**Supplemental Material.** Growth parameters measured in 10 days old redroot pigweed and barnyardgrass seedlings sown at different times after incorporation of *Eucalyptus globulus* leaves into the soil. For each parameter and time, signs represent inhibition (–) or stimulation (+) with respect to S-metolachlor 0.96 kg ha-1: one sign, *P*≤0.05; two signs, *P*≤0.01; three signs, *P*≤0.001; no sign, *P*>0.05 (independent samples T-test). Within each column, mean values of four replicates ± SD.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | Days after incorporation | Germination (n) | Seedling height (mm) | Aerial biomass (g DW) |
| redroot pigweed | 0 | 33.33 ± 28.87 | 198.11 ± 13.34 (+) | 66.67 ± 47.14 |
| 3 | 19.23 ± 17.63 (–) | 131.53 ± 20.67  | 7.69 ± 0 |
| 6 | 133.33 ± 57.74 | 173.91 ± 75.31 | 0 ± 0 |
| 9 | 122.22 ± 19.25 | 263.70 ± 29 (+) | 141.67 ± 52.04 |
| 12 | 29.41 ± 10.19 (– –) | 376.20 ± 140.28 (+) | 9.09 ± 7.87 (– –) |
| 15 | 95.45 ± 33.40 | 274.88 ± 39.83 (+ + +) | 164.06 ± 99.95 |
| 18 | 66 ± 34.64 | 264.66 ± 47.74 (+ +) | 90.79 ± 69.58 |
| 21 | 55 ± 17.32 | 209 ± 45.15 (+) | 69.51 ± 30.17 |
| 24 | 97.06 ± 68.35 | 238.63 ± 31.07 (+ + +) | 103.45 ± 76.49 |
| 27 | 48 ± 9.80 | 397.23 ± 53.81 (+ + +) | 90 ± 33.20 |
| barnyardgrass | 0 | 107.84 ± 6.79 | 305.34 ± 22.38 (+ + +) | 166.67 ± 13.87 (+ +) |
| 3 | 119.61 ± 8.99 (+) | 311.58 ± 24.15 (+ + +) | 279.78 ± 116.88 |
| 6 | 104.76 ± 16.50 | 273.05 ± 10.23 (+ + +) | 138.06 ± 38.77 |
| 9 | 113.95 ± 10.66 | 385.26 ± 17.68 (+ + +) | 236.51 ± 26.23 (+ + +) |
| 12 | 92.45 ± 11.78 | 283.12 ± 23.65 (+ + +) | 144.33 ± 16.54 (+) |
| 15 | 118.09 ± 8.24 | 198.25 ± 21.10 (+ + +) | 169.04 ± 17.65 (+ +) |
| 18 | 102.91 ± 14.38 | 202.65 ± 32.59 (+ +) | 134.77 ± 22.15 |
| 21 | 83.82 ± 21.14 | 203.04 ± 39.60 (+ +) | 139.04 ± 31.03 |
| 24 | 109.88 ± 26.95 | 177.77 ± 19.91 (+ + +) | 146.84 ± 40.47 |
| 27 | 84.55 ± 7.04 | 344.17 ± 60.80 (+ + +) | 201.11 ± 19.58 (+ +) |