|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Appendix Table: Statistics on *Nymphoides* *aquatica* Pretreatment Times in Light and Dark | | | | | | | |
| Experiment | Fm' | Ymax | Yk | Y0.5 | r & P | Eopt | POERmax | | Alphaα0 | r & P |
| zero dark  n = 8 | 1236  ± 185 | 0.6544  ± 0.0236 | 0.001696  ± 0.000169 | 408.7  ± 40.8 | 0.9683  << 0.001 | 714.5  ± 68.7 | 96.3  ± 4.9 | | 1.465  ± 0.159 | 0.8945  << 0.001 |
|
| 15 min dark  n = 8 | 1494  ± 198 | 0.6098  ± 0.0487 | 0.005072  ± 0.000858 | 136.6  ± 23.1 | 0.8931  << 0.001 | 619.3  ± 70.8 | 46.0  ± 3.0 | | 0.808  ± 0.107 | 0.8220  << 0.001 |
| 30 min dark  n = 8 | 1362  ± 107 | 0.5950  ± 0.0371 | 0.005420  ± 0.000702 | 127.9  ± 16.6 | 0.9609  << 0.001 | 554.2  ± 24.5 | 39.8  ± 1.1 | | 0.780  ± 0.041 | 0.9720  << 0.001 |
|
| 1h dark  n = 8 | 1701  ± 221 | 0.6185  ± 0.0450 | 0.007189  ± 0.00111 | 96.4  ± 14.9 | 0.9217  << 0.001 | 474.8  ± 44.8 | 35.0  ± 1.7 | | 0.801  ± 0.085 | 0.9002  << 0.001 |
|
| 2h dark  n = 16 | 867  ± 352 | 0.6058  ± 0.0226 | 0.007938  ± 0.000696 | 87.3  ± 7.7 | 0.9307  << 0.001 | 432.8  ± 21.2 | 30.4  ± 0.92 | | 0.763  ± 0.044 | 0.9486  << 0.001 |
| Light Treatment  Control  0 h Light  n = 8 | 947  ± 108 | 0.6295  ± 0.0121 | 0.001300  ± 0.000075 | 533.1  ± 30.8 | 0.98554  << 0.001 | 855.8  ± 47.2 | 119  ± 3.1 | | 1.505  ± 0.092 | 0.9811  << 0.001 |
|
| 1h Light  n = 8 | 1229  ± 143 | 0.6533  ± 0.0200 | 0.001829  ± 0.000151 | 379.1  ± 31.4 | 0.9757  << 0.001 | 732.5  ± 38.3 | 93.5  ± 2.6 | | 1.388  ± 0.082 | 0.9754  << 0.001 |

**Appendix Table Legend:** Experiments on cut leaves incubated in the dark showed that Eopt and ETRmax decreased over time if the leaves were kept in the dark. All values are means ± 95% confidence limits. Fm’ is the fluorescence in the light acclimated state after a flash of actinic light and is used to calculate the Yield (Y = 1 – Fo/Fm’) where, Fo is the fluorescence in the modulated measuring light (Genty *et al.* 1989; Brestic and Zivcak 2013). Ymax is maximum Yield (Y) fitted from a Y *vs.* Irradiance rapid light curve 0 to 1300 μmol photon m-2 s-1. Yk is the exponential constant fitted to the simple exponential decay curve fitted to the Y *vs.* Irradiance data; Y0.5 is the irradiance at which Y was ½ maximum. r is the correlation coefficient, all r values were significant at p << 0.001. Eopt is the optimum irradiance of photosynthetic electron transport in μmol photon m-2 s-1 of the fitted waiting-in-line relationship of POER vs. Irradiance. POERmax is the maximum photosynthetic electron transport rate (μmol O2 g-1 Chl *a* s-1) at the Eopt irradiance value in Alpha (α0) is the photosynthetic efficiency at zero irradiance. The results show that photosynthesis in *N. aquatica* is very vulnerable to a wounding effect on excised leaves and so pre-incubation (light or dark) before rapid light curves is not appropriate in this species. Furthermore, since both POERmax and Eopt both change over time the shape of the P *vs.* E curves of cut leaves changed over time. Preincubation in the dark is worse than cutting the leaves and keeping them in the light in the laboratory. Measuring rapid light curves as soon as possible after collection and keeping in the light was the best option for this species.