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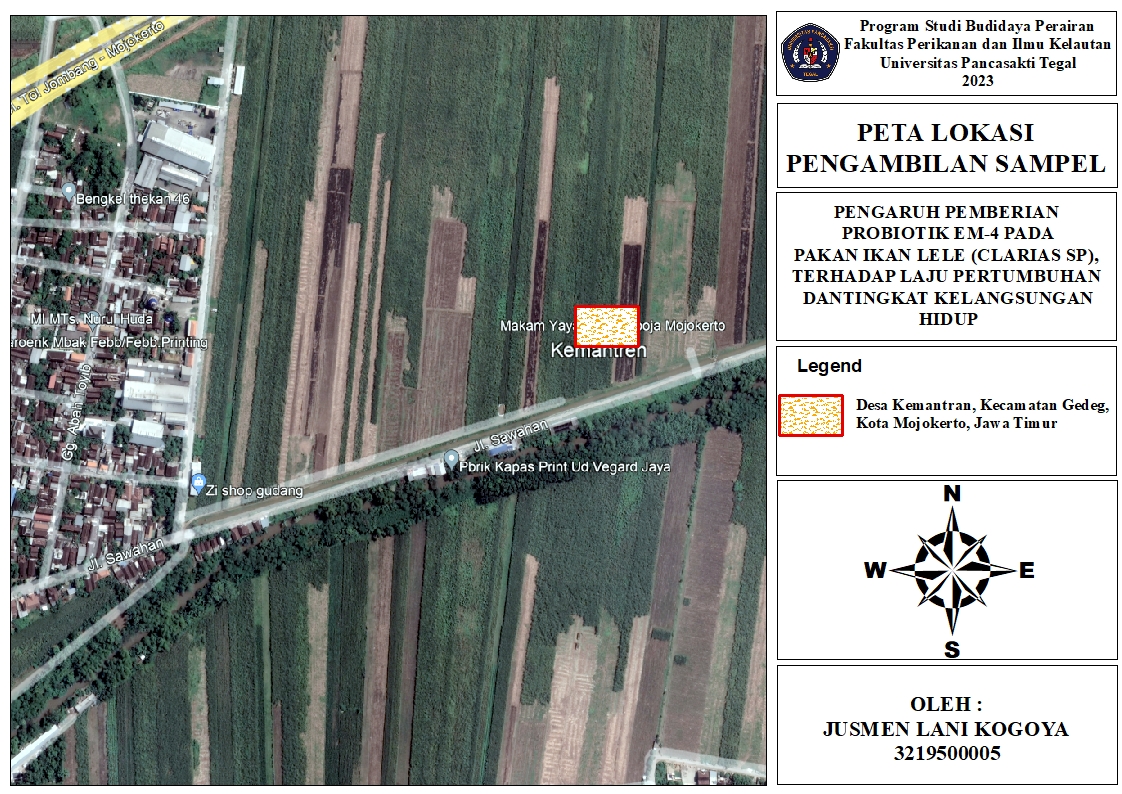
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**LAMPIRAN – LAMPIRAN**

**Lampiran 1.** Lokasi Peta Penelitian



**Lampiran 2.** Pertumbuhan Bobot Mutlak (gr), Laju Pertumbuhan Harian (%), Pertumbuhan Relatif (gr) Ikan Lele (*Clarias sp*).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Perlakuan** | **Ulangan** | **Wo** | **Wt** | **Pertumbuhan Bobot Individu** | **Laju Pertumbuhan Harian** |
| **Mutlak** |
| **A** | 1 | 100 | 320 | 220 | 7,33 |
| 2 | 100 | 320,5 | 220.5 | 7,35 |
| 3 | 100 | 320,5 | 220.5 | 7,35 |
| **Rata-Rata** | | **100** | **320,33** | **220** | **22,03** |
| **B** | 1 | 100 | 330,5 | 220.5 | 7,35 |
| 2 | 100 | 340 | 240 | 8 |
| 3 | 100 | 330,5 | 230.5 | 7,68 |
| **Rata-Rata** | | **100** | **333,66** | **240** | **23,03** |
| **C** | 1 | 100 | 360 | 260 | 8,66 |
| 2 | 100 | 370,5 | 270.5 | 9,01 |
| 3 | 100 | 350,5 | 250.5 | 8,35 |
| **Rata-Rata** | | **100** | **360,5** | **260** | **26,02** |
| **K** | 1 | 100 | 310 | 210 | 7 |
| 2 | 100 | 310,5 | 210.5 | 7,01 |
| 3 | 100 | 310 | 210 | 7 |
| **Rata-Rata** | | **100** | **310,16** | **210** | **21,01** |

