SupplementaryTable 1. Data used to create the figure of the inflow rate during the experimental period.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Treatment | Aliquot | Hours after start | *Axonopus affinis* | | |  | *Andropogon lateralis* | | |
| Concentration of P  in the solution | Influx rate | Standard  deviation |  | Concentration of P  in the solution | Influx rate | Standard  deviation |
| 5 μM P | 1 | 1 | 5.2 | 1622.8 | 0.3 |  | 5.2 | 472.2 | 0.8 |
| 5 μM P | 2 | 2 | 5.1 | 1612.9 | 0.4 |  | 5.1 | 469.4 | 0.8 |
| 5 μM P | 3 | 3 | 4.8 | 1591.0 | 0.5 |  | 5.0 | 467.1 | 0.7 |
| 5 μM P | 4 | 4 | 4.3 | 1552.2 | 0.4 |  | 4.9 | 465.9 | 0.7 |
| 5 μM P | 5 | 5 | 3.2 | 1445.5 | 1.0 |  | 4.8 | 464.0 | 0.8 |
| 5 μM P | 6 | 6 | 2.9 | 1401.3 | 0.6 |  | 4.8 | 462.7 | 0.8 |
| 5 μM P | 7 | 7 | 2.7 | 1374.3 | 0.6 |  | 4.6 | 458.2 | 0.6 |
| 5 μM P | 8 | 8 | 2.1 | 1251.1 | 0.5 |  | 4.3 | 451.8 | 0.5 |
| 5 μM P | 9 | 9 | 1.7 | 1136.5 | 0.8 |  | 4.2 | 447.2 | 0.4 |
| 5 μM P | 10 | 10 | 1.5 | 1090.4 | 0.7 |  | 4.1 | 444.9 | 0.4 |
| 5 μM P | 11 | 11 | 1.2 | 982.2 | 0.5 |  | 4.0 | 441.6 | 0.4 |
| 5 μM P | 12 | 12 | 1.1 | 944.6 | 0.4 |  | 3.9 | 440.7 | 0.4 |
| 5 μM P | 13 | 13 | 0.5 | 580.9 | 0.0 |  | 3.9 | 438.1 | 0.4 |
| 5 μM P | 14 | 14 | 0.5 | 580.9 | 0.0 |  | 3.8 | 436.4 | 0.4 |
| 5 μM P | 15 | 15 | 0.5 | 580.9 | 0.0 |  | 3.7 | 434.5 | 0.4 |
| 5 μM P | 16 | 16 | 0.5 | 580.9 | 0.0 |  | 3.7 | 434.5 | 0.4 |
| 5 μM P | 17 | 17 | 0.5 | 580.9 | 0.0 |  | 3.6 | 429.8 | 0.5 |
| 5 μM P | 18 | 18 | 0.5 | 580.9 | 0.0 |  | 3.6 | 428.9 | 0.6 |
| 5 μM P | 19 | 19 | 0.5 | 580.9 | 0.0 |  | 3.5 | 424.9 | 0.6 |
| 5 μM P | 20 | 20 | 0.5 | 580.9 | 0.0 |  | 3.4 | 422.8 | 0.5 |
| 5 μM P | 21 | 21 | 0.5 | 580.9 | 0.0 |  | 3.1 | 411.7 | 0.5 |
| 5 μM P | 22 | 22 | 0.5 | 580.9 | 0.0 |  | 3.1 | 410.5 | 0.6 |
| 5 μM P | 23 | 23 | 0.5 | 580.9 | 0.0 |  | 3.0 | 406.9 | 0.6 |
| 5 μM P | 24 | 24 | 0.5 | 580.9 | 0.0 |  | 2.8 | 396.5 | 0.5 |
| 5 μM P | 25 | 26 | 0.5 | 580.9 | 0.0 |  | 2.1 | 359.2 | 1.1 |
| 5 μM P | 26 | 28 | 0.5 | 580.9 | 0.0 |  | 1.8 | 336.3 | 0.8 |
| 5 μM P | 27 | 30 | 0.5 | 580.9 | 0.0 |  | 1.7 | 321.9 | 0.7 |
| 5 μM P | 28 | 32 | 0.5 | 580.9 | 0.0 |  | 1.6 | 311.3 | 0.6 |
| 5 μM P | 29 | 33 | 0.5 | 580.9 | 0.0 |  | 1.3 | 281.2 | 0.6 |
| 5 μM P | 30 | 34 | 0.5 | 580.9 | 0.0 |  | 0.8 | 212.9 | 0.1 |
| 30 μM P | 1 | 1 | 24.6 | 2307.5 | 0.2 |  | 29.6 | 1422.8 | 1.5 |
| 30 μM P | 2 | 2 | 24.3 | 2303.2 | 0.1 |  | 27.9 | 1395.8 | 1.1 |
| 30 μM P | 3 | 3 | 23.9 | 2297.9 | 0.3 |  | 27.2 | 1383.9 | 0.1 |
| 30 μM P | 4 | 4 | 23.3 | 2288.7 | 0.6 |  | 26.9 | 1378.6 | 0.3 |
| 30 μM P | 5 | 5 | 23.2 | 2285.9 | 0.4 |  | 26.6 | 1372.1 | 0.5 |
| 30 μM P | 6 | 6 | 22.9 | 2281.2 | 0.6 |  | 26.0 | 1362.5 | 0.7 |
