**S4 Table. Effects of soil environment of the source location (measured as the first axis of a principal component analysis of all soil parameters, PC1) and lineage membership and their interaction on mean quantitative trait expression in *Juncus effusus*.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| N supply | T0 | | | | | | T70 | | | | | | T150 | | | | | |
| Functional traits | PC1 | | Lineage | | PC1×  lineage | | PC1 | | Lineage | | PC1×  lineage | | PC1 | | Lineage | | PC1×  lineage | |
| df | F | df | F | df | F | df | F | df | F | df | F | df | F | df | F | df | F |
| H | 1.14 | 0.1 | 1.14 | **6.5\*** | 1.14 | **5.9\*** | 1.8 | 0.2 | 1.7 | **40.4\*\*\*** | 1.8 | 0.5 | 1.11 | 0 | 1.11 | **10.8\*\*** | 1.11 | 0.2 |
| S | 1.14 | 2.2 | 1.15 | 2.6 | 1.15 | 0.1 | 1.7 | 1.9 | 1.7 | **8.0\*** | 1.7 | 1.8 | 1.11 | 3.7 | 1.11 | **20.9\*\*\*** | 1.11 | 0.8 |
| RGR | 1.14 | 1.2 | 1.14 | 0.1 | 1.14 | 1.1 | 1.7 | 0.0 | 1.7 | 2.4 | 1.7 | 1.8 | 1.11 | 2.1 | 1.11 | 0.6 | 1.11 | **6.9\*** |
| AGBM | 1.14 | 0.7 | 1.15 | 0.1 | 1.14 | 1.1 | 1.7 | 0.0 | 1.7 | 0.3 | 1.7 | 1.4 | 1.11 | 2.4 | 1.11 | 1.2 | 1.11 | 0.5 |
| BGBM | 1.15 | 0.0 | 1.15 | 2.2 | 1.15 | 1.7 | 1.7 | 0.4 | 1.7 | 0.0 | 1.7 | 0.4 | 1.11 | **5.8\*** | 1.11 | 4.4 | 1.11 | 0.2 |
| LDMC | 1.14 | 3.6 | 1.14 | 0.3 | 1.14 | 0.0 | 1.7 | 0.0 | 1.7 | 0.0 | 1.7 | 1.7 | 1.11 | 4.1b | 1.11 | **4.9\*** | 1.11 | 0.1 |
| Root:Shoot | 1.13 | **5.6\* a** | 1.14 | **20.1\*\*\*** | 1.13 | 0.0 | 1.7 | 2.6 | 1.7 | 0.0 | 1.7 | 0 | 1.11 | 1.5 | 1.11 | 1.4 | 1.11 | 0.1 |
| AG-C:N | 1.15 | **14.3\*\* a** | 2.17 | **5.9\* a** | 2.16 | **5.9\* a** | 1.7 | **15.9\*\*** | 1.7 | 0.4 | 1.7 | 0 | 1.11 | **7.1\*** | 1.11 | 0.6 | 1.11 | 0.1 |
| BG-C:N | 1.15 | 0.1 | 1.15 | 0.1 | 1.15 | 1.6 | 1.7 | **13.4\*\*** | 1.7 | 0.1 | 1.7 | 0.3 | 1.11 | 2.4 | 1.11 | 0.1 | 1.11 | 0.0 |
| AG-N | 1.15 | 0.0 | 1.15 | 0.4 | 1.15 | 0.7 | 1.7 | 3.7 | 1.7 | 1.0 | 1.7 | **6.3\*** | 1.11 | 0 | 1.11 | 0.0 | 1.11 | 0.2 |
| pH | 1.15 | 1.0 | 1.16 | 0.1 | 1.15 | 2.6 | 1.40 | 0.2 | 1.40 | 1.6 | 1.4 | **6.0\*** | 1.11 | 0.1 | 1.11 | 2.1 | 1.11 | 0.2 |
| POR | 1.86 | 0.3 | 1.86 | **4.2\* a** | 1.86 | 0.0 | 1.7 | 2.1 | 1.7 | 0.8 | 1.7 | 0.8 | 1.56 | 0.3 | 1.56 | 0.7 | 1.56 | 1.2 |

Depicted are F values and significances in bold (\*P<0.05, \*\*P<0.01, \*\*\*P<0.001) based on linear models and respective analyses of variances. For trait explanations see Table S2. a – Not significant when using seed mass as covariate in the model. b – Becomes significant when using seed mass as covariate.