**Lampiran 3.** Data Pertambahan Bobot (gram) Ikan Lele (*Clarias sp*), Laju Pertumbuhan Mingguan (%) dengan dosis Probiotik EM-4 (A) 6 ml, (B) 8 ml, (C) 10 ml.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Perlakuan** | **Ulangan** | **Minggu** | | | |
| **I** | **II** | **III** | **IV** |
| **A1** | **1** | 100 | 140 | 225 | 317 |
| **2** | 100 | 140 | 233.5 | 312.5 |
| **3** | 100 | 140 | 215 | 320.5 |
| **Rata – rata** | **100** | **140** | **224.5** | **316.67** |
| **B1** | **1** | 100 | 160 | 233 | 324.5 |
| **2** | 100 | 180 | 237.5 | 336 |
| **3** | 100 | 150 | 243 | 315.5 |
| **Rata – rata** | **100** | **163.33** | **237.83** | **325.33** |
| **C1** | **1** | 100 | 240 | 394 | 430 |
| **2** | 100 | 290 | 385 | 579.5 |
| **3** | 100 | 274 | 278 | 483.5 |
| **Rata – rata** | **100** | **268** | **352.33** | **497.67** |
| **K** | **1** | 100 | 120.5 | 220.5 | 310 |
| **2** | 100 | 120.5 | 220.5 | 310.5 |
| **3** | 100 | 120.5 | 220 | 310 |
| **Rata – rata** | **100** | **120.5** | **220.33** | **310.67** |

**Lampiran 4.** Tingkat Kelangsungan Hidup (%)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Perlakuan** | **Ulangan** | **NO** | **Minggu** | | | | **(%)** |
| **I** | **II** | **III** | **IV** |
| **A** | **1** | 500 | 495 | 480 | 470 | 465 | **94** |
| **2** | 500 | 490 | 475 | 466 | 460 | **95** |
| **3** | 500 | 498 | 485 | 470 | 469 | **95** |
| **Rata-Rata** | |  |  |  |  |  | **94,67** |
| **B** | **1** | 500 | 485 | 463 | 450 | 443 | **95** |
| **2** | 500 | 485 | 465 | 463 | 461 | **95** |
| **3** | 500 | 485 | 470 | 450 | 445 | **94** |
| **Rata-Rata** | |  |  |  |  |  | **94,67** |
| **C** | **1** | 500 | 490 | 480 | 478 | 472 | **97** |
| **2** | 500 | 490 | 481 | 479 | 476 | **97** |
| **3** | 500 | 490 | 480 | 475 | 470 | **97** |
| **Rata-Rata** | |  |  |  |  |  | **97** |
| **K** | **1** | 500 | 485 | 474 | 469 | 469 | **96** |
| **2** | 500 | 495 | 485 | 480 | 475 | **96** |
| **3** | 500 | 490 | 480 | 475 | 470 | **97** |
| **Rata-Rata** | |  |  |  |  |  | **96,33** |

**Lampiran 5.** Konversi Pakan Ikan Lele (*Clarias sp*), dengan dosis Probiotik EM-4 (A) 6 ml, (B) 8 ml, (C) 10 ml.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Perlakuan** | **Ulangan** | **Bo** | **Bt** | **F** | **KP** |
| **A1** | **1** | 100 | 320 | 103 | 0,3 |
| **2** | 100 | 320,5 | 103 | 3,1 |
| **3** | 100 | 320,5 | 103 | 3,1 |
| **Rata-Rata** | |  |  |  | **2,17** |
| **B1** | **1** | 100 | 330,5 | 103 | 3,2 |
| **2** | 100 | 340 | 103 | 3,3 |
| **3** | 100 | 330,5 | 103 | 3,2 |
| **Rata-Rata** | |  |  |  | **3,23** |
| **C1** | **1** | 100 | 360 | 103 | 3,4 |
| **2** | 100 | 370,5 | 103 | 3,5 |
| **3** | 100 | 350,5 | 103 | 3,4 |
| **Rata-Rata** | |  |  |  | **3,43** |
| **K** | **1** | 100 | 310 | 103 | 3 |
| **2** | 100 | 310,5 | 103 | 3 |
| **3** | 100 | 310 | 103 | 3 |
| **Rata-Rata** | |  |  |  | **3** |

