**S1 Table.** **Mesotrione dose-response analysis of Palmer amaranth height under low (LT, 25/15ºC day/night), optimum (OT, 32.5/22.5ºC day/night) and high (HT, 40/30ºC day/night) temperature (15/9 h day/night) 3 weeks after treatment.** Palmer amaranth plants (8-10 cm tall, 8-leaf stage) were treated with 0, 3.28, 6.563, 13.125, 26.25, 52.5, 105, and 210 g ai ha-1 mesotrione with 1% v/v crop oil concentrate (COC) and 0.85% w/v ammonium sulphate (AMS). ED50 and ED85 values for each growth temperature were estimated by a three parameter log-logistic regression analysis as described by Knezevic et al. (2007). Values in parenthesis are SE and asterisks represent \*, P < 0.05; \*\*, P < 0.01; \*\*\*, P < 0.001.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Temperature | ED50 | ED85 | SI (ED50) | SI (ED85) |
|  | -------- g ai ha-1 -------- |  |  |
| LT | 4.93 (0.7) | 13.8 (2.62) | 5.14\*\*\* | 4.24\*\* |
| OT | 25.3 (2.7) | 58.6 (10.4) | 1 | 1 |
| HT | 25.4 (3.5) | 92.2 (18.4) | 0.99 | 0.64\* |

ED50 and ED85 are the mesotrione rates that caused 50% and 85% reduction in plant height, respectively. SI is the sensitivity index based on the ratio of EDx for OT and EDx for LT or HT, where x is the ED50 or ED85 value.