**Table 1** Analysis of variance results exploring effects of soil nitrogen fertilization, inoculation with *B. japonicum*, and interactions between soil nitrogen fertilization and inoculation on belowground biomass carbon costs to acquire nitrogen, whole-plant growth, and investment toward symbiotic nitrogen fixation\*

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | **Carbon cost to**  **acquire nitrogen** | | **Belowground**  **biomass carbon** | | **Whole-plant**  **nitrogen biomass** | | **Total**  **leaf area** | | **Whole-plant**  **biomass** | |
|  | df | χ2 | *p* | χ2 | *p* | χ2 | *p* | χ2 | *p* | χ2 | *p* |
| N fertilization (N) | 1 | 17.614 | **<0.001** | 0.082 | 0.775 | 294.976 | **<0.001** | 211.712 | **<0.001** | 37.483 | **<0.001** |
| Inoculation (I) | 1 | 16.000 | **<0.001** | 4.374 | **0.036** | 19.465 | **<0.001** | 25.859 | **<0.001** | 0.801 | 0.371 |
| N\*I | 1 | 4.337 | **0.037** | 0.227 | 0.634 | 13.188 | **<0.001** | 17.805 | **<0.001** | 0.823 | 0.364 |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | **Nodule biomass:**  **root biomass** | | **Nodule**  **biomass** | | **Root**  **biomass** | |  | |  | |
|  | df | χ2 | *p* | χ2 | *p* | χ2 | *p* |  |  |  |  |
| N fertilization (N) | 1 | 4.663 | **0.031** | 6.391 | **0.011** | 0.026 | 0.873 |  |  |  |  |
| Inoculation (I) | 1 | - | - | - | - | 3.921 | **0.048** |  |  |  |  |
| N\*I | 1 | - | - | - | *-* | 0.188 | 0.665 |  |  |  |  |

\*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. Models for nodule biomass:root biomass and root nodule biomass were fit using nitrogen fertilization as the lone fixed effect.