**Lampiran 6.** Hasil Sampel Uji Lab



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| **LAPORAN HASIL UJI (KUALITAS AIR)**  **Nama : Jusmen**  **Personal yang dihubungi : Jusmen**  **Alamat : Tegal**  **Jenis Sampel : Air Kolam**  **Tanggal Penerimaan : 27 Desember 2022**  **Tanggal Pengujian : 27 Desember 2022**  **No. Dokumen : IEA/00442/LAB-TGL/KA** |

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| **Lab. PT. Indonesia Evergreen Agriculture Dusun Bojongkelor, Desa Kedungkelor Kab. Tegal, Jawa Tegah.** |

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| **Mengetahui**  **Penangg ungjawab Laboratorium** |
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| **Kode Sampel** |  | **DOC** |  |  |  |  | |  |  |  | **PARAMETER KIMIA** | | |  |  |  | |  |
|  | **pH** | **Salinitas** |  | **Hardness** | | **NO2** (Nitrite) | **NO3**  **(Nitrate)** | **Cl**  **(Chlorine)** | **Fe (Besi)** | **NH3 (Ammonia)** | **TAN**  **(Total Ammonia**  **Nitrogen)** | **PO4**  **(Phosphate)** | **TOM** | **Alkalinitas** | |  |
|  | **Ca** | **Mg** | **Total** | **CO3** | **HCO3** | **Total** |
|  | **7,2 - 8,4** | **15 – 30 ppt** | **(< 1.000 mg/L)** | **(> 1.250 mg/L)** | **3000 - 6000** | **0,1 mg/L** | **< 0,1 mg/L** | **< 0,002 mg/L** | **1 mg/L** | **< 0,1 mg/L** | **< 0.1 mg/L** | **0,5-1 mg/L** | **< 100 mg/L** | **< 30 mg/L** | **90 – 120 mg/L** | **150 – 170 mg/L** |
|  |  |  | **7.8** | **0** | **300** | **100** | **400** | **0.109** | **5** |  |  | **0.097** | **2.449** | **0.3** | **129** | **0** | **424** | **424** |

|  |  |  |
| --- | --- | --- |
| **RECORD :**  **Salinitas rendah <15 ppt**  **Mg Hardness rendah <1250 mg/L**  **Total Hardness rendah <3000 mg/L**  **Nitrit tinggi >0,1 mg/L**  **TAN tinggi >0,1 mg/L**  **TOM tinggi >100 mg/L**  **Total Alkalinitas tinggi >170 mg/L**   |  |  | | --- | --- | | **Saran** | **:** | |

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| **Mengetahui**  **Penanggungjawab Laboratorium**    **(Margawan Kelana)** |
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| **Disetujui**  **(Septri Andika)** |

**Diperiksa**



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| **(Isna Hidayah)** |  | **(Dwi Kartika Sari)** |

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| **LAPORAN HASIL UJI (KUALITAS AIR)**  **Nama : Jusmen**  **Personal yang dihubungi : Jusmen**  **Alamat : Tegal**  **Jenis Sampel : Air Kolam**  **Tanggal Penerimaan : 27 Desember 2022**  **Tanggal Pengujian : 27 Desember 2022**  **No. Dokumen : IEA/00442/LAB-TGL/KA** |



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| **Lab. PT. Indonesia Evergreen Agriculture Dusun Bojongkelor, Desa Kedungkelor Kab. Tegal, Jawa Tegah.** |

