14.17745  | 16 |
|         | P2     | 52.3750 | 9.45780   | 16 |
|         | P3     | 56.5000 | 12.52730  | 16 |
|         | Total  | 55.7083 | 12.20561  | 48 |

**Tests of Between-Subjects Effects**

Dependent Variable: PA

| Source            | Type III Sum of Squares | df | Mean Square | F       | Sig. |
|-------------------|-------------------------|----|-------------|---------|------|
| Corrected Model   | 482.917 <sup>a</sup>    | 11 | 43.902      | .242    | .992 |
| Intercept         | 148964.083              | 1  | 148964.083  | 822.627 | .000 |
| Mikoriza          | 26.917                  | 3  | 8.972       | .050    | .985 |
| Fosfor            | 291.167                 | 2  | 145.583     | .804    | .455 |
| Mikoriza * Fosfor | 164.833                 | 6  | 27.472      | .152    | .988 |
| Error             | 6519.000                | 36 | 181.083     |         |      |
| Total             | 155966.000              | 48 |             |         |      |
| Corrected Total   | 7001.917                | 47 |             |         |      |

a. R Squared = .069 (Adjusted R Squared = -.216)

Lampiran 6. Sidik ragam berat segar akar

**Descriptive Statistics**

Dependent Variable: BSA

| Mikoriz |        | Mean    | Std. Deviation | N  |
|---------|--------|---------|----------------|----|
| a       | Fosfor |         |                |    |
| M0      | P1     | 23.0000 | 4.24264        | 4  |
|         | P2     | 12.0000 | 1.41421        | 4  |
|         | P3     | 13.7500 | 5.25198        | 4  |
|         | Total  | 16.2500 | 6.19567        | 12 |
| M1      | P1     | 15.2500 | 1.70783        | 4  |
|         | P2     | 17.5000 | 3.87298        | 4  |
|         | P3     | 17.0000 | 7.95822        | 4  |
|         | Total  | 16.5833 | 4.81396        | 12 |
| M2      | P1     | 14.7500 | 5.05800        | 4  |
|         | P2     | 16.2500 | 2.87228        | 4  |
|         | P3     | 14.7500 | 7.88987        | 4  |
|         | Total  | 15.2500 | 5.17204        | 12 |
| M3      | P1     | 17.0000 | 6.05530        | 4  |
|         | P2     | 16.7500 | 3.77492        | 4  |
|         | P3     | 15.7500 | 1.89297        | 4  |
|         | Total  | 16.5000 | 3.89639        | 12 |
| Total   | P1     | 17.5000 | 5.30409        | 16 |
|         | P2     | 15.6250 | 3.57538        | 16 |
|         | P3     | 15.3125 | 5.73549        | 16 |
|         | Total  | 16.1458 | 4.95078        | 48 |

**Tests of Between-Subjects Effects**

Dependent Variable: BSA

| Source            | Type III Sum of Squares | df | Mean Square | F       | Sig. |
|-------------------|-------------------------|----|-------------|---------|------|
| Corrected Model   | 313.729 <sup>a</sup>    | 11 | 28.521      | 1.225   | .307 |
| Intercept         | 12513.021               | 1  | 12513.021   | 537.392 | .000 |
| Mikoriza          | 13.562                  | 3  | 4.521       | .194    | .900 |
| Fosfor            | 44.792                  | 2  | 22.396      | .962    | .392 |
| Mikoriza * Fosfor | 255.375                 | 6  | 42.562      | 1.828   | .121 |
| Error             | 838.250                 | 36 | 23.285      |         |      |
| Total             | 13665.000               | 48 |             |         |      |
| Corrected Total   | 1151.979                | 47 |             |         |      |

a. R Squared = .272 (Adjusted R Squared = .050)

