**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 | 0.538 | 0.463 | 2.334 | 0.127 | 1.430 | 0.232 |
| Canopy status (C) | 1 | 53.915 | **<0.001** | 67.788 | **<0.001** | 0.010 | 0.920 |
| A\*C | 1 | 1.279 | 0.258 | 2.028 | 0.154 | 5.383 | **0.020** |
|  |  |  |  |  |  |  |  |
|  |  | **Soil phosphate availability** | | **Soil N:P** | |  |  |
|  | df | *χ*2 | *p* | *χ*2 | *p* |  |  |
| *A. petiolata* treatment (A) | 1 | 2.859 | *0.091* | 3.790 | *0.052* |  |  |
| Canopy status (C) | 1 | 11.028 | **0.001** | 25.264 | **<0.001** |  |  |
| A\*C | 1 | 0.358 | 0.549 | 0.722 | 0.396 |  |  |

\*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.