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| **No.** | **JENIS** |  |  |  |  | |  | |  | |  | |  | |  | |
| **Ʃ (sel)** | **%** |  |  |  |  |  |  |  |  |  |  |  |  |
| **1** | **Green Algae**  *Chlamydomonas* | **> 90%** | **1 565 000** 80 000 | **97** 5 |  |  |  |  |  |  |  |  |  |  |  |  |
| *Chlorella* |  | 1 480 000 | 91 |  |  |  |  |  |  |  |  |  |  |  |  |
| *Scenedesmus*  **Blue Green Algae** |  | 5 000 | 0 |  |  |  |  |  |  |  |  |  |  |  |  |
| **2** | *Anabaena* | **< 10%** | 0  20 000 | **39**  1 |  |  |  |  |  |  |  |  |  |  |  |  |
| *Anabaenopsis* |  | 20 000 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |
| *Microcystis* |  | 20 000 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |
| *Oscillatoria*  **Diatom** |  | 570 000 | 35 |  |  |  |  |  |  |  |  |  |  |  |  |
| **3** | *Navicula* | **< 90%** | 42 500  40 000 | **3**  2 |  |  |  |  |  |  |  |  |  |  |  |  |
| *Nitzchia* |  | 2 500 | 0 |  |  |  |  |  |  |  |  |  |  |  |  |
| **4**  **5** | **Dinoflagellata**  *Gyrodinium*  **Protozoa** | **< 5%**  **< 5%** | 2 500  2 500  0 | **0**  0  **0** |  |  |  |  |  |  |  |  |  |  |  |  |
| **6** | **Zooplankton**  **Euglena** |  | 0 | **0** |  |  |  |  |  |  |  |  |  |  |  |  |
| **7**  **8** | **Golden Green**  **Algae (GGA)** | > 10%  **< 5%** | 0  10000 | 0  1 |  |  |  |  |  |  |  |  |  |  |  |  |
|  | *Cryptomonas* |  | 10 000 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **JUMLAH SEL**  **( 500.000 - 2.000.000 )** | | 1 620 000 | 138 |  |  |  |  |  |  |  |  |  |  |  |  |

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| **Mengetahui**  **Penanggungjawab Laboratorium**    **(Margawan Kelana)** |
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| **(Isna Hidayah)** |  | **(Dwi Kartika Sari)** |

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| |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Kode Sampel** | **DOC** |  |  |  | **PARAMETER BIOLOGI** | |  |  | | **Hijau** | **Kuning** | **Black** | **Menyala TVC** | | **TBC** | **- 5% sedang**  **- 10% waspada**  **≥ 10% tidak aman** | | **(10² cfu/ml)** | **(10³ cfu/ml)** | **(10² cfu/ml)** | **(50 cfu/ml)** | **( ≤ 3 x 103 )** | **( ≥ 103 )** | |  |  | **0** | **0** | **0** | **0** | **0** | **18900** | **0.0** |      |  | | --- | | **LAPORAN HASIL UJI (KUALITAS AIR)**  **Nama : Jusmen**  **Personal yang dihubungi : Jusmen**  **Alamat : Tegal**  **Jenis Sampel : Air Kolam**  **Tanggal Penerimaan : 27 Desember 2022**  **Tanggal Pengujian : 27 Desember 2022**  **No. Dokumen : IEA/00442/LAB-TGL/KA** |  |  | | --- | | **Lab. PT. Indonesia Evergreen Agriculture Dusun Bojongkelor, Desa Kedungkelor Kab. Tegal, Jawa Tegah.** | |

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| **Disetujui**  **(Septri Andika)** |
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| **Mengetahui**  **Penanggungjawab Laboratorium**    **(Margawan Kelana)** |

**Diperiksa**



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| **(Isna Hidayah)** |  | **(Dwi Kartika Sari)** |

**Lampiran 7.** Uji Statistik Bobot Individu Mutlak (gram) Ikan Lele (*Claria sp*)

* **Uji Normalitas**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Tests of Normality** | | | | | | |
|  | Kolmogorov-Smirnova | | | Shapiro-Wilk | | |
| Statistic | Df | Sig. | Statistic | df | Sig. |
| Mutlak | .336 | 12 | .001 | .751 | 12 | .003 |
| 1. Lilliefors Significance Correction   H0 : Sig > alpha ( tidak normal)  H1 : Sig < alpha (normal)  Sig = 0.001 > alpha 0.003  • Sig 0.001 > 0.003 untuk Uji Normalitas maka dapat dikatakan pertumbuhan bobot individu mutlak ikan lele (*Clarias sp*) dengan pengaruh pemberian probiotik EM-4 terhadap laju pertumbuhan dan tingkat kelangsungan hidup mempunyai distribusi normal. | | | | | | |
|  | | | | | | |
|  | | | | | | |

