

CORRECTION

Correction to: Diel plant water use and competitive soil cation exchange interact to enhance NH_4^+ and K^+ availability in the rhizosphere

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In Table 1 of the original publication, values and units for parameters used to simulate root nutrient uptake (V_{max} and K_m) were incorrect. Here we present the correct values and units for these parameters.

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Table 1 Input parameters

Input parameters	Value	Data source	Sensitivity test	
			low	high
Soil properties				
Cation exchange capacity (CEC) *	20 meq 100 g ⁻¹	Appelo & Postma (2005)	CEC test ^a	
		Schaap & Leij (2000), Balland et al. (2008)		
Bulk density [†]	1.3 g cm ⁻³	Brady & Weil (2002), Schaap & Leij (2000)	10	30
van Genuchten parameters (loam)		UNSODA database (Schaap & Leij 2000)		
α	4.07 m ⁻¹			
n	1.19			
Saturated soil moisture (Porosity)	0.51 m ³ m ⁻³			
Residual moisture content	0.06 m ³ m ⁻³			
Saturated hydraulic conductivity	3.04E-06 m s ⁻¹			
Tortuosity parameter	-6.97			
Specific storage coefficient	9.83E-04	Domenico & Schwartz (1998)		
Aqueous diffusion coefficient	2.2E-09 m ² s ⁻¹	SI Table S5		
Gaseous diffusion coefficient	2.0E-05 m ² s ⁻¹	Marrero & Mason (1972)		
Longitudinal dispersivity	1.00E-03 m	Gelhar et al. (1992), Tinker & Nye (2000)		
Soil solution concentration (initial and bulk soil)			C _i Ratio Test ^b	
NO ₃ ⁻	1.7E-01 mmol L ⁻¹	Median of 26 soils from 5 sites, SI Table S3	1.5E-01	3.7E-01
NH4 ⁺	1.9E-02 mmol L ⁻¹		4.8E-02	1.1E-02
K ⁺	5.4E-02 mmol L ⁻¹		9.3E-02	8.6E-02
Ca ⁺²	1.9E-01 mmol L ⁻¹		1.3E-01	1.9E-01
Mg ⁺²	7.8E-02 mmol L ⁻¹		1.0E-01	6.1E-02
Na ⁺	1.6E-01 mmol L ⁻¹		1.6E-01	1.5E-01
Cl ⁻ (calculated for electroneutrality)	4.1E-04 mmol L ⁻¹		3.9E-01	2.5E-01
HCO ₃ ⁻	1.6E-01 mmol L ⁻¹		2.2E-01	1.4E-01
DIC (calculated from HCO ₃ ⁻ and pH)	5.2E-01 mmol L ⁻¹		7.3E-01	4.6E-01
pCO ₂ (g) (calculated by MIN3P)	1.08 %			
pH (set)	6.0			
Root properties				
Nutrient Uptake Kinetics				
V _{max}			V _{max} Test ^c	
NO ₃ ⁻	6.43E-06 μmol cm ⁻² s ⁻¹	Median value from literature, SI Table S4	1.93E-06	1.59E-05
NH4 ⁺	1.00E-05		3.00E-06	2.38E-05
K ⁺	3.65E-06		1.70E-06	4.45E-06
Ca ⁺²	1.77E-07		1.18E-07	1.00E-06
Mg ⁺²	1.22E-07		6.25E-08	1.53E-06
Na ⁺	1.69E-09		4.49E-10	1.16E-06
Cl ⁻	4.75E-10		4.59E-10	4.92E-10
K _m			K _m Test ^c	
NO ₃ ⁻	1.34E-04 mmol cm ⁻³	Median value from literature, SI Table S4	2.82E-04	6.19E-05
NH4 ⁺	5.39E-05		1.80E-04	4.20E-05
K ⁺	2.34E-05		3.10E-05	1.55E-05
Ca ⁺²	6.32E-05		7.70E-05	3.31E-05
Mg ⁺²	1.24E-05		3.81E-05	9.55E-06
Na ⁺	6.60E-04		5.81E-02	1.37E-04
Cl ⁻	1.40E-05		2.20E-05	1.38E-05

* CEC = [7*(% clay) + 35*(% C)]/10 (Breeuwsma et al. 1986)

% clay = 24.5 %; mid-range clay content of loam soils from soil texture triangle (sensu Schaap and Leij 2000)

% C = (% OM)*0.58; carbon content of organic matter (sensu Breeuwsma et al. 1986)

% OM = 1.4 %; mean soil organic matter content from UNSODA database (n = 459, Balland et al. 2008)

† Bulk density = (1 - n)*particle density (Brady and Weil 2002)

n = 0.51, mean porosity of UNSODA soils (sensu Schaap and Leij 2000)

Soil particle density = 2.65 g cm⁻³ (Brady and Weil 2002)

^a: CEC limits were calculated with the minimum (7 %) and maximum (40 %) clay content of loam soils (Schaap and Leij 2000)

^b: Limits for concentration ratios were calculated relative to NH₄⁺ using the first and third quartile of NH₄⁺ -to-ion ratios from 26 soil solution samples (SI Table S3)

^c: Limits for root uptake kinetics were based on the first and third quartile of kinetic parameters from published studies (SI Table S4)