104

Soil × Group × soil ×

**TABLE 1.** F-ratios from a mixed model with species as a random effect and legume or nonlegume status (group), light level (light), soil type treatment (soil), and seed mass (seed) as fixed effects.

Group × Group × Soil × Group × Group × Group × Group ×

|                       |          |           |           |         | Gloup ^ | Gloup ^ | 3011 ^  | Gloup ^ | 3011 A    | Ligitic | Gloup ^    | Gloup ^            | Gloup ^             | 3011 A                    | Group A 3011 A      |                |
|-----------------------|----------|-----------|-----------|---------|---------|---------|---------|---------|-----------|---------|------------|--------------------|---------------------|---------------------------|---------------------|----------------|
| Variable              | Group    | Soil      | Light     | Seed    | soil    | light   | light   | seed    | seed      | seed    | soil×light | $soil \times seed$ | $light \times seed$ | $light \! \times \! seed$ | $light \times seed$ | Denominator df |
| Final height          | 2.435    | 4.115*    | 16.229*** | 0.005   | 1.348   | 6.322*  | 0.051   | 0.356\$ | 22.621*** | 0.015   | 2.333      | 3.224\$            | 2.822\$             | 0.084                     | 2.880\$             | 334, 15        |
| Biomass               | 10.206** | 16.667*** | 5.489*    | 4.640*  | 5.186*  | 0.001   | 0.262   | 2.638   | 22.436*** | 3.229\$ | 0.002      | 14.500***          | 3.832\$             | 4.403*                    | 3.585\$             | 334, 15        |
| LMF                   | 0.047    | 0.176     | 10.898**  | 0.879   | 3.579\$ | 2.252   | 0.000   | 1.250   | 5.860*    | 0.084   | 1.114      | 2.453              | 0.972               | 0.220                     | 0.021               | 334, 15        |
| SMF                   | 5.687*   | 0.049     | 4.031*    | 0.002   | 1.702   | 2.485   | 0.054   | 0.801   | 4.001*    | 0.235   | 0.153      | 0.003              | 0.637               | 0.027                     | 0.135               | 334, 15        |
| RMF                   | 3.068    | 0.294     | 14.887*** | 0.535   | 2.125   | 0.768   | 0.229   | 1.125   | 0.588     | 0.096   | 0.931      | 0.557              | 0.076               | 0.488                     | 0.104               | 334, 15        |
| Internode             | 0.150    | 0.371     | 1.252     | 4.252\$ | 0.476   | 0.374   | 8.772** | 4.199\$ | 23.820*** | 2.791   | 0.676      | 11.482***          | 0.177               | 5.798*                    | 0.032               | 334, 15        |
| number                |          |           |           |         |         |         |         |         |           |         |            |                    |                     |                           |                     |                |
| Internode             | 1.960    | 4.650*    | 31.436*** | 0.242   | 0.0243  | 6.537*  | 2.357   | 0.000   | 3.839*    | 0.230   | 0.324      | 2.510              | 2.787               | 0.950                     | 0.555               | 331, 15        |
| length                |          |           |           |         |         |         |         |         |           |         |            |                    |                     |                           |                     |                |
| $\delta$ 13 $\subset$ | 0.113    | 6.272*    | 14.574*** | 0.171   | 3.331\$ | 1.558   | 0.067   | 0.573   | 0.337     | 1.214   | 0.007      | 0.737              | 0.469               | 0.480                     | 0.001               | 201, 8         |
| %N                    | 0.499    | 7.228**   | 23.508*** | 1.301   | 1.254   | 0.002   | 0.140   | 0.023   | 1.818     | 3.526\$ | 0.029      | 3.749\$            | 0.197               | 0.005                     | 0.016               | 201, 8         |
| Total N               | 0.544    | 25.525*** | 6.818**   | 2.373   | 1.216   | 0.228   | 0.465   | 0.333   | 6.053*    | 1.043   | 0.154      | 0.300              | 0.220               | 0.400                     | 0.249               | 201,8          |
| RGR                   | 0.782    | 0.003     | 0.270     | 4.850*  | 0.243   | 0.089   | 0.014   | 0.085   | 0.080     | 0.717   | 0.002      | 0.123              | 1.641               | 1.279                     | 0.697               | 38, 13         |

Notes: Significance: \$P < 0.10, \$P < 0.05, \$P < 0.01, and \$P < 0.01, and \$P < 0.001. The first denominator df is for all the variables except group and seed mass, and the second one is for group and seed mass. LMF = leaf mass fraction, SMF = stem mass fraction, RMF = root mass fraction, N = nitrogen, RGR = relative growth rate (grams per day).

Numerator df 1