* **Uji Homogenitas**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test of Homogeneity of Variances** | | | | | |
|  | | Levene Statistic | df1 | df2 | Sig. |
| Mutlak | Based on Mean | 1.472 | 3 | 8 | .294 |
| Based on Median | 1.177 | 3 | 8 | .377 |
| Based on Median and with adjusted df | 1.177 | 3 | 4.371 | .416 |
| Based on trimmed mean | 1.458 | 3 | 8 | .297 |

Sign = 0,294, 0,377, 0,416, 297 > alpha 0,05

Kesimpulan :

maka dapat dikatakan pertumbuhan bobot individu mutlak benih ikan lele (*Clarias sp*) dengan pengaruh pemberian probiotik EM-4 terhadap laju pertumbuhan dan tingkat kelangsungan hidup pada pakan buatan dar Uji Homogen mempunyai ragam data yang sama bersifat data Homogen.

* **Anova**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ANOVA** | | | | | |
| Mutlak | | | | | |
|  | Sum of Squares | Df | Mean Square | F | Sig. |
| Between Groups | 10.500 | 10 | 1.050 | .233 | .935 |
| Within Groups | 4.500 | 1 | 4.500 |  |  |
| Total | 15.000 | 11 |  |  |  |

Sign Anova : 0,935 < 0,05, H1

Diterima dimana dengan pengaruh pemberian probiotik EM-4 terhadap laju pertumbuhan dan tingkat kelangsungan hidup pada pakan buatan berbeda nyata terhadap pertumbuhan bobot individu benih ikan lele (*Clarias sp*)**.**

**Lampiran 8.** Uji Statistik Laju Pertumbuhan Harian (%)

* **Uji Normalitas**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Tests of Normality** | | | | | | |
|  | Kolmogorov-Smirnova | | | Shapiro-Wilk | | |
| Statistic | Df | Sig. | Statistic | df | Sig. |
| harian\_ | .181 | 12 | .200\* | .865 | 12 | .057 |
| \*. This is a lower bound of the true significance. | | | | | | |
| 1. Lilliefors Significance Correction   H0 : Sig > alpha (tidak normal)  H1 : Sig < alpha (normal)  Sig = 0.057. > alpha 0.05  Sig 0.057 > 0.05 untuk Uji Kolmogorov-Smirnov maka dapat dikatakan laju pertumbuhan harian benih ikan lele (*Clarias sp*) dengan pengaruh pemberian probiotik EM-4 terhadap laju pertumbuhan dan tingkat kelangsungan hidup pada pakan buatan mempunyai distribusi normal. | | | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test of Homogeneity of Variances** | | | | | |
|  | | Levene Statistic | df1 | df2 | Sig. |
| pertumbuhan\_harian | Based on Mean | .454 | 3 | 8 | .722 |
| Based on Median | .137 | 3 | 8 | .935 |
| Based on Median and with adjusted df | .137 | 3 | 6.083 | .934 |
| Based on trimmed mean | .426 | 3 | 8 | .739 |

* **Uji Homogenitas**

Sign = 0,722, 0,935, 934, 739 > alpha 0,05

Kesimpulan :

* maka dapat dikatakan pertumbuhan bobot individu mutlak benih ikan lele (*Clarias sp*) dengan pengaruh pemberian probiotik EM-4 terhadap laju pertumbuhan dan tingkat kelangsungan hidup pada pakan buatan dar Uji Homogen mempunyai ragam data yang sama bersifat data Homogen.
* **Anova**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ANOVA** | | | | | |
| pertumbuhan\_harian | | | | | |
|  | Sum of Squares | Df | Mean Square | F | Sig. |
| Between Groups | 696.367 | 3 | 232.122 | 83.422 | .476 |
| Within Groups | 22.260 | 8 | 2.782 |  |  |
| Total | 718.627 | 11 |  |  |  |

Sign Anova : 0,476 < 0,05,

H1 diterima dimana pengaruh pemberian probiotik EM-4 terhadap laju pertumbuhan dan tingkat kelangsungan hidup pada pakan buatan berbeda nyata terhadap laju pertumbuhan harian benih ikan lele (*Clarias sp*).

