Supporting information

Biochar soil additions impacts herbicide fate: Importance of application timing and feedstock species

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Table S1. Freundlich Coefficients for Clomazone (CMZ) Sorption-desorption Isotherms on BC-amended soil.

Treatment	$K_{f\ ads}$	$N_{f\ ads}$	R^2	K_{fd}	N_{fd}	R^2	TII
Unamended soil	1.14 (1.05-1.23)	1.00 ± 0.09	0.984	2.04 (2.03-2.05)	0.53 ± 0.01	0.999	0.47
P350-amended soil	2.60 (2.24-3.02)	0.57 ± 0.11	0.889	4.60 (4.57-4.64)	0.23 ± 0.01	0.993	0.60
P500-amended soil	1.61 (1.56-1.67)	0.56 ± 0.03	0.992	2.00 (1.96-2.05)	0.45 ± 0.03	0.988	0.20
P700-amended soil	12.72 (9.72-16.65)	0.18 ± 0.02	0.877	14.80 (11.1-10.98)	0.03±0.01	0.635	0.83
H350-amended soil	3.08 (2.85-3.34)	0.59 ± 0.06	0.963	4.97 (4.76-5.09)	0.23±0.03	0.952	0.61
H500-amended soil	1.96 (1.81-2.12)	0.44± 0.07	0.930	3.39 (3.18-3.61)	0.10 ±0.08	0.348	0.77
H700-amended soil	9.59 (7.44-12.35)	0.30± 0.07	0.854	13.25 (12.89-13.63)	0.07±0.02	0.803	0.77

Table S2. Freundlich Coefficients for Bispyribac Sodium (BYP) Sorption-desorption Isotherms on BC-amended soil.

Soils	$K_{f\ ads}$	$N_{f\ ads}$	R^2	$K_{f\ des}$	N_{fd}	R^2	TII
Unamended soil	0.21 (0.15-0.30)	0.77 ± 0.37	0.679	0.75 (0.74-0.77)	0.17 ± 0.02	0.961	0.78
P350-amended soil	0.40 (0.35-0.44)	0.85 ± 0.12	0.959	1.42 (1.35-1.49)	0.092 ± 0.06	0.527	0.88
P500-amended soil	0.50 (0.45-0.55)	0.69 ± 0.11	0.953	1.23 (1.21-1.24)	0.13 ± 0.01	0.980	0.81
P700-amended soil	9.46 (5.73-15.61)	0.62 ± 0.27	0.722	10.44 (10.25-10.64)	-0.03 ± 0.01	0.709	n. d.
H350-amended soil	0.47 (0.44-0.50)	0.79± 0.08	0.980	1.42 (1.37-1.47)	0.08 ± 0.04	0.647	0.90
H500-amended soil	0.40 (0.30-0.52)	0.74 ± 0.29	0.760	1.54 (1.49-1.59)	0.06 ± 0.04	0.536	0.92
H700-amended soil	2.47 (2.33-2.62)	0.57 ± 0.05	0.984	5.74 (5.48-6.33)	-0.12 ± 0.04	0.80	n. d.

