DAFTAR PUSTAKA


<table>
<thead>
<tr>
<th>Perlakuan</th>
<th>Tinggi Tanaman (cm)</th>
<th>Berat basah g/tanaman</th>
<th>% Tanaman hidup</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kontrol:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>7.82 ± 1.19</td>
<td>0.6998 ± 0.0530</td>
<td>93.75</td>
</tr>
<tr>
<td>2</td>
<td>7.42 ± 0.92</td>
<td>0.6673 ± 0.0620</td>
<td>100.00</td>
</tr>
<tr>
<td>3</td>
<td>8.03 ± 1.13</td>
<td>0.6479 ± 0.0572</td>
<td>100.00</td>
</tr>
<tr>
<td>4</td>
<td>7.757 ± 0.310</td>
<td>0.6717 ± 0.0262</td>
<td>97.92±3.608</td>
</tr>
<tr>
<td>Inokulasi:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>9.31 ± 0.92</td>
<td>0.8732 ± 0.0506</td>
<td>100.00</td>
</tr>
<tr>
<td>2</td>
<td>9.06 ± 0.94</td>
<td>0.7685 ± 0.0428</td>
<td>100.00</td>
</tr>
<tr>
<td>3</td>
<td>10.20 ± 1.02</td>
<td>0.8516 ± 0.0462</td>
<td>100.00</td>
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<tr>
<td>4</td>
<td>8.68 ± 0.98</td>
<td>0.9351 ± 0.0450</td>
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</tr>
<tr>
<td>5</td>
<td>9.11 ± 1.11</td>
<td>0.8014 ± 0.550</td>
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<tr>
<td>6</td>
<td>8.60 ± 0.87</td>
<td>0.8238 ± 0.378</td>
<td>100.00</td>
</tr>
<tr>
<td>7</td>
<td>9.160 ± 0.576</td>
<td>0.8423 ± 0.0585</td>
<td>100.00</td>
</tr>
</tbody>
</table>

m.s.t = minggu setelah tanam
Tabel Lembaran 2.

Hasil Analisis Jaringan 
Shorea selanica (36 mst)

<table>
<thead>
<tr>
<th>Daun</th>
<th>Batang</th>
<th>Akar</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>P</td>
<td>K</td>
</tr>
<tr>
<td>(%)</td>
<td>(%)</td>
<td>(%)</td>
</tr>
<tr>
<td>1</td>
<td>32</td>
<td>0.07</td>
</tr>
<tr>
<td>2</td>
<td>28</td>
<td>0.11</td>
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<tr>
<td>3</td>
<td>40</td>
<td>0.11</td>
</tr>
<tr>
<td>Rataan</td>
<td>333</td>
<td>0.097</td>
</tr>
<tr>
<td>Inokulasi</td>
<td>1</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>42</td>
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<tr>
<td></td>
<td>5</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>40</td>
</tr>
<tr>
<td>Rataan</td>
<td>1.067</td>
<td>0.105</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(%)</th>
<th>(%)</th>
<th>(%)</th>
<th>(%)</th>
<th>(%)</th>
<th>(%)</th>
<th>(%)</th>
<th>(%)</th>
<th>(%)</th>
<th>(%)</th>
<th>(%)</th>
<th>(%)</th>
<th>(%)</th>
<th>(%)</th>
<th>(%)</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.05</td>
<td>0.02</td>
<td>0.18</td>
<td>0.13</td>
<td>0.10</td>
<td>0.01</td>
<td>0.26</td>
<td>0.26</td>
<td>0.12</td>
<td>0.09</td>
<td>0.01</td>
<td>0.08</td>
<td>0.10</td>
<td>0.03</td>
<td>0.03</td>
</tr>
</tbody>
</table>