**Lampiran 9.** Uji Statistik Laju Pertumbuhan Mingguan

* **Uji Normalitas**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Tests of Normality** | | | | | | |
|  | Kolmogorov-Smirnova | | | Shapiro-Wilk | | |
| Statistic | Df | Sig. | Statistic | Df | Sig. |
| minggu\_1 | . | 12 | . | . | 12 | . |
| minggu\_2 | .251 | 12 | .035 | .800 | 12 | .009 |
| minggu\_3 | .348 | 12 | .000 | .664 | 12 | .001 |
| minggu\_4 | .368 | 12 | .000 | .665 | 12 | .001 |
| a. Lilliefors Significance Correction | | | | | | |

H0 : Sig > alpha (normal)

H1 : Sig < alpha (tidak normal)

Sig = 0.009 > alpha 0.001

Sig 0.009 > 0.001 untuk uji kolmogorov-smirnov maka dapat dikatakan pertumbuhan mingguan benih ikan (*Clarias sp*) pengaruh pemberian probiotik EM-4 terhadap laju pertumbuhan dan tingkat kelangsungan hidup pada pakan buatan mempunyai distribusi normal.

* **Uji Homogenitas**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **minggu\_2** | | | | |
| Duncana | | | | |
| minggu\_0 | N | Subset for alpha = 0.05 | | |
| 1 | 2 | 3 |
| K | 3 | 120.5000 |  |  |
| A | 3 | 140.0000 | 140.0000 |  |
| B | 3 |  | 163.3333 |  |
| C | 3 |  |  | 268.0000 |
| Sig. |  | .147 | .091 | 1.000 |
| Means for groups in homogeneous subsets are displayed. | | | | |
| a. Uses Harmonic Mean Sample Size = 3.000. | | | | |

Hasil :

Analisis data Duncan C>B>A>K, Uji Homogen laju pertumbuhan minggu ke-2 dengan hasil unggul adalah C .

|  |  |  |  |
| --- | --- | --- | --- |
| **minggu\_3** | | | |
| Duncana | | | |
| minggu\_0 | N | Subset for alpha = 0.05 | |
| 1 | 2 |
| K | 3 | 220.3333 |  |
| A | 3 | 224.5000 |  |
| B | 3 | 237.8333 |  |
| C | 3 |  | 352.3333 |
| Sig. |  | .547 | 1.000 |
| Means for groups in homogeneous subsets are displayed. | | | |
| a. Uses Harmonic Mean Sample Size = 3.000. | | | |

Hasil :

Analisis data Duncan C>B>A>K, Uji Homogen laju pertumbuhan minggu ke-3 dengan hasil unggul adalah C .

|  |  |  |  |
| --- | --- | --- | --- |
| **minggu\_4** | | | |
| Duncana | | | |
| minggu\_0 | N | Subset for alpha = 0.05 | |
| 1 | 2 |
| K | 3 | 310.1667 |  |
| A | 3 | 316.6667 |  |
| B | 3 | 325.3333 |  |
| C | 3 |  | 497.6667 |
| Sig. |  | .654 | 1.000 |
| Means for groups in homogeneous subsets are displayed. | | | |
| a. Uses Harmonic Mean Sample Size = 3.000. | | | |

Hasil :

Analisis data Duncan C>B>A>K, Uji Homogenitas laju pertumbuhan minggu ke-4 dengan hasil unggul adalah C .

* **Anova**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ANOVA** | | | | | | |
|  | | Sum of Squares | df | Mean Square | F | Sig. |
| minggu\_1 | Between Groups | .000 | 3 | .000 | . | . |
| Within Groups | .000 | 8 | .000 |  |  |
| Total | .000 | 11 |  |  |  |
| minggu\_2 | Between Groups | 38891.063 | 3 | 12963.688 | 58.571 | .000 |
| Within Groups | 1770.667 | 8 | 221.333 |  |  |
| Total | 40661.729 | 11 |  |  |  |
| minggu\_3 | Between Groups | 35532.750 | 3 | 11844.250 | 11.082 | .003 |
| Within Groups | 8550.500 | 8 | 1068.812 |  |  |
| Total | 44083.250 | 11 |  |  |  |
| minggu\_4 | Between Groups | 73472.563 | 3 | 24490.854 | 16.718 | .001 |
| Within Groups | 11719.667 | 8 | 1464.958 |  |  |
| Total | 85192.229 | 11 |  |  |  |