| 30 μM P | 7 | 7 | 22.6 | 2277.0 | 0.8 |  | 25.9 | 1360.4 | 0.8 |
| 30 μM P | 8 | 8 | 22.1 | 2268.2 | 0.9 |  | 25.5 | 1352.1 | 1.0 |
| 30 μM P | 9 | 9 | 21.8 | 2263.2 | 1.0 |  | 25.2 | 1347.3 | 1.0 |
| 30 μM P | 10 | 10 | 21.7 | 2261.6 | 1.0 |  | 24.9 | 1340.8 | 0.9 |
| 30 μM P | 11 | 11 | 21.6 | 2259.6 | 1.0 |  | 24.6 | 1335.9 | 0.9 |
| 30 μM P | 12 | 12 | 21.4 | 2255.9 | 0.8 |  | 24.6 | 1334.8 | 0.9 |
| 30 μM P | 13 | 13 | 21.0 | 2249.0 | 1.0 |  | 24.5 | 1333.1 | 0.8 |
| 30 μM P | 14 | 14 | 20.8 | 2244.7 | 1.0 |  | 24.3 | 1329.8 | 0.7 |
| 30 μM P | 15 | 15 | 20.2 | 2233.4 | 1.3 |  | 23.9 | 1322.4 | 0.8 |
| 30 μM P | 16 | 16 | 19.9 | 2227.6 | 1.5 |  | 23.8 | 1319.0 | 0.8 |
| 30 μM P | 17 | 17 | 19.8 | 2225.2 | 1.5 |  | 23.6 | 1315.5 | 0.9 |
| 30 μM P | 18 | 18 | 19.5 | 2219.2 | 1.4 |  | 23.4 | 1310.2 | 0.8 |
| 30 μM P | 19 | 19 | 19.2 | 2213.0 | 1.6 |  | 23.0 | 1303.7 | 0.9 |
| 30 μM P | 20 | 20 | 18.9 | 2207.3 | 1.7 |  | 22.7 | 1297.1 | 0.9 |
| 30 μM P | 21 | 21 | 18.7 | 2203.4 | 1.7 |  | 22.5 | 1292.2 | 0.9 |
| 30 μM P | 22 | 22 | 18.2 | 2190.1 | 1.4 |  | 22.3 | 1287.8 | 0.9 |
| 30 μM P | 23 | 23 | 18.1 | 2189.4 | 1.4 |  | 20.9 | 1254.7 | 1.7 |
| 30 μM P | 24 | 24 | 17.7 | 2178.9 | 1.1 |  | 20.5 | 1246.5 | 1.7 |
| 30 μM P | 25 | 26 | 17.6 | 2176.0 | 1.0 |  | 20.1 | 1235.3 | 1.9 |
| 30 μM P | 26 | 28 | 16.5 | 2147.9 | 1.4 |  | 19.4 | 1216.5 | 1.9 |
| 30 μM P | 27 | 30 | 14.9 | 2102.3 | 2.0 |  | 19.1 | 1210.6 | 1.8 |
| 30 μM P | 28 | 32 | 15.2 | 2109.6 | 0.9 |  | 18.3 | 1188.3 | 1.4 |
| 30 μM P | 29 | 33 | 13.9 | 2066.8 | 1.3 |  | 17.9 | 1177.2 | 1.4 |
| 30 μM P | 30 | 34 | 11.1 | 1950.7 | 1.2 |  | 17.5 | 1163.2 | 1.5 |

Supplementary Table 2. Data used in the principal component analysis (PCA) during the experimental period.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Treatment  (μM P) | Species | Km | Cmin | Imax | LDMC | SLA | SRL | RTD | LPC | RPC | RD | RGR |
| 5 | *Andropogon lateralis* | 1.4 | 0.7 | 2.4 | 325.7 | 36.2 | 154.5 | 1.7 | 586.2 | 1214.7 | 0.7 | 0.2 |
| 5 | *Axonopus affinis* | 1.3 | 0.5 | 8.1 | 205.2 | 58.8 | 844.9 | 0.4 | 719.2 | 1848.7 | 0.5 | 0.5 |
| 30 | *Andropogon lateralis* | 13.9 | 16.9 | 8.3 | 321.7 | 39.1 | 152.2 | 1.7 | 635.3 | 1688.1 | 0.7 | 0.2 |
| 30 | *Axonopus affinis* | 4.3 | 11.6 | 10.8 | 201.9 | 56.6 | 861.0 | 0.4 | 710.7 | 1963.5 | 0.6 | 0.5 |
| Michaelis-Menten constant (Km); minimum concentration for P absorption (Cmin); phosphorus influx (Imax); leaf dry mass content (LDMC); specific leaf area (SLA);  specific root length (SRL); root tissue density (RTD); leaf P concentration (LPC); root P concentration (RPC); root diameter (RD); and relative growth rate (RGR). | | | | | | | | | | | | |