Supplementary information

Table S1. Correlation matrix of Pearson correlation coefficients between hydrological (runoff amount, runoff coefficient, soil water storage, leachate amount, runoff start time, runoff end time, leachate start time) and erosion (rainsplash erosion, interrill erosion) variables. Values followed by one or two asterisks indicate significant correlations between the variables at $p<0.05$ and $p<0.001$, respectively.

	Runoff amount (mm)	**Runoff coefficient (%)**	**Soil water storage (mm)**	**Leachate amount (mm)**	**Runoff start time (min)**	**Runoff end time (min)**	**Leachate start time (min)**	**Interrill (g m$^{-2)}$**	**Rainsplash (g m^{-2})**
Runoff amount (mm)	1								
Runoff coefficient (%)	0.99**	1							
Soil water storage (mm)	-0.06	-0.06	1						
Leachate amount (mm)	-0.70**	-0.70**	- 0.43**	1					
Runoff start time (min)	-0.63**	-0.63**	-0.13	0.56**	1				
Runoff end time (min)	0.15	0.15	-0.16	-0.04	0.37**	1			
Leachate start time (min)	-0.35*	-0.36**	0.55**	-0.15	0.30*	0.04	1		
Interrill (g m^{-2})	0.68**	0.68**	-0.13	-0.47**	-0.49**	-0.03	-0.32*	1	
Rainsplash (g m^{-2})	0.56*	0.57*	-0.12	-0.27	-0.34	0.20	-0.37	0.30	1

Table S2. Correlation matrix of Pearson correlation coefficients between phytotoxicity variables (germination percentage, root length, shoot length, leachate pH, and leachate EC). Values followed by one or two asterisks indicate significant correlations between the variables at, respectively, $p<0.05$ and $p<0.001$.

	Germination (%)	**Root length (mm)**	**Shoot length (mm)**	**Leachate pH**	**Leachate EC**
Germination (%)	1				
Root length (mm)	-0.06	1			
Shoot length (mm)	-0.01	0.72**	1		
Leachate pH	0.31**	0.13**	0.1**	1	
Leachate EC	-0.03	0.01	0.15**	- 0.24**	1

Table S3. Coefficient of variation for each soil (A, B) and for the pooled data (**A+B**) in each treatment, for the hydrologic (runoff, soil water storage, and leachate), erosion (interrill erosion and rainsplash erosion), and phytotoxic (germination percentage, root length, root length, leachate pH, and leachate EC) variables.

	Homogeneous mixture (soil-mixed)						Heterogeneous mixture (surface-layered)								
	Untreated			Biochar mix			Biochar layer			Mulch layer			M+B layer		
	A	B	**A+B**	A	B	**A+B**	A	B	**A+B**	A	B	**A+B**	A	B	**A+B**
Hydrological variables															
Runoff (mm)	0.4	0.2	**0.3**	0.6	0.5	**0.5**	1.5	0.6	**0.9**	2	2	**2.7**	1.8	1	**1.2**
Soil water storage (mm)	0.4	0.4	**0.3**	0.1	0.4	**0.2**	0.1	0.2	**0.3**	0.3	0.1	**0.3**	0.4	0.1	**0.3**
Leachate (mm)	0.3	0.5	**0.4**	0.3	0.2	**0.2**	0.4	0.4	**0.4**	0.3	0.2	**0.4**	0.3	0.1	**0.4**
Erosive variables															
Interrill erosion (g m^{-2})	0.3	0.2	**0.3**	0.9	0.4	**0.8**	0.7	0.7	**0.6**	0.6	1	**0.8**	0.7	1	**0.8**

Rainsplash erosion (g m^{-2})	1.3	1.3	**1.2**	0.3	1.7	**0.9**	1.7	1.4	**1.5**	1	1	**0.9**	1	1	**1.3**
<u>Phytotoxicity variables</u>															
Germination (%)	0.2	0.3	**0.2**	0.1	0.2	**0.5**	0.1	0.2	**0.1**	0.2	0.2	**0.2**	0.1	0.1	**0.1**
Root length (mm)	0.6	0.5	**0.6**	0.5	0.5	**0.5**	0.5	0.6	**0.5**	0.5	0.7	**0.6**	0.6	0.6	**0.6**
Shoot length (mm)	0.5	0.5	**0.5**	0.5	0.5	**0.5**	0.4	0.6	**0.5**	0.4	0.7	**0.5**	0.6	0.5	**0.6**
Leachate pH	0	0.1	**0.1**	0.1	0	**0**	0.1	0	**0.1**	0	0	**0**	0.1	0	**0.1**
Leachate EC (mS cm^{-1})	0.6	0.5	**0.6**	0.5	0.4	**0.3**	0.6	0.2	**0.3**	0.6	0.3	**0.5**	0.3	0.3	**0.4**