Lampiran 7. Sidik ragam berat kering akar

**Descriptive Statistics**

Dependent Variable: BKA

| Mikoriz |        | Mean   | Std. Deviation | N  |
|---------|--------|--------|----------------|----|
| a       | Fosfor |        |                |    |
| M0      | P1     | 6.3650 | 2.91324        | 4  |
|         | P2     | 5.0125 | 1.20652        | 4  |
|         | P3     | 5.4650 | 2.07739        | 4  |
|         | Total  | 5.6142 | 2.05751        | 12 |
| M1      | P1     | 5.2075 | 1.20054        | 4  |
|         | P2     | 6.1075 | 1.06713        | 4  |
|         | P3     | 5.1100 | 1.75947        | 4  |
|         | Total  | 5.4750 | 1.32962        | 12 |
| M2      | P1     | 4.4400 | 1.45776        | 4  |
|         | P2     | 5.4900 | .86267         | 4  |
|         | P3     | 3.8225 | .90072         | 4  |
|         | Total  | 4.5842 | 1.23316        | 12 |
| M3      | P1     | 4.9050 | 1.26022        | 4  |
|         | P2     | 6.1200 | 2.12278        | 4  |
|         | P3     | 5.3275 | .73173         | 4  |
|         | Total  | 5.4508 | 1.44389        | 12 |
| Total   | P1     | 5.2294 | 1.80736        | 16 |
|         | P2     | 5.6825 | 1.34081        | 16 |
|         | P3     | 4.9313 | 1.48519        | 16 |
|         | Total  | 5.2810 | 1.55489        | 48 |

**Tests of Between-Subjects Effects**

Dependent Variable: BKA

| Source            | Type III Sum of Squares | df | Mean Square | F       | Sig. |
|-------------------|-------------------------|----|-------------|---------|------|
| Corrected Model   | 22.898 <sup>a</sup>     | 11 | 2.082       | .826    | .616 |
| Intercept         | 1338.691                | 1  | 1338.691    | 531.150 | .000 |
| Mikoriza          | 7.957                   | 3  | 2.652       | 1.052   | .381 |
| Fosfor            | 4.579                   | 2  | 2.290       | .908    | .412 |
| Mikoriza * Fosfor | 10.362                  | 6  | 1.727       | .685    | .663 |
| Error             | 90.733                  | 36 | 2.520       |         |      |
| Total             | 1452.322                | 48 |             |         |      |
| Corrected Total   | 113.631                 | 47 |             |         |      |

a. R Squared = .202 (Adjusted R Squared = -.042)

Lampiran 8. Sidik ragam volume akar

**Descriptive Statistics**

Dependent Variable: VA

| Mikoriz |        | Mean    | Std. Deviation | N  |
|---------|--------|---------|----------------|----|
| a       | Fosfor |         |                |    |
| M0      | P1     | 22.5000 | 9.57427        | 4  |
|         | P2     | 25.0000 | 10.80123       | 4  |
|         | P3     | 21.0000 | 7.78888        | 4  |
|         | Total  | 22.8333 | 8.73689        | 12 |
| M1      | P1     | 29.5000 | 6.40312        | 4  |
|         | P2     | 26.7500 | 9.97914        | 4  |
|         | P3     | 21.2500 | 7.45542        | 4  |
|         | Total  | 25.8333 | 8.14453        | 12 |
| M2      | P1     | 28.0000 | 5.35413        | 4  |
|         | P2     | 24.0000 | 8.83176        | 4  |
|         | P3     | 29.7500 | 9.21502        | 4  |
|         | Total  | 27.2500 | 7.65299        | 12 |
| M3      | P1     | 17.0000 | 3.46410        | 4  |
|         | P2     | 32.5000 | 8.69866        | 4  |
|         | P3     | 21.5000 | 8.54400        | 4  |
|         | Total  | 23.6667 | 9.49003        | 12 |
| Total   | P1     | 24.2500 | 7.78460        | 16 |
|         | P2     | 27.0625 | 9.24820        | 16 |
|         | P3     | 23.3750 | 8.32566        | 16 |
|         | Total  | 24.8958 | 8.44315        | 48 |

**Tests of Between-Subjects Effects**

Dependent Variable: VA

| Source            | Type III Sum of Squares | df | Mean Square | F       | Sig. |
|-------------------|-------------------------|----|-------------|---------|------|
| Corrected Model   | 898.229 <sup>a</sup>    | 11 | 81.657      | 1.199   | .323 |
| Intercept         | 29750.521               | 1  | 29750.521   | 436.749 | .000 |
| Mikoriza          | 146.229                 | 3  | 48.743      | .716    | .549 |
| Fosfor            | 118.792                 | 2  | 59.396      | .872    | .427 |
| Mikoriza * Fosfor | 633.208                 | 6  | 105.535     | 1.549   | .190 |
| Error             | 2452.250                | 36 | 68.118      |         |      |
| Total             | 33101.000               | 48 |             |         |      |
| Corrected Total   | 3350.479                | 47 |             |         |      |

a. R Squared = .268 (Adjusted R Squared = .044)

