Statistics summary table

Table 1. Summary statistics. INCLUDE UNITS.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Method** | **Mean** | **Median** | **SD** | **Range** |
| **No TPU data (N = 28 pairs)** | | | | |
| Vcmax |  |  |  |  |
| DAT | 32.9 | 28.3 | 17.6 | 9.8 – 75.0 |
| Steady-state | 34.0 | 26.9 | 18.0 | 11.0 – 82.4 |
| Jmax |  |  |  |  |
| DAT | 49.4 | 48.0 | 22.4 | 9.6 – 102.1 |
| Steady-state | 59.7 | 52.0 | 25.7 | 24.0 – 114.6 |
| **TPU fit data (N = 28 pairs)** | | | | |
| Vcmax |  |  |  |  |
| DAT | 34.4 | 28.4 | 19.1 | 10.0 – 80.1 |
| Steady-state | 34.5 | 27.4 | 18.1 | 11.0 – 82.4 |
| Jmax |  |  |  |  |
| DAT | 53.5 | 48.5 | 25.6 | 11.8 – 112.4 |
| Steady-state | 60.9 | 53.7 | 26.8 | 24.0 – 120.5 |
| **Paired data without Overshoot (N = 20 pairs)** | | | | |
| Vcmax |  |  |  |  |
| DAT | 31.0 | 26.3 | 16.7 | 9.8 – 75.0 |
| Steady-state | 31.4 | 26.0 | 14.5 | 11.0 – 63.4 |
| Jmax |  |  |  |  |
| DAT | 52.8 | 48.0 | 20.6 | 23.6 – 102.1 |
| Steady-state | 57.7 | 52.0 | 21.6 | 24.0 – 106.0 |

TO DO:

* Look for outliers/sensitivity
  + I took a quick look at the one-to-one plots, and I’m not sure we could say that any of our values are outliers/have high influence. There are a few that don’t line up perfectly, but I don’t know that we could really say they are outliers.

Title ideas:

Impact of DAT on photosynthetic parameters Vcmax and Jmax

DAT method yields “comparable” Vcmax parameter estimates but underestimates Jmax compared to steady-state method in a species-rich tropical forest

Table 2. Wilcoxon signed-rank paired t-tests.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Comparison** | **Z statistic** | **P-value** | **Matched pairs rank-biserial correlation coefficient (rc)** | **Bootstrap 95% CI of the effect size** |
| **No TPU (N = 28 Pairs)** | | | | |
| DAT vs. steady-state |  |  |  |  |
| Vcmax | -2.17 | 0.0298 \* | -0.468 | -0.808 – -0.074 |
| Jmax | -4.89 | <0.00001\*\*\* | -0.926 | -1.000 – -0.778 |
| **TPU Fit (N = 28 Pairs)** | | | | |
| DAT vs. steady-state |  |  |  |  |
| Vcmax | -1.35 | 0.1782 | -0.296 | **-0.296 – 0.108** |
| Jmax | -4.65 | <0.00001\*\*\* | -0.897 | -1.000 – -0.729 |
| **TPU Fit vs. No TPU, DAT only (N = 33 pairs)** | | | | |
| TPU vs. No TPU |  |  |  |  |
| Vcmax | -3.05 | 0.0023\*\* | -0.825 | -1 – -0.477 |
| Jmax | -1.59 | 0.1117 | -0.391 | **-0.746 – 0.123** |
| **TPU Fit vs. No TPU, Pooled data (N = 66 pairs)** | | | | |
| TPU vs. No TPU |  |  |  |  |
| Vcmax | -3.53 | 0.0004 \*\*\* | -0.827 | -0.989 – -0.534 |
| Jmax | -2.49 | 0.0128 \* | -0.523 | -0.804 – -0.131 |
| **No TPU: Curves without Overshoot (N = 20 pairs)** | | | | |
| DAT vs. steady-state |  |  |  |  |
| Vcmax | -1.74 | 0.083 | -0.448 | **-0.885 – 0.029** |
| Jmax | -3.65 | 0.0003\*\*\* | -0.581 | -1.000 – -0.581 |
| **TPU fit: Curves without Overshoot (N = 20 pairs)** | | | | |
| DAT vs. steady-state |  |  |  |  |
| Vcmax | -1.43 | 0.1536 | -0.371 | **-0.81 – -0.114** |
| Jmax | -3.65 | 0.0007\*\*\* | -0.81 | -1 – -0.486 |
| **Method** | **TPU Fit: Only curves in which TPU was fit for both DAT and steady-state (N = 6 pairs)** | | | |
| DAT vs. steady-state |  |  |  |  |
| TPU | *-2.15* | *0.031\** | *-1* | *-1.000 – -1.000* |

Note: the last row is italicized because it’s such a small sample that it’s probably not meaningful.

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**Comparing MG to Photo (just to note, probably don’t need to report stats):**

Vcmax by method not significant with pooled data

Vcmax by fit type (MG or photo) not significant with pooled data

Jmax by method not significant with pooled data

Jmax by fit type (MG or photo) not significant with pooled data

Vcmax: compared ANOVA models. Most support for the intercept model (AICc = 1041.1, AICcWt = 0.53, LL = -518.5).

Jmax: compared ANOVA models. Some support for ‘method’ model (AICc = 1114.9, AICcWt = 0.58, LL = -554.3).