* Rataan

** Hak Cipta Diteliti Ulang (Jurnal)
Tabel Lampiran 3.

Hasil Analisis Tanah Setelah Percobaan

<table>
<thead>
<tr>
<th>Tekstur</th>
<th>pH H₂O</th>
<th>pH KCl</th>
<th>N ppm</th>
<th>P %</th>
<th>K %</th>
<th>Ca ppm</th>
<th>Mg %</th>
<th>Pasir %</th>
<th>Debu %</th>
<th>Liat %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kontrol</td>
<td>4.6</td>
<td>4.0</td>
<td>0.05</td>
<td>0.14</td>
<td>0.0138</td>
<td>0.0594</td>
<td>0.0276</td>
<td>47.56</td>
<td>36.67</td>
<td>15.47</td>
</tr>
<tr>
<td>1</td>
<td>4.4</td>
<td>3.8</td>
<td>0.05</td>
<td>0.22</td>
<td>0.0140</td>
<td>0.0538</td>
<td>0.0294</td>
<td>52.32</td>
<td>29.90</td>
<td>17.18</td>
</tr>
<tr>
<td>2</td>
<td>4.5</td>
<td>3.9</td>
<td>0.05</td>
<td>0.28</td>
<td>0.0179</td>
<td>0.0924</td>
<td>0.0331</td>
<td>62.67</td>
<td>21.00</td>
<td>16.33</td>
</tr>
<tr>
<td>3</td>
<td>4.5</td>
<td>3.9</td>
<td>0.05</td>
<td>0.21</td>
<td>0.0152</td>
<td>0.0685</td>
<td>0.0300</td>
<td>54.18</td>
<td>29.1</td>
<td>16.56</td>
</tr>
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<td>4.2</td>
<td>3.8</td>
<td>0.05</td>
<td>0.66</td>
<td>0.0096</td>
<td>0.0608</td>
<td>0.0207</td>
<td>45.69</td>
<td>31.54</td>
<td>22.77</td>
</tr>
<tr>
<td>5</td>
<td>4.2</td>
<td>3.5</td>
<td>0.05</td>
<td>0.34</td>
<td>0.0094</td>
<td>0.0709</td>
<td>0.0272</td>
<td>48.92</td>
<td>33.61</td>
<td>17.47</td>
</tr>
<tr>
<td>6</td>
<td>4.2</td>
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<td>0.05</td>
<td>0.22</td>
<td>0.0094</td>
<td>0.0814</td>
<td>0.0304</td>
<td>53.12</td>
<td>29.94</td>
<td>16.94</td>
</tr>
<tr>
<td>Rataan</td>
<td>4.7</td>
<td>4.1</td>
<td>0.04</td>
<td>0.39</td>
<td>0.0085</td>
<td>0.0429</td>
<td>0.0180</td>
<td>48.63</td>
<td>34.43</td>
<td>16.94</td>
</tr>
<tr>
<td>Awal</td>
<td>4.7</td>
<td>4.4</td>
<td>0.05</td>
<td>0.21</td>
<td>0.0130</td>
<td>0.0967</td>
<td>0.0303</td>
<td>54.39</td>
<td>27.24</td>
<td>18.37</td>
</tr>
<tr>
<td></td>
<td>4.5</td>
<td>3.9</td>
<td>0.05</td>
<td>0.28</td>
<td>0.0144</td>
<td>0.0753</td>
<td>0.0285</td>
<td>62.44</td>
<td>21.83</td>
<td>14.73</td>
</tr>
<tr>
<td></td>
<td>4.4</td>
<td>4.0</td>
<td>0.05</td>
<td>0.35</td>
<td>0.0107</td>
<td>0.0713</td>
<td>0.0259</td>
<td>52.37</td>
<td>29.77</td>
<td>17.86</td>
</tr>
<tr>
<td></td>
<td>4.0</td>
<td>3.2</td>
<td>0.05</td>
<td>0.32</td>
<td>0.0118</td>
<td>0.0331</td>
<td>0.0204</td>
<td>57.84</td>
<td>23.91</td>
<td>18.73</td>
</tr>
</tbody>
</table>
Tabel 4. Aktivitas, Laju Maksimum dan Enzim fosfatase Asam Akar Shores selanica

<table>
<thead>
<tr>
<th>Perlakuan</th>
<th>Aktivitas spesifik Vmax ug-p</th>
<th>Laju Maksimum Vmaks ug.p</th>
<th>Km ug-p/NPP/mg protein</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kontrol</td>
<td>5.054</td>
<td>109.493</td>
<td>66.77</td>
</tr>
<tr>
<td>Inokulasi</td>
<td>115.986</td>
<td>83.859</td>
<td>52.47</td>
</tr>
</tbody>
</table>

Catatan:
- *) Hanya untuk kepentingan pendidikan, penelitian, pendudukan dan kegiatan yang wajar PIB.
- *) Penggunaan bahan dalam kegiatan diseluruh lahan tani PIB dan di luar PIB.

