

SUPPLEMENTARY TABLES

Supplementary Table 1. Results for pH measurements in soil spiked with FeCl₃ or Fe₃O₄ NM and aged over time (up to 202 days), for the test at density 1 (D1) and density 40 (D40).

Time (days)	FeCl ₃ (mg Fe/kg soil)			Fe ₃ O ₄ NM (mg Fe/kg soil)		
	0	200	400	0	200	400
<i>Density 1 (D1)</i>						
0	6.2	5.95	5.51	6.07	6.2	6.29
34	5.94	5.94	5.71	5.88	6.06	6.2
48	5.53	5.66	5.64	5.97	5.89	5.96
62	5.97	5.39	5.55	5.8	5.55	5.5
76	5.81	5.43	5.21	5.83	5.67	5.58
90	5.52	5.22	5.35	5.56	5.46	5.45
104	5.51	5.22	4.83	5.7	5.64	5.59
118	5.53	5.25	4.84	5.57	5.55	5.5
132	5.59	5.26	4.9	5.62	5.63	5.59
146	5.55	5.23	4.89	5.58	5.52	5.57
160	5.67	5.37	5	5.17	5.15	5.24
174	5.1	4.92	4.46	5.28	5.33	5.4
188	5.41	5.14	4.67	5.31	5.33	5.41
202	5.21	5.09	4.76	5.35	5.12	5.06
<i>Density 40 (D40)</i>						
0	6.01	5.47	5	6.16	5.98	5.9
34	5.96	5.47	5.08	6.17	5.89	5.82
62	4.92	5.11	4.96	5.19	5.55	5.29
90	4.78	4.51	4.93	5.56	5.09	4.86
118	5.08	4.59	4.77	5.5	4.86	4.74
146	4.94	4.61	4.27	5.6	5.31	5
174	4.26	4.41	4.1	5.31	4.96	4.84
202	5.37	5.07	4.85	5.35	5.03	4.88

Supplementary Table 2. Summary of the Effect Time (ETx, in days, with 95% confidence intervals - CI) for survival and reproduction (as number of juveniles/adult), for *Enchytraeus crypticus*, exposed to 0, 200, and 400 mg Fe/kg soil of FeCl₃ and Fe₃O₄ NM, in LUFA 2.2 soil at two different organisms' densities (1 organism (D1) and 40 organisms (D40)).

Material	Conc.	Endpoint	ET10 (95% CI)	ET20 (95% CI)	ET50 (95% CI)	ET80 (95% CI)	Model & parameters
<i>Density 1 (D1)</i>							
FeCl ₃	0	Survival	148 (141-156)	161 (155-166)	186 (182-189)	203 (197-210)	Thres2P; S:1.48E-2, Y0:19.5, r2: 0.973
	200		135 (115-154)	173 (161-184)	237 (210-265)	302 (251-354)	Log2P; S:5.34E-3, Y0:19.125, r2:0.862
	400		116 (95-138)	148 (135-162)	212 (191-232)	257 (222-292)	Thres2P; S:5.79E-3, Y0:20, r2: 0.869
Fe ₃ O ₄ NM	0		146 (137-155)	161 (155-167)	186 (182-190)	212 (204-219)	Log2P; S:1.37E-2, Y0:19.333, r2:0.97
	200		148 (136-159)	162 (154-170)	185 (180-191)	209 (199-219)	Log2P; S:1.46E-2, Y0:20, r2:0.946
	400		137 (131-143)	150 (146-154)	176 (173-179)	195 (190-199)	Thres2P; S:1.42E-2, Y0:19.889, r2:0.988
FeCl ₃	0	Reproduction	54 (40-67)	70 (60-80)	97 (92-104)	125 (116-134)	Log2P; S:1.26E-2, Y0:162.75, r2:0.966
	200		75 (68-82)	87 (82-92)	108 (104-111)	128 (123-133)	Log2P; S:1.69E-2, Y0: 137.42, r2:0.99
	400		101 (92-110)	110 (104-117)	126 (122-130)	142 (136-149)	Log2P; S:2.17E-2, Y0:59, r2:0.984
Fe ₃ O ₄ NM	0		69 (53-84)	86 (75-97)	120 (113-127)	145 (134-156)	Thres2P; S:1.07E-2, Y0:162.02, r2:0.965
	200		66 (57-75)	80 (74-87)	109 (104-113)	129 (123-135)	Thres2P; S:1.29E-2, Y0:162.35, r2:0.986
	400		70 (57-83)	86 (76-95)	117 (111-123)	139 (129-148)	Thres2P; S:1.19E-2, Y0:168.3, r2:0.972
<i>Density 40 (D40)</i>							
FeCl ₃	0	Survival	n.e.	n.e.	n.e.	n.e.	
	200		n.e.	n.e.	n.e.	n.e.	
	400		n.e.	n.e.	n.e.	n.e.	
Fe ₃ O ₄ NM	0		212 (167-257)	229 (139-319)	258 (86-431)	288 (31-544)	Log2P; S:1.19E-2, Y0:34.75, r2:0.1
	200		198 (190-206)	207 (196-218)	222 (185-259)	237 (174-300)	Log2P; S:2.31E-2, Y0:36.958, r2:0.429
	400		n.e.	n.e.	n.e.	n.e.	
FeCl ₃	0	Reproduction	41 (-25-108)	87 (44-129)	165 (140-189)	242 (184-301)	Log2P; S:4.46E-3, Y0:123, r2:0.516
	200		58 (34-81)	81 (64-97)	126 (117-136)	159 (144-174)	Thres2P; S:8.04E-3, Y0:113, r2:0.856
	400		64 (43-86)	84 (69-100)	119 (109-128)	153 (138-168)	Log2P; S: 1.02E-2, Y0: 84, r2:0.846
Fe ₃ O ₄ NM	0		94 (56-133)	124 (98-150)	182 (161-203)	224 (185-263)	Thres2P; S:6.32E-3, Y0: 105, r2:0.581
	200		71 (16-126)	112 (78-147)	194 (162-226)	252 (189-316)	Thres2P; S:4.52E-3, Y0: 108, r2:0.457
	400		81 (49-113)	110 (88-132)	169 (153-184)	210 (182-234)	Log2P; S:6.33E-3, Y0:122, r2:0.672

The models used are Logistic 2 parameters (Log2P) or Threshold sigmoid 2 parameters (Thres2P). S: slope; Y0: top point; n.e.: no effect.