

Supplementary information

**STUDIES ON COLONISATION OF FLY ASH DISPOSAL SITES USING
INVASIVE SPECIES AND AROMATIC GRASSES**

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Table 5. Change in leachate characteristics (1st, 2nd and 3rd) collected during the growth of *C. citratus* on fly ash (FA) treatments in pot scale study. Data has been reported as mean (standard deviation)

Parameter	Leachate number	Treatment description			
		FA (Control)	FA + GS	FA + FYM	FA + GS + FYM
pH	1	7.25 (0.11)c	6.67 (0.16)a	6.97 (0.09)b	7.04 (0.06)b
	2	7.6 (0.1)b	7.27 (0.08)ab	7.26 (0.13)ab	7.2 (0.07)a
	3	7.45 (0.07)b	7.22 (0.04)a	7.19 (0.04)a	7.16 (0.03)a
Electrical conductivity (µS cm ⁻¹)	1	1131 (59)ab	1074 (142)a	1773 (116)c	1338 (101)b
	2	275 (38)a	318 (24)a	517 (48)b	544 (53)b
	3	197 (11)a	209 (14)a	327 (21)b	286 (18)b
Total hardness (as CaCO ₃) mg L ⁻¹	1	214.67 (67.3)a	437.33 (100.21)b	225.33 (18)a	310 (33.7)ab
	2	102.67 (7.06)a	110.67 (8.43)a	237.33 (38.78)a	295.67 (59.86)a
	3	96 (6.93)ab	80 (7.23)a	146 (20.86)b	124 (13.28)ab
Calcium hardness (as Ca) mg L ⁻¹	1	46.93 (12.94)a	96.27 (25.26)b	16.8 (2.14)a	29.33 (5.31)a
	2	23.47 (1.41)a	22.4 (2.02)a	25.33 (4.4)a	28.78 (6.28)a
	3	29.87 (1.41)b	22.13 (1.62)a	23.2 (2.4)a	19.07 (1.37)a
Magnesium hardness (as Mg) mg L ⁻¹	1	31.75 (8.84)a	47.83 (9.13)ab	44.67 (4.42)ab	57.42 (5.92)b
	2	11 (1.53)a	13.5 (1.23)a	42.33 (6.83)ab	51.92 (9.93)b
	3	5.33 (0.88)a	6.17 (0.87)a	21.5 (3.62)b	18.58 (2.44)b
Total dissolved solid mg L ⁻¹	1	455.73 (47.13)a	1163.48 (119.11)ab	1963.68 (218.61)c	1263.68 (134.32)bc
	2	157.87 (21.57)a	221.58 (16.15)ab	484.7 (104.25)ab	654.04 (131.12)b
	3	149.23 (3.62)a	154.4 (7.58)b	358.58 (58.52)b	297.28 (28.71)b
Total alkalinity (as CaCO ₃) mg L ⁻¹	1	72 (38.85)bc	62.67 (13.29)a	168 (28.04)c	99.33 (10.65)ab
	2	81.33 (6.67)a	65.33 (5.81)a	55.62 (15.09)a	126.67 (19.34)a
	3	18.67 (1.33)a	21.47 (8.73)a	46 (18.15)a	34.33 (12.54)a
Chloride (as Cl) mg L ⁻¹	1	320 (93.79)a	346.67 (89.46)a	818.67 (90.14)b	446.67 (51.72)a
	2	25.33 (7.42)a	37.33 (4.46)a	28.67 (3.49)a	35.83 (5.04)a
	3	26.67 (5.81)b	26 (2.25)b	14.67 (1.33)a	13.33 (1.5)a
Sulphate (as SO ₄) mg L ⁻¹	1	95.09 (0.06)a	96.51 (17.64)a	260.86 (17.46)b	203.58 (16.68)b
	2	9.36 (0.06)a	11.32 (19.84)ab	15.33 (2.87)a	21.17 (8.43)b
	3	19.45 (0.06)a	21.47 (0.55)a	36.57 (4.32)b	32.56 (2.42)b
Manganese (as Mn) mg L ⁻¹	1	0.246 (0.067)a	0.753 (0.053)b	0.41 (0.123)ab	0.579 (0.123)ab
	2	0.205 (0.121)a	0.356 (0.078)a	0.453 (0.15)a	0.696 (0.161)a
	3	0.034 (0.022)a	0.083 (0.037)a	0.087 (0.011)a	0.09 (0.02)a

End of Table 5

Parameter	Leachate number	Treatment description			
		FA (Control)	FA + GS	FA + FYM	FA + GS + FYM
Copper (as Cu) mg L ⁻¹	1	0.007 (0.002)a	0.007 (0.001)a	0.009 (0.003)a	0.009 (0.001)a
	2	0.004 (0.002)a	0.004 (0.001)a	0.022 (0.005)b	0.01 (0.002)a
	3	0.006 (0.002)a	0.004 (0.001)a	0.023 (0.005)b	0.016 (0.003)ab
Zinc (as Zn) mg L ⁻¹	1	0.268 (0.201)a	0.116 (0.032)a	0.267 (0.082)a	0.267 (0.061)a
	2	0.033 (0.01)a	0.036 (0.005)a	0.1 (0.036)a	0.052 (0.013)a
	3	0.034 (0.007)a	0.029 (0.003)a	0.035 (0.005)a	0.04 (0.005)a
Nickel (as Ni) mg L ⁻¹	1	0.023 (0.005)a	0.026 (0.002)b	0.024 (0.002)b	0.021 (0.002)ab
	2	0.008 (0.001)a	0.009 (0.001)a	0.02 (0.004)a	0.029 (0.006)a
	3	0.006 (0.0001)a	0.004 (0.001)a	0.027 (0.004)b	0.018 (0.003)b
Cadmium (as Cd) mg L ⁻¹	1	0.0012 (0.00007)a	0.0012 (0.00006)a	0.0013 (0.00008)a	0.0012 (0.00004)a
	2	BDL	BDL	BDL	BDL
	3	BDL	BDL	BDL	BDL

Notes: FA: fly ash, GS: garden soil, FYM: farmyard manure.

Different lowercase letters beside each value in a row represent significant difference between the means for the parameter at $p < 0.05$. Sum represents the total amount of a specific ion released during the growth period.