1. Dilarang mengubah sebagian atau seluruh lahan tanpa melibatkan dan menyerahkan berbagai sumbangan tambahan atau peningkatan pada lahan tersebut.
2. Dilarang menggunakannya atau seluruh lahan tanpa melibatkan atau menambahkan peningkatan yang wajar PIB.

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<table>
<thead>
<tr>
<th>Perlakuan</th>
<th>Aktivitas spesifik (u/g-p/mg protein)</th>
<th>Aktivitas maksimum (u/g-p/jam)</th>
<th>% K, ug-p</th>
<th>Km, ug-p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kontrol</td>
<td>41.186 ± 2.179</td>
<td>68.855</td>
<td>67.007</td>
<td>9.222</td>
</tr>
<tr>
<td>Inokulasi</td>
<td>65.746 ± 2.179</td>
<td>76.505 ± 3.70</td>
<td>81.20 ± 1.70</td>
<td>49.04 ± 2.40</td>
</tr>
<tr>
<td>Rataan</td>
<td>65.430 ± 2.179</td>
<td>74.03 ± 3.70</td>
<td>83.89 ± 1.70</td>
<td>57.65 ± 2.40</td>
</tr>
<tr>
<td>Rataan (ulangan)</td>
<td>71.34 ± 3.70</td>
<td>74.56 ± 3.70</td>
<td>90.19 ± 1.70</td>
<td>57.65 ± 1.30</td>
</tr>
</tbody>
</table>
Tabel Lampiran 6.

## Aktivitas, Laju Maksimum ($V_{maks}$) dan Konstanta Michaelis ($K_m$) Enzim Kitinase Akar Shorea selanica 36 mst (28 msi)

<table>
<thead>
<tr>
<th>Perlakuan</th>
<th>Aktivitas ug-glukosamin/ jam</th>
<th>Aktivitas spesifik mg glukosamin/ mg</th>
<th>$V_{maks}$ protein</th>
<th>$K_m$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kontrol 1</td>
<td>5.271</td>
<td>399.318</td>
<td>18.050</td>
<td>5.519</td>
</tr>
<tr>
<td>Kontrol 2</td>
<td>5.580</td>
<td>392.958</td>
<td>9.794</td>
<td>2.461</td>
</tr>
<tr>
<td>Kontrol 3</td>
<td>5.735</td>
<td>377.203</td>
<td>13.736</td>
<td>3.694</td>
</tr>
<tr>
<td>Rataan</td>
<td><strong>5.528</strong></td>
<td><strong>389.860</strong></td>
<td><strong>13.860</strong></td>
<td><strong>3.891</strong></td>
</tr>
<tr>
<td>Inokulasi</td>
<td></td>
<td></td>
<td><strong>13.860</strong></td>
<td><strong>3.891</strong></td>
</tr>
<tr>
<td>Inokulasi</td>
<td></td>
<td></td>
<td><strong>13.860</strong></td>
<td><strong>3.891</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Perlakuan</th>
<th>Aktivitas ug-glukosamin/ jam</th>
<th>Aktivitas spesifik mg glukosamin/ mg</th>
<th>$V_{maks}$ protein</th>
<th>$K_m$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kontrol 1</td>
<td>6.384</td>
<td>420.00</td>
<td>10.331</td>
<td>2.421</td>
</tr>
<tr>
<td>Kontrol 2</td>
<td>5.580</td>
<td>392.958</td>
<td>8.811</td>
<td>6.227</td>
</tr>
<tr>
<td>Kontrol 3</td>
<td>6.385</td>
<td>394.136</td>
<td>21.008</td>
<td>6.158</td>
</tr>
<tr>
<td>Rataan</td>
<td><strong>6.024</strong></td>
<td><strong>380.606</strong></td>
<td><strong>11.587</strong></td>
<td><strong>3.062</strong></td>
</tr>
<tr>
<td>Inokulasi</td>
<td></td>
<td></td>
<td><strong>11.587</strong></td>
<td><strong>3.062</strong></td>
</tr>
<tr>
<td>Inokulasi</td>
<td></td>
<td></td>
<td><strong>11.587</strong></td>
<td><strong>3.062</strong></td>
</tr>
</tbody>
</table>