Lampiran 9. Sidik ragam diameter batang

**Descriptive Statistics**

Dependent Variable: DB

| Mikoriz |        | Std.    |           | N  |
|---------|--------|---------|-----------|----|
| a       | Fosfor | Mean    | Deviation |    |
| M0      | P1     | 20.3000 | 4.54973   | 4  |
|         | P2     | 15.1750 | 2.25444   | 4  |
|         | P3     | 15.8750 | 3.02586   | 4  |
|         | Total  | 17.1167 | 3.89168   | 12 |
| M1      | P1     | 21.7750 | 2.53952   | 4  |
|         | P2     | 19.3500 | 2.67145   | 4  |
|         | P3     | 18.4500 | 5.20288   | 4  |
|         | Total  | 19.8583 | 3.63855   | 12 |
| M2      | P1     | 17.0750 | 4.04011   | 4  |
|         | P2     | 19.8750 | 3.76862   | 4  |
|         | P3     | 18.7250 | 4.61474   | 4  |
|         | Total  | 18.5583 | 3.94634   | 12 |
| M3      | P1     | 17.1250 | 1.79141   | 4  |
|         | P2     | 21.3500 | 5.02162   | 4  |
|         | P3     | 20.8000 | 2.65456   | 4  |
|         | Total  | 19.7583 | 3.67583   | 12 |
| Total   | P1     | 19.0688 | 3.70958   | 16 |
|         | P2     | 18.9375 | 3.99180   | 16 |
|         | P3     | 18.4625 | 4.02175   | 16 |
|         | Total  | 18.8229 | 3.83518   | 48 |

**Tests of Between-Subjects Effects**

Dependent Variable: DB

| Source            | Type III Sum of Squares | df | Mean Square | F        | Sig. |
|-------------------|-------------------------|----|-------------|----------|------|
| Corrected Model   | 202.642 <sup>a</sup>    | 11 | 18.422      | 1.357    | .235 |
| Intercept         | 17006.505               | 1  | 17006.505   | 1252.877 | .000 |
| Mikoriza          | 59.141                  | 3  | 19.714      | 1.452    | .244 |
| Fosfor            | 3.255                   | 2  | 1.628       | .120     | .887 |
| Mikoriza * Fosfor | 140.246                 | 6  | 23.374      | 1.722    | .144 |
| Error             | 488.662                 | 36 | 13.574      |          |      |
| Total             | 17697.810               | 48 |             |          |      |
| Corrected Total   | 691.305                 | 47 |             |          |      |

a. R Squared = .293 (Adjusted R Squared = .077)

Lampiran 10. Sidik ragam luas daun

**Descriptive Statistics**

Dependent Variable: LD

| Mikoriz |        | Mean     | Std. Deviation | N  |
|---------|--------|----------|----------------|----|
| a       | Fosfor |          |                |    |
| M0      | P1     | 208.5775 | 7.62141        | 4  |
|         | P2     | 194.0600 | 19.86043       | 4  |
|         | P3     | 189.8525 | 17.22696       | 4  |
|         | Total  | 197.4967 | 16.56938       | 12 |
| M1      | P1     | 196.7725 | 39.76564       | 4  |
|         | P2     | 201.4550 | 39.48994       | 4  |
|         | P3     | 203.2775 | 28.82401       | 4  |
|         | Total  | 200.5017 | 33.03557       | 12 |
| M2      | P1     | 193.3475 | 18.70485       | 4  |
|         | P2     | 190.1025 | 17.06311       | 4  |
|         | P3     | 182.6150 | 23.72914       | 4  |
|         | Total  | 188.6883 | 18.71959       | 12 |
| M3      | P1     | 208.4525 | 32.25231       | 4  |
|         | P2     | 210.3575 | 27.92075       | 4  |
|         | P3     | 205.3300 | 24.89463       | 4  |
|         | Total  | 208.0467 | 25.88454       | 12 |
| Total   | P1     | 201.7875 | 25.60738       | 16 |
|         | P2     | 198.9938 | 25.85625       | 16 |
|         | P3     | 195.2688 | 23.59450       | 16 |
|         | Total  | 198.6833 | 24.64947       | 48 |