**Lampiran 10.** Uji Statistik Tingkat Kelangsungan Hidup (%)

* Tingkat kelangsungan hidup

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Normality** | | | | | | | |
|  | Sampel | Kolmogorov-Smirnova | | | Shapiro-Wilk | | |
|  | Statistic | df | Sig. | Statistic | df | Sig. |
| TingkatKelangsunganHidup | A | .269 | 3 | . | .949 | 3 | .567 |
| B | .282 | 3 | . | .936 | 3 | .510 |
| C | .175 | 3 | . | 1.000 | 3 | 1.000 |
| K | .232 | 3 | . | .980 | 3 | .726 |
| a. Lilliefors Significance Correction | | | | | | | |

Sig = 0,567, 510, 1.000, 726 < alpha 0.05

• Sig 1.000 < 0.05 untuk Uji Kolmogorov-Smirnov maka dapat dikatakan kelangsungan hidup benih ikan lele (*Clarias sp*) dengan pengaruh pemberian perbedaan probiotik EM-4 pada pakan buatan mempunyai distribusi normal.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test of Homogeneity of Variances** | | | | | |
|  | | Levene Statistic | df1 | df2 | Sig. |
| TingkatKelangsunganHidup | Based on Mean | 2.047 | 3 | 8 | .186 |
| Based on Median | .613 | 3 | 8 | .625 |
| Based on Median and with adjusted df | .613 | 3 | 5.439 | .633 |
| Based on trimmed mean | 1.909 | 3 | 8 | .207 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ANOVA** | | | | | |
| TingkatKelangsunganHidup | | | | | |
|  | Sum of Squares | Df | Mean Square | F | Sig. |
| Between Groups | 1752.917 | 3 | 584.306 | 30.753 | 1.000 |
| Within Groups | 152.000 | 8 | 19.000 |  |  |
| Total | 1904.917 | 11 |  |  |  |

Sign = 1000> alpha 0,05

Kesimpulan :

maka dapat dikatakan kelangsungan hidup benih ikan lele (*Clarias sp*) dengan pengaruh pemberian probiotik EM-4 pada pakan ikan lele (*Clarias sp*) buatan mempunyai ragam data yang sama (data homogen).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TingkatKelangsunganHidup** | | | | |
|  | sampel | N | Subset for alpha = 0.05 | |
|  | 1 | 2 |
| Tukey HSDa | A | 3 | 69.3333 |  |
| B | 3 | 70.3333 |  |
| K | 3 | 70.6667 |  |
| C | 3 |  | 98.0000 |
| Sig. |  | .981 | 1.000 |
| Duncana | A | 3 | 69.3333 |  |
| B | 3 | 70.3333 |  |
| K | 3 | 70.6667 |  |
| C | 3 |  | 98.0000 |
| Sig. |  | .728 | 1.000 |
| Means for groups in homogeneous subsets are displayed. | | | | |
| a. Uses Harmonic Mean Sample Size = 3.000. | | | | |

Sign = 0,981, 0,1000, 0,728, 0,1000> alpha 0,05

Kesimpulan :

maka dapat dikatakan kelangsungan hidup benih ikan lele (*Clarias sp*) dengan pengaruh pemberian perbedaan probiotik pada pakan mempunyai ragam data yang sama, namun data homogen (normal).

**Lampiran 11.** Uji Statistik Konversi Pakan

* Konversi pakan

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Normality** | | | | | | | |
|  | sampel | Kolmogorov-Smirnova | | | Shapiro-Wilk | | |
|  | Statistic | Df | Sig. | Statistic | df | Sig. |
| Konversipakan | A | .343 | 3 | . | .842 | 3 | .220 |
| B | .368 | 3 | . | .791 | 3 | .094 |
| C | .328 | 3 | . | .871 | 3 | .298 |
| K | .353 | 3 | . | .824 | 3 | .174 |
| 1. Lilliefors Significance Correction   H0 : Sig > alpha (normal)  H1 : Sig < alpha (tidak normal)  Sig = 0.298 > alpha 0.05  • Sig 0.298 > 0.05 untuk uji kolmogorov-smirnov maka dapat dikatakan laju pertumbuhan harian benih ikan lele (*Clarias sp*) dengan pengaruh pemberian perbedaan probiotik pada pakan buatan mempunyai distribusi normal Uji Homogen. | | | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test of Homogeneity of Variances** | | | | | |
|  | | Levene Statistic | df1 | df2 | Sig. |
| Konversipakan | Based on Mean | 7.125 | 3 | 8 | .012 |
| Based on Median | .577 | 3 | 8 | .446 |
| Based on Median and with adjusted df | .577 | 3 | 3.408 | .965 |
| Based on trimmed mean | 5.808 | 3 | 8 | .021 |