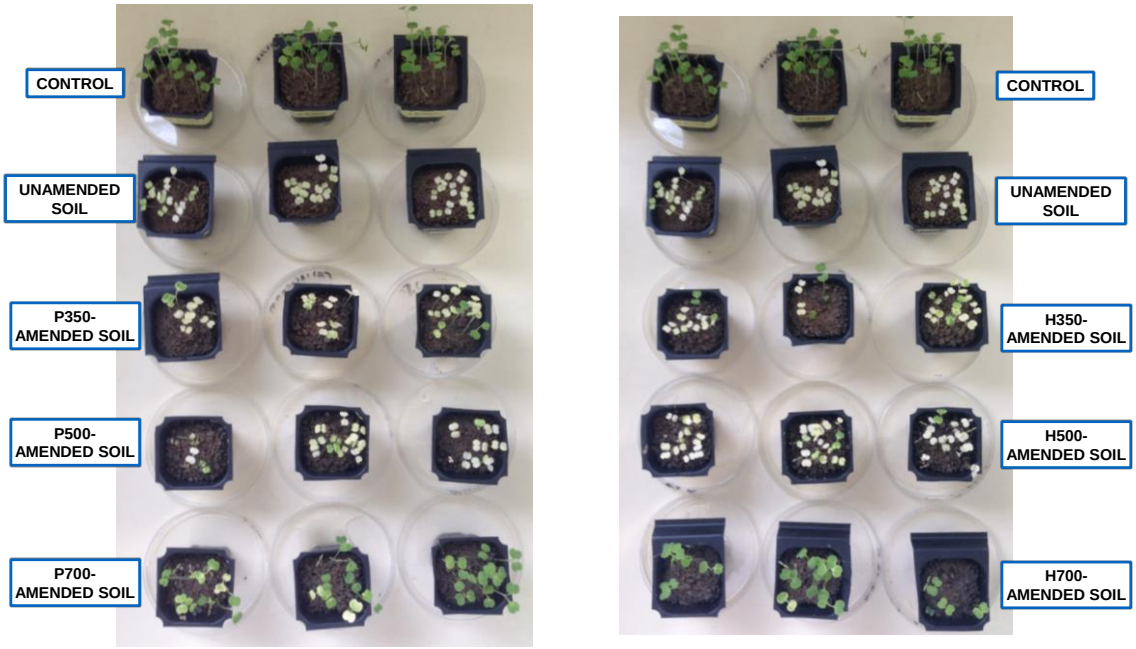

Figure S1. Effect of CMZ on *Eruca vesicaria* in unamended soil and BC-amended soil at a rate of 2% (w:w) after 14 days of herbicide application.

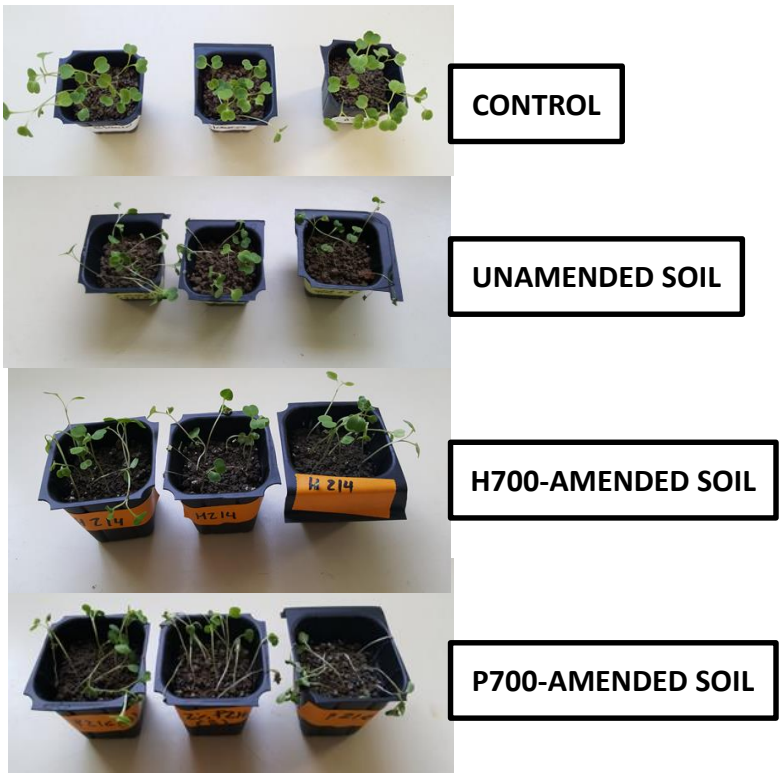

Figure S2. Effect of BYP on *Eruca vesicaria* in unamended soil and BC-amended soil at a rate of 2% (w:w) after 7 days of herbicide application.