Rataan

<table>
<thead>
<tr>
<th>Perlakuan</th>
<th>Aktivitas ug-glukosamin/ jam</th>
<th>Aktivitas spesifik mg glukosamin/ mg</th>
<th>$V_{maks}$ protein</th>
<th>$K_m$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kontrol 1</td>
<td>5.270</td>
<td>399.242</td>
<td>18.868</td>
<td>5.942</td>
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<tr>
<td>Kontrol 2</td>
<td>5.776</td>
<td>397.089</td>
<td><strong>15.479</strong></td>
<td><strong>4.970</strong></td>
</tr>
<tr>
<td>Rataan</td>
<td></td>
<td></td>
<td><strong>15.479</strong></td>
<td><strong>4.970</strong></td>
</tr>
</tbody>
</table>

| Inokulasi  |                            |                                     | **15.479**        | **4.970** |
| Inokulasi  |                            |                                     | **15.479**        | **4.970** |

Rataan

**Note:**
- Perlakuan tertandai dengan * untuk menunjukkan perbedaan signifikan.
### Tabel Lampiran 7.

Aktivitas, laju Maksimum ($V_{maks}$) dan Konstanta Michaelis ($K_m$) Enzim Kitinae Akar Shorea selanica 24 mst (16 msi)

<table>
<thead>
<tr>
<th>Perlakuan</th>
<th>Aktivitas</th>
<th>Aktivitas spesifik</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mg glukosamin/</td>
<td>mg glukosamin/</td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>5.580</td>
<td>377.047</td>
</tr>
<tr>
<td>2</td>
<td>5.512</td>
<td>381.791</td>
</tr>
<tr>
<td>3</td>
<td>5.271</td>
<td>371.190</td>
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<tr>
<td>Rataan</td>
<td>5.454</td>
<td>376.676</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inokulasi</th>
<th></th>
<th></th>
<th>mg glukosamin/</th>
<th>mg glukosamin/</th>
<th>$V_{maks}$</th>
<th>$K_m$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6.199</td>
<td>382.654</td>
<td>44.64</td>
<td>12.95</td>
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<td></td>
</tr>
<tr>
<td>2</td>
<td>5.890</td>
<td>397.973</td>
<td>33.00</td>
<td>9.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>6.354</td>
<td>418.026</td>
<td>41.84</td>
<td>12.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rataan</td>
<td>6.148</td>
<td>399.551</td>
<td>39.83</td>
<td>11.59</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Rataan  | ±          | ±                  | ±              | ±              |
|---------|------------|--------------------|-----------------|
|         | 0.133      | 4.336              | 1.03            | 0.30           |

Inokulasi 1

| Rataan  | ±          | ±                  | ±              | ±              |
|---------|------------|--------------------|-----------------|
|         | 0.193      | 14.48              | 4.96            | 1.44           |
**Analisis Komposisi Asam Amino Akar (%) (36 m.s.t)**

