

*František Lorenc, Vítězslava Pešková, Roman Modlinger, Libor Mrnka, Ivana Tomášková, Petr Šenfeld, Marek Turčáni*

## Fine roots of *Picea abies* compensate for drought stress in the rainfall reduction experiment

### Supplementary Material

Supplementary Table 1. Mean  $\pm$  standard deviation of the density of active mycorrhizae (ActM), density of nonactive mycorrhizae (NactM), proportion of active mycorrhizae (% ActM) and dry mass of roots up to 1 mm (DM < 1 mm).  
N: number of samples

| Variable  | Drought stress | N  | Plot  | 2010            | 2012            | 2013            |
|-----------|----------------|----|-------|-----------------|-----------------|-----------------|
| ActM      | no             | 10 | P1    | 0.94 $\pm$ 0.35 | 0.97 $\pm$ 0.46 | 1.07 $\pm$ 0.57 |
|           | no             | 10 | P2    | 0.97 $\pm$ 0.26 | 0.46 $\pm$ 0.19 | 0.89 $\pm$ 0.64 |
|           | no             | 20 | P1+P2 | 0.95 $\pm$ 0.30 | 0.71 $\pm$ 0.43 | 0.98 $\pm$ 0.60 |
|           | yes            | 10 | P1    | 0.82 $\pm$ 0.51 | 0.80 $\pm$ 0.47 | 1.42 $\pm$ 0.75 |
|           | yes            | 10 | P2    | 0.43 $\pm$ 0.16 | 0.83 $\pm$ 0.47 | 0.98 $\pm$ 0.55 |
|           | yes            | 20 | P1+P2 | 0.63 $\pm$ 0.42 | 0.82 $\pm$ 0.46 | 1.20 $\pm$ 0.68 |
| NactM     | no             | 10 | P1    | 1.19 $\pm$ 0.27 | 1.00 $\pm$ 0.42 | 1.51 $\pm$ 0.72 |
|           | no             | 10 | P2    | 1.32 $\pm$ 0.52 | 0.73 $\pm$ 0.25 | 1.85 $\pm$ 0.95 |
|           | no             | 20 | P1+P2 | 1.26 $\pm$ 0.41 | 0.86 $\pm$ 0.36 | 1.68 $\pm$ 0.84 |
|           | yes            | 10 | P1    | 1.28 $\pm$ 0.32 | 1.26 $\pm$ 0.45 | 1.27 $\pm$ 0.27 |
|           | yes            | 10 | P2    | 1.55 $\pm$ 0.35 | 1.07 $\pm$ 0.43 | 1.35 $\pm$ 0.28 |
|           | yes            | 20 | P1+P2 | 1.42 $\pm$ 0.35 | 1.17 $\pm$ 0.44 | 1.31 $\pm$ 0.27 |
| % ActM    | no             | 10 | P1    | 43 $\pm$ 11     | 48 $\pm$ 19     | 41 $\pm$ 17     |
|           | no             | 10 | P2    | 44 $\pm$ 8      | 38 $\pm$ 8      | 30 $\pm$ 18     |
|           | no             | 20 | P1+P2 | 43 $\pm$ 9      | 43 $\pm$ 15     | 36 $\pm$ 18     |
|           | yes            | 10 | P1    | 37 $\pm$ 12     | 38 $\pm$ 16     | 50 $\pm$ 13     |
|           | yes            | 10 | P2    | 22 $\pm$ 6      | 42 $\pm$ 13     | 40 $\pm$ 14     |
|           | yes            | 20 | P1+P2 | 29 $\pm$ 12     | 40 $\pm$ 14     | 45 $\pm$ 14     |
| DM < 1 mm | no             | 10 | P1    | 0.70 $\pm$ 0.33 | 0.61 $\pm$ 0.22 | 0.37 $\pm$ 0.18 |
|           | no             | 10 | P2    | 0.72 $\pm$ 0.34 | 0.51 $\pm$ 0.20 | 0.43 $\pm$ 0.24 |
|           | no             | 20 | P1+P2 | 0.71 $\pm$ 0.33 | 0.56 $\pm$ 0.21 | 0.40 $\pm$ 0.21 |
|           | yes            | 10 | P1    | 0.82 $\pm$ 0.26 | 0.59 $\pm$ 0.28 | 0.57 $\pm$ 0.33 |
|           | yes            | 10 | P2    | 0.68 $\pm$ 0.28 | 0.30 $\pm$ 0.16 | 0.53 $\pm$ 0.37 |
|           | yes            | 20 | P1+P2 | 0.75 $\pm$ 0.27 | 0.44 $\pm$ 0.27 | 0.55 $\pm$ 0.34 |

Supplementary Table 2. Pre-experimental data from spring 2010. Mean  $\pm$  standard deviation of the density of active mycorrhizae (ActM), density of nonactive mycorrhizae (NactM), proportion of active mycorrhizae (% ActM) and dry mass of roots up to 1 mm (DM < 1 mm). N: number of samples (Lorenc, 2012)

| Variable  | Drought stress | N  | Plot    | Spring 2010     |
|-----------|----------------|----|---------|-----------------|
| ActM      | no             | 10 | P1      | 0.72 $\pm$ 0.34 |
|           | no             | 10 | P2      | 0.70 $\pm$ 0.26 |
|           | no             | 20 | P1 + P2 | 0.71 $\pm$ 0.29 |
|           | yes            | 10 | P1      | 0.47 $\pm$ 0.22 |
|           | yes            | 10 | P2      | 0.80 $\pm$ 0.40 |
|           | yes            | 20 | P1 + P2 | 0.63 $\pm$ 0.36 |
| NactM     | no             | 10 | P1      | 1.33 $\pm$ 0.34 |
|           | no             | 10 | P2      | 1.48 $\pm$ 0.60 |
|           | no             | 20 | P1 + P2 | 1.41 $\pm$ 0.48 |
|           | yes            | 10 | P1      | 1.28 $\pm$ 0.44 |
|           | yes            | 10 | P2      | 1.24 $\pm$ 0.36 |
|           | yes            | 20 | P1 + P2 | 1.26 $\pm$ 0.39 |
| % ActM    | no             | 10 | P1      | 35 $\pm$ 10     |
|           | no             | 10 | P2      | 33 $\pm$ 11     |
|           | no             | 20 | P1 + P2 | 34 $\pm$ 10     |
|           | yes            | 10 | P1      | 28 $\pm$ 12     |
|           | yes            | 10 | P2      | 38 $\pm$ 13     |
|           | yes            | 20 | P1 + P2 | 33 $\pm$ 13     |
| DM < 1 mm | no             | 10 | P1      | 0.64 $\pm$ 0.22 |
|           | no             | 10 | P2      | 0.68 $\pm$ 0.26 |
|           | no             | 20 | P1 + P2 | 0.66 $\pm$ 0.23 |
|           | yes            | 10 | P1      | 0.75 $\pm$ 0.40 |
|           | yes            | 10 | P2      | 0.53 $\pm$ 0.25 |
|           | yes            | 20 | P1 + P2 | 0.64 $\pm$ 0.35 |