Untreated (Control)	0.5 FR	1 FR
		
3 FR	**5 FR**	**7 FR**
		

Supplementary Fig. S1: Sensitive plants (S) **three days** after the treatment, indicated as times recommended field rate (FR=0.84 kg ha^{-1}). In this preliminary experiment, an initial dose screening was evaluated. Final experiments with sensitive plants were performed with 0.5FR, 1FR, 2 FR and 3FR.

	Untreated S	Untreated R
Shikimate content (µg $disc^{-1}$)	0.73 ± 0.22	0.51 ± 0.07
Hydrogen peroxide content (DAB colour intensity) (INT mm^2)	3393 ± 126	10053 ± 69 *
Superoxide content (NBT colour intensity) (INT mm^2)	30071 ± 202	33050 ± 535
MDA equivalents (nmol g^{-1} FW)	8.3 ± 1.4	10.4 ± 1.4
Carbonyl groups (ADJ. vol) (INT OD^{-1})	25 ± 16	48 ± 38
TEAC (ABTS) (mmol kg^{-1} FW)	1.9 ± 0.3	1.41 ± 0.18
TEAC (DPPH) (mmol kg^{-1} FW)	5.3 ± 0.8	6.5 ± 0.6
GSH (nmol g^{-1} FW)	215 ± 37	188 ± 30
GSSG (nmol g^{-1} FW)	53 ± 17	38.1 ± 7.6
Cys (nmol g^{-1} FW)	8.7 ± 2.3	17.6 ± 9.6
GGC (nmol g^{-1} FW)	6.6 ± 2.0	10.9 ± 3.4
Total glutathione (nmol g^{-1} FW)	268 ± 49	226 ± 34
GSH/GSSG	6.1 ± 2.4	5.3 ± 1.0
Ascorbic acid (mg g^{-1} FW)	0.49 ± 0.06	0.42 ± 0.08
Dehydroascorbate (mg g^{-1} FW)	0.049 ± 0.020	0.0273 ± 0.0065
Asc. acid + dehydroascorbate (mg g^{-1} FW)	0.54 ± 0.08	0.45 ± 0.09
Ascorbate/dehydroascorbate	25 ± 16	19.2 ± 5.8
APX activity (nmol min^{-1} mg^{-1} prot.)	53 ± 40	41 ± 10
CAT activity (nmol min^{-1} mg^{-1} prot.)	14.9 ± 3.0	12.8 ± 1.7
GR activity (nmol min^{-1} mg^{-1} prot.)	11.7 ± 2.6	13.0 ± 3.0
POX activity (nmol min^{-1} mg^{-1} prot.)	62.7 ± 4.6	63.9 ± 10.2
SOD activity (units mg^{-1} prot.)	147 ± 25	273 ± 114
CuZnSOD1 (ADJ. vol) (OD mm^2)	-1.2 ± 1.0	-2.4 ± 0.6
CuZnSOD2 (ADJ. vol) (OD mm^2)	-0.7 ± 0.3	-0.8 ± 0.3
MnSOD (ADJ. vol) (OD mm^2)	-0.54 ± 0.13	-0.5 ± 0.3

Suppl. Table 1. Values for *Amaranthus palmeri* untreated sensitive (S) and resistant (R) populations: shikimate content, H_2O_2 content, O_2^- content, malondialdehyde (MDA) equivalents, carbonyl groups, Trolox Equivalent Antioxidant Capacity (TEAC), reduced glutathione (GSH) content, oxidised glutathione (GSSG) content, cysteine (Cys) content, γ-glutamyl-cysteine (GGC) content, total glutathione content, GSH/GSSG ratio, ascorbic acid content, dehydroascorbate content, the sum of ascorbic acid and dehydroascorbate contents, ascorbic acid to dehydroascorbate ratio, antioxidant enzymes (ascorbate peroxidase (APX), catalase (CAT), glutathione reductase (GR), peroxidases (POX) and superoxide dismutase (SOD)) activities and SOD isoenzymes. Mean ± SE (A: n = 3-13). Significant differences between populations are marked with asterisks (Student's t-test, p-value ≤ 0.05).