<table>
<thead>
<tr>
<th>Asam Amino</th>
<th>Kontrol</th>
<th>Inokulasi</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>p</td>
<td>0.504</td>
<td>0.468</td>
</tr>
<tr>
<td>leu</td>
<td>0.644</td>
<td>0.606</td>
</tr>
<tr>
<td>trp</td>
<td>0.237</td>
<td>0.232</td>
</tr>
<tr>
<td>tyr</td>
<td>0.148</td>
<td>0.142</td>
</tr>
<tr>
<td>sery</td>
<td>0.183</td>
<td>0.183</td>
</tr>
<tr>
<td>bzu</td>
<td>0.284</td>
<td>0.239</td>
</tr>
<tr>
<td>tyr</td>
<td>0.326</td>
<td>0.273</td>
</tr>
<tr>
<td>hisg</td>
<td>0.470</td>
<td>0.492</td>
</tr>
<tr>
<td>taur</td>
<td>0.050</td>
<td>0.054</td>
</tr>
<tr>
<td>metg</td>
<td>0.048</td>
<td>0.030</td>
</tr>
<tr>
<td>ile</td>
<td>0.302</td>
<td>0.296</td>
</tr>
<tr>
<td>valg</td>
<td>0.232</td>
<td>0.233</td>
</tr>
<tr>
<td>oty</td>
<td>0.252</td>
<td>0.241</td>
</tr>
<tr>
<td>glu</td>
<td>0.352</td>
<td>0.379</td>
</tr>
<tr>
<td>serd</td>
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</tbody>
</table>

Total asam amino = 4.264

Total asam amino = 3.949
<table>
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<th>S. aureus</th>
<th>P. aeruginosa</th>
<th>P. solanacearum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fraksi A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kontrol</td>
<td>1.20</td>
<td>0.50</td>
<td>0.60</td>
</tr>
<tr>
<td></td>
<td>1.20</td>
<td>0.50</td>
<td>0.60</td>
</tr>
<tr>
<td></td>
<td>1.10</td>
<td>0.50</td>
<td>0.60</td>
</tr>
<tr>
<td>Rataan</td>
<td>1.17 ± 0.06</td>
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<td>0.60</td>
</tr>
<tr>
<td>Inokulasi</td>
<td>1.20</td>
<td>0.50</td>
<td>0.60</td>
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<tr>
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<td>0.80</td>
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<td>Rataan</td>
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<td>0.87 ± 0.05</td>
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<td>0.80</td>
</tr>
<tr>
<td>Rataan</td>
<td>0.57 ± 0.05</td>
<td>0.65 ± 0.06</td>
<td>0.80 ± 0.10</td>
</tr>
</tbody>
</table>

Zona pembanding (Disk kontrol) = 0.50
   \[ Y = 0.0024 + 1.0025X \quad R = 1.00 \]

2. Gambar lampiran 2. Kurva Standar p-Npp
   \[ Y = 0.0196 + 1.8743X \quad R = 1.00 \]
Gambar lampiran 3. Kurva Standar Glukosamin

Standar Glukosamin

\[ y = 0.0199 + 3.7491x \]

\[ R = 0.99 \]
Gambar Lampiran 4.
Spektra IR Fraksi Aktif (No. 3) Ekstrak heksan PDA
Gambar Lampiran 5. Spektra IR Prakal Aktif (No. 3)
7. Spektra IR Fraksi Aktif Fenol B

Gambar

Lampiran

2. Diliurkan mengurangi komponen berat yang curah sebagaan dari sebagaian total kotoran. Ini diliurkan guna kotoran yang sebagaian.

b. Penutupan tidak mengurangi kotoran yang curah.

c. Penutupan mudahnya pengurangan kotoran penutup. Penutupan kotoran lebih mudah penutupan pada penutupan.

1. Diliurkan mengurangi sebagaian dari sebagaian total kotoran. Ini diliurkan guna kotoran yang sebagaian.
Gambar Lampiran 8. Pola Anatomi Setek Batang S. selanica (42 mst)
1. Dilapor mengenai sebong atau selubuk bulu di tanpa mengurangi atau menyebabkan suhu.
2. Dilapor mengenai suatu dan memperlihatkan sebong atau selubuk bulu di dalam bentuk pop-up tanpa izin IPB.
Gambar Lampiran 12. Kromatogram Senyawa Indol Metabolit Ekstraseluler

1. Identifikasi senyawa metabolit ekstraseluler menggunakan metode kromatografi cair dengan cat Johann. Komponen komponen dalam cat Johann dikromatografi dengan larutan pH 10.