Sign = 0,965 > alpha 0,05

Kesimpulan :

maka dapat dikatakan konversi pakan untuk benih ikan lele (*Clarias sp*) dengan pengaruh pemberian perbedaan probiotik pada pakan buatan mempunyai ragam data yang sama (data homogen).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ANOVA** | | | | | |
| konversipakan | | | | | |
|  | Sum of Squares | Df | Mean Square | F | Sig. |
| Between Groups | 14.703 | 3 | 4.901 | 26.816 | 1.000 |
| Within Groups | 1.462 | 8 | .183 |  |  |
| Total | 16.165 | 11 |  |  |  |

Sign Anova : 1.000 < 0,05,

H1 ditolak dimana pengaruh perbedaan pemberian probiotik pada media budidaya dan pemberian probiotik pakan buatan tidak berbeda nyata terhadap pertumbuhan bobot individu mutlak ikan lele (*Clarias sp*)

**Lampiran 12.** Dokumentasi Alat Bahan dan Kegiatan Penelitian

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Jual Alat Ukur Ph Air Digital - Berbagai Alat |  | IMG_20221213_071717 | IMG_20221213_071948 | Alat Ukur EC TDS dan Suhu Air AMTAST COM100 | Solusi Pengukuran |
|  | IMG_20221213_072008 |  |  | Imhoff Cone Borosilicate Glass For Biofloc And Water Treatment Industry ... |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Keterangan Nama Alat yang digunakan Penelitian :** | | | | |
| pH Meter | Gelas Ukur | Seser | Timbangan | DO Meter |
| Penggaris | Alat Tulis | Batu dan Selang Aerasi | Mesin Blower | Imhoff cone |

|  |  |  |
| --- | --- | --- |
| IMG_20221008_123149 | IMG_20221213_071800 | IMG_20221213_071740 |
| Pakan Makanan Benih Bibit Ikan Lele Nila Gurame Hias Pelet PF 1000 1kg ... |  |  |

* **Keterangan Bahan yang digunakan Penelitian :**

1. Probiotik EM-4
2. Molase (Gula)
3. Garam Krosok
4. Pakan PF 1000
5. Kapur Dolomit

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  |  |  |



* **Keterangan Kegiatan Penelitian :**

1. Kolam Penelitia
2. Pencucian Bak Penelitian
3. Pengeringan
4. Pengisian air
5. Pemberian Probiotik
6. Pengukuran Kualitas Air
7. Pemberian Pakan
8. Sampling

**RIWAYAT HIDUP**

Penulis dilahirkan di Timika pada tanggal 28 oktober 2002, anak pertama dari 4 bersaudara dari keluarga bapak Yonathan Kogoya dan Ibu Yusli Wenda. Pendidikan Sekolah dasar diselesaikan pada tahun 2012 di SD N Bhintuka SP XIII Kecamatan Kuala Kencana Kabupaten Timika. Pendidikan Sekolah Lanjutan Tingkat Pertama diselesaikan pada tahun 2016 di SMP N 6 Mimika. Pendidikan Lanjutan Tingkat Atas diselesaikan pada tahun 2019 di SUPM N Sorong. Pada tahun 2019 penulis mendaftarkan diri di Universitas Pancasakti Tegal dan diterima sebagai mahasiswa Fakultas Perikanan dan Ilmu Kelautan dengan Program Studi Budidaya Perairan (BDP). Penulis pernah melakukan magang pada tahun 2020 di Lokasi Balai Benih Ikan (BBI) SUPM N Tegal, Kabupaten Tegal, Provinsi Jawa Tengah. Serta Praktek Kerja Lapangan (PKL) di Balai Benih Ikan (BBI) Kabupaten Purbalingga, Provinsi Jawa Tengah Tahun 2021.