**Tests of Between-Subjects Effects**

Dependent Variable: LD

| Source            | Type III Sum of Squares | df | Mean Square | F        | Sig. |
|-------------------|-------------------------|----|-------------|----------|------|
| Corrected Model   | 3463.549 <sup>a</sup>   | 11 | 314.868     | .452     | .920 |
| Intercept         | 1894803.213             | 1  | 1894803.213 | 2718.353 | .000 |
| Mikoriza          | 2307.439                | 3  | 769.146     | 1.103    | .360 |
| Fosfor            | 342.265                 | 2  | 171.133     | .246     | .784 |
| Mikoriza * Fosfor | 813.845                 | 6  | 135.641     | .195     | .976 |
| Error             | 25093.476               | 36 | 697.041     |          |      |
| Total             | 1923360.239             | 48 |             |          |      |
| Corrected Total   | 28557.025               | 47 |             |          |      |

a. R Squared = .121 (Adjusted R Squared = -.147)

Lampiran 11. Sidik ragam kadar klorofil daun

**Descriptive Statistics**

Dependent Variable: Kadar\_Klorofil\_Daun

| Mikoriz |        | Mean    | Std. Deviation | N  |
|---------|--------|---------|----------------|----|
| a       | Fosfor |         |                |    |
| M0      | P1     | 52.7500 | 2.04858        | 4  |
|         | P2     | 45.2000 | 5.53233        | 4  |
|         | P3     | 40.0000 | 10.55083       | 4  |
|         | Total  | 45.9833 | 8.35125        | 12 |
| M1      | P1     | 54.5500 | 9.23345        | 4  |
|         | P2     | 48.5750 | 3.03466        | 4  |
|         | P3     | 49.5000 | 13.69039       | 4  |
|         | Total  | 50.8750 | 9.18706        | 12 |
| M2      | P1     | 39.8750 | 11.05844       | 4  |
|         | P2     | 49.2250 | 13.89709       | 4  |
|         | P3     | 50.8750 | 9.91106        | 4  |
|         | Total  | 46.6583 | 11.76462       | 12 |
| M3      | P1     | 46.3500 | 7.78310        | 4  |
|         | P2     | 53.5750 | 7.46609        | 4  |
|         | P3     | 48.7500 | 10.56930       | 4  |
|         | Total  | 49.5583 | 8.48747        | 12 |
| Total   | P1     | 48.3812 | 9.49191        | 16 |
|         | P2     | 49.1438 | 8.19813        | 16 |
|         | P3     | 47.2813 | 11.00940       | 16 |
|         | Total  | 48.2688 | 9.45959        | 48 |

**Tests of Between-Subjects Effects**

Dependent Variable: Kadar\_Klorofil\_Daun

| Source            | Type III Sum of Squares | df | Mean Square | F        | Sig. |
|-------------------|-------------------------|----|-------------|----------|------|
| Corrected Model   | 996.666 <sup>a</sup>    | 11 | 90.606      | 1.016    | .452 |
| Intercept         | 111833.867              | 1  | 111833.867  | 1254.572 | .000 |
| Mikoriza          | 195.266                 | 3  | 65.089      | .730     | .541 |
| Fosfor            | 28.055                  | 2  | 14.027      | .157     | .855 |
| Mikoriza * Fosfor | 773.345                 | 6  | 128.891     | 1.446    | .225 |
| Error             | 3209.078                | 36 | 89.141      |          |      |
| Total             | 116039.610              | 48 |             |          |      |
| Corrected Total   | 4205.743                | 47 |             |          |      |

a. R Squared = .237 (Adjusted R Squared = .004)

