

Table 2. Hydrologic and salt transport parameter values

Parameter	Description	Units	Value	Comment or Reference
Root water uptake				
f_{ET}	ET correction coefficient	–	0.82	Calibrated (ref. 1)
C_3	Water stress fitting parameter	–	12.0	Ref. 2
$\psi(\theta_{wp})$	Pressure at wilting point	m	–150	Ref. 3
$\psi(\theta_{fc})$	Pressure at field capacity	m	–5	Ref. 3
$\psi(\theta_o)$	Pressure at oxic limit	m	–0.25	Ref. 3
$\psi(\theta_{an})$	Pressure at anoxic limit	m	0	Ref. 3
L	Root-zone depth	m	2.0	Ref. 3
δ	Root distribution parameter	–	0.5	Linear root distribution
Irrigation				
$IE_{shallow}$	Maximum irrigation efficiency	–	1.0	Calibrated and adjusted
IE_{deep}	Minimum irrigation efficiency	–	0.67	Calibrated (ref. 1)
Drainage				
d_e	Drain depth	m	2.46/3.10	Grasslands/Westlands (calibrated, ref. 1)
C_d	Drain conductance	1/yr	0.15/0.06	Grasslands/Westlands (calibrated, ref. 1)
Soil hydraulic properties				
K_{Corc}	Hydraulic conductivity of the Corcoran clay	m/yr	0.02	Calibrated and adjusted
K_F	K of the fine fraction	m/yr	0.38	Calibrated (ref. 1)
f_{Kc}	Scaling factor for K of coarse fraction	–	1.0	Ref. 4
n	Porosity	–	0.5	Calibrated and adjusted
S_{wr}	Residual saturation	–	0.1	Calibrated and adjusted
α	van Genuchten parameter	1/m	0.3	Calibrated and adjusted

Parameter	Description	Units	Value	Comment or Reference
β	van Genuchten parameter	–	2.0	Calibrated and adjusted
b	Brooks-Corey parameter	–	5.0	Calibrated and adjusted
Diffusion–dispersion				
α_L	Longitudinal dispersivity	m	0.8	Calibrated and adjusted
α_T	Transverse dispersivity	m	0.08	Ref. 5
D_0	Diffusion coefficient	m ² /yr	0.03	Ref. 6
Chemical reactions				
CEC_c	Cation exchange capacity of coarse fraction	mmol _c /k g soil	50	Ref. 7
CEC_f	Cation exchange capacity of fine fraction	mmol _c /k g soil	350	Ref. 7
K_{Ca-Mg}	Ca/Mg selectivity coefficient	–	0.63	Ref. 8
K_{Ca-Na}	Ca/Na selectivity coefficient	–	6.3	Ref. 8
K_{Ca-K}	Ca/K selectivity coefficient	–	0.36	Ref. 8
$Temp$	Soil temperature	°C	20	
CO_2	Soil air CO ₂ content	vol%	0.03	Atmospheric concentration

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