**Table 1** Analysis of variance results exploring the impacts of soil nitrogen fertilization, inoculation with *B. japonicum*, and interactions between soil nitrogen fertilization and inoculation status on leaf-level photosynthesis\*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | *A*400 | | *V*cmax25 | | *J*max25 | | *J*max25: *V*cmax25 | | *R*d25 | | *R*d25: *V*cmax25 | |
|  | df | χ2 | p | χ2 | p | χ2 | p | χ2 | p | χ2 | p | χ2 | p |
| Soil N (N) | 1 | 14.809 | **<0.001** | 4.756 | **0.029** | 8.060 | **0.004** | 7.277 | **0.007** | 9.047 | **0.003** | 8.097 | **0.004** |
| Inoculation (I) | 1 | 1.592 | 0.207 | 0.478 | 0.489 | 0.755 | 0.385 | 1.080 | 0.299 | 1.517 | 0.218 | 0.031 | 0.860 |
| N \* I | 1 | 0.248 | 0.618 | 0.888 | 0.346 | 2.339 | 0.126 | 4.166 | **0.041** | 4.237 | **0.039** | 3.336 | *0.068* |

\*Significance determined using Type II Wald χ2 tests (α=0.05). *P*-values less than 0.05 are in bold and *P*-values between 0.05 and 0.1 are italicized. Key: *A*400=light-saturated net photosynthesis measured at 400 μmol mol-1 CO2; *V*cmax25=maximum rate of Rubisco carboxylation; *J*max25=maximum rate of electron transport for RuBP regeneration, *J*max25:*V*cmax25=the ratio of *J*max25 to *V*cmax25; *R*d25=dark respiration rate; *R*d25:*V*cmax25=the ratio of *R*d25 to *V*cmax25

**Table 2** Analysis of variance results exploring the impacts of soil nitrogen fertilization, inoculation with *B. japonicum*, and interactions between soil nitrogen fertilization and inoculation status on leaf water use\*

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | *N*area | | *SLA* | | *L*area | | *L*mass | | *N*mass | |
|  | df | χ2 | p | χ2 | p | χ2 | p | χ2 | p | χ2 | p |
| Soil N (N) | 1 |  |  | 2.878 | *0.090* | 42.498 | **<0.001** | 19.363 | **<0.001** |  |  |
| Inoculation (I) | 1 |  |  | 6.464 | **0.011** | 12.239 | **<0.001** | 2.625 | 0.105 |  |  |
| N \* I | 1 |  |  | 1.266 | 0.260 | 0.689 | 0.406 | 0.027 | 0.869 |  |  |

\*Significance determined using Type II Wald χ2 tests (α=0.05). *P*-values less than 0.05 are in bold and *P*-values between 0.05 and 0.1 are italicized. Key: *A*400=light-saturated net photosynthesis measured at 400 μmol mol-1 CO2; *V*cmax25=maximum rate of Rubisco carboxylation; *J*max25=maximum rate of electron transport for RuBP regeneration, *J*max25:*V*cmax25=the ratio of *J*max25 to *V*cmax25; *R*d25=dark respiration rate; *R*d25:*V*cmax25=the ratio of *R*d25 to *V*cmax25