Lampiran 12. Sidik ragam analisa nitrogen

**Descriptive Statistics**

Dependent Variable: Nitrogen

| Mikoriz | Fosfor | Mean   | Std. Deviation | N  |
|---------|--------|--------|----------------|----|
| M0      | P1     | 2.7950 | .39569         | 4  |
|         | P2     | 3.1525 | .21093         | 4  |
|         | P3     | 2.6225 | .81953         | 4  |
|         | Total  | 2.8567 | .53958         | 12 |
| M1      | P1     | 2.7525 | .82415         | 4  |
|         | P2     | 2.5725 | .45785         | 4  |
|         | P3     | 2.2075 | .52677         | 4  |
|         | Total  | 2.5108 | .61170         | 12 |
| M2      | P1     | 2.4075 | .43874         | 4  |
|         | P2     | 2.8925 | .55500         | 4  |
|         | P3     | 2.7025 | .58965         | 4  |
|         | Total  | 2.6675 | .52418         | 12 |
| M3      | P1     | 2.8025 | .51835         | 4  |
|         | P2     | 2.5600 | .55648         | 4  |
|         | P3     | 2.8075 | .48883         | 4  |
|         | Total  | 2.7233 | .48730         | 12 |
| Total   | P1     | 2.6894 | .53669         | 16 |
|         | P2     | 2.7944 | .48878         | 16 |
|         | P3     | 2.5850 | .60201         | 16 |
|         | Total  | 2.6896 | .53972         | 48 |

**Tests of Between-Subjects Effects**

Dependent Variable: Nitrogen

| Source            | Type III Sum of Squares | df | Mean Square | F        | Sig. |
|-------------------|-------------------------|----|-------------|----------|------|
| Corrected Model   | 2.577 <sup>a</sup>      | 11 | .234        | .759     | .677 |
| Intercept         | 347.225                 | 1  | 347.225     | 1124.753 | .000 |
| Mikoriza          | .738                    | 3  | .246        | .797     | .504 |
| Fosfor            | .351                    | 2  | .175        | .568     | .572 |
| Mikoriza * Fosfor | 1.489                   | 6  | .248        | .804     | .574 |
| Error             | 11.114                  | 36 | .309        |          |      |
| Total             | 360.916                 | 48 |             |          |      |
| Corrected Total   | 13.691                  | 47 |             |          |      |

a. R Squared = .188 (Adjusted R Squared = -.060)

Lampiran 13. Sidik ragam serapan hara nitrogen

**Descriptive Statistics**

Dependent Variable: Serapan\_Hara\_Nitrogen

| Mikoriza | Fosfor | Mean     | Std. Deviation | N  |
|----------|--------|----------|----------------|----|
| M0       | P1     | 140.0075 | 31.69737       | 4  |
|          | P2     | 175.7225 | 44.55088       | 4  |
|          | P3     | 115.2400 | 28.96992       | 4  |
|          | Total  | 143.6567 | 41.43170       | 12 |
| M1       | P1     | 129.6700 | 59.25868       | 4  |
|          | P2     | 128.5200 | 55.43438       | 4  |
|          | P3     | 92.9850  | 32.79724       | 4  |
|          | Total  | 117.0583 | 49.04586       | 12 |
| M2       | P1     | 123.0275 | 42.97835       | 4  |
|          | P2     | 118.6875 | 17.51794       | 4  |
|          | P3     | 117.8975 | 9.09419        | 4  |
|          | Total  | 119.8708 | 24.81055       | 12 |
| M3       | P1     | 152.2525 | 29.87277       | 4  |
|          | P2     | 142.6325 | 29.42534       | 4  |
|          | P3     | 148.9275 | 21.95959       | 4  |
|          | Total  | 147.9375 | 25.06780       | 12 |
| Total    | P1     | 136.2394 | 39.76667       | 16 |
|          | P2     | 141.3906 | 41.74259       | 16 |
|          | P3     | 118.7625 | 30.32027       | 16 |
|          | Total  | 132.1308 | 38.07849       | 48 |

**Tests of Between-Subjects Effects**

Dependent Variable: Serapan\_Hara\_Nitrogen

| Source            | Type III Sum of Squares | df | Mean Square | F       | Sig. |
|-------------------|-------------------------|----|-------------|---------|------|
| Corrected Model   | 20250.167 <sup>a</sup>  | 11 | 1840.924    | 1.384   | .223 |
| Intercept         | 838010.742              | 1  | 838010.742  | 629.840 | .000 |
| Mikoriza          | 9122.201                | 3  | 3040.734    | 2.285   | .095 |
| Fosfor            | 4501.379                | 2  | 2250.690    | 1.692   | .199 |
| Mikoriza * Fosfor | 6626.587                | 6  | 1104.431    | .830    | .555 |
| Error             | 47898.478               | 36 | 1330.513    |         |      |
| Total             | 906159.386              | 48 |             |         |      |
| Corrected Total   | 68148.645               | 47 |             |         |      |

a. R Squared = .297 (Adjusted R Squared = .082)