**SUPPLEMENTAL MATERIAL for “Negative effects of allelopathic plant invasion accumulate as the growth season progresses”**

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**Table S1** Analysis of variance results exploring the role of *A. petiolata* treatment and measurement period on soil nitrogen and phosphorus availability\*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Soil nitrogen availability** | | **Soil NO3-N availability** | | **Soil NH4-N availability** | |
|  | df | *χ*2 | *p* | *χ*2 | *p* | *χ*2 | *p* |
| *A. petiolata* treatment (A) | 1 | 2.202 | 0.138 | 2.221 | 0.136 | 1.306 | 0.253 |
| Canopy status (C) | 1 | 18.023 | **<0.001** | 22.619 | **<0.001** | 0.949 | 0.330 |
| A\*C | 1 | 0.038 | 0.846 | 0.135 | 0.713 | 0.029 | 0.864 |
|  |  |  |  |  |  |  |  |
|  |  | **Soil phosphate availability** | | **Soil N:P** | |  |  |
|  | df | *χ*2 | *p* | *χ*2 | *p* |  |  |
| *A. petiolata* treatment (A) | 1 | 6.800 | **0.009** | 4.062 | **0.044** |  |  |
| Canopy status (C) | 1 | 8.517 | **0.004** | 3.400 | *0.065* |  |  |
| A\*C | 1 | 0.156 | 0.693 | 0.900 | 0.343 |  |  |

\*Significance determined using Type II Wald χ2 tests (α=0.05). *P*-values less than 0.05 are in bold, while 0.05<*p*<0.1 are in italic font. Key: df = degrees of freedom

**Table S2** Analysis of variance results exploring the role of *Alliaria* treatment on volumetric soil moisture content across the measurement period\*

|  |  |  |
| --- | --- | --- |
|  | *χ*2 | *p* |
| *Alliaria* treatment (A) | 17.778 | **<0.001** |
| Day of year (D) | 310.951 | **<0.001** |
| A\*D | 0.272 | 0.602 |

\*Significance determined using Type II Wald χ2 tests (α=0.05). *P*-values less than 0.05 are in bold.

**Figure S1**

**A chart of different types of soil

Description automatically generated**

**Figure S1** Effects of *A. petiolata* treatment and tree canopy status on soil nitrate availability (a) and soil ammonium availability (b). Tree canopy status is on the x-axis. Teal points and boxplots indicate measurements collected in plots where *A. petiolata* was weeded and gold points and boxplots indicate measurements collected in subplots where *A. petiolata* was present at ambient levels. Boxes represent the upper (75% percentile) and lower (25% percentile) quartiles, and whiskers represent 1.5 times the upper and lower quartile values. Lettering above each treatment group indicates statistically different groups where Tukey: *p*<0.05.

**Figure S2**

**A diagram of different types of trees

Description automatically generated with medium confidence**

**Figure S2** Effects of *A. petiolata* treatment and tree canopy status on relative chlorophyll content in *Trillium* spp. (a) and *M. racemosum* (b). Tree canopy status is on the x-axis. Teal points and boxplots indicate measurements collected in plots where *A. petiolata* was weeded and gold points and boxplots indicate measurements collected in subplots where *A. petiolata* was present at ambient levels. Boxes represent the upper (75% percentile) and lower (25% percentile) quartiles, and whiskers represent 1.5 times the upper and lower quartile values. Lettering above each treatment group indicates statistically different groups where Tukey: *p*<0.05.