

**Tableau 4.** Paramètres du modèle FAPROM, valeurs utilisées pour le site vénézuélien.

**4.1 - Caractéristiques des espèces (W : saison humide ; D : saison sèche).**

Symbol	Parameters	Units	References	Ru	Es	Ac	Hy	Ba	Lu
$\gamma_{(i)}$	Nitrogen-fixing cost	—	Cannell & Thornley (2000) [Ryle <i>et al.</i> 1979, Phillips 1980, Sheehy 1987]	1	1	1	1	1	0.20
$r_g$	Growth respiration rate	$g_C g_C^{-1} d^{-1}$	Ruimy (1995)	0.20	0.20	0.20	0.20	0.20	0.20
$m^N$	Maintenance respiration rate	$g_C g_N^{-1} d^{-1}$	Ryan (1991)	0.13	0.13	0.13	0.13	0.13	0.13
$LMA_{(i)}$	Leaf mass per area	$g_{DM} m^{-2}$	Fontaine (2000)	54.4	195.9	114.9	182.5	120.9	87.8
$\omega_{(i)}$	Mean leaf angle	degree	Fontaine (2000)	80.0	60.7	20.2	51.8	52.0	34.1
$k_{(i)}$	Light extinction coefficient*	—	Sinoquet <i>et al.</i> (2000), Bonhomme & Varlet-Grancher (1977)	0.52	0.69	0.95	0.77	0.76	0.89

**Photosynthesis**

$P_{max(i)}$	Photosynthetic gross rate at saturating light	$\mu mol m^{-2} s^{-1}$	Fontaine (2000) Llambi <i>et al.</i> (2003)	W	15.4	24.3	13.3	12.1	11.4	24.3
				D	8.3	62.4	9.5	8.3	11.4	17.1
$\alpha_{(i)}$	Photochemical efficiency	—	[Measurements corrected by 1.25 Saugier (p.c.)]	W	0.019	0.008	0.035	0.015	0.008	0.020
				D	0.039	0.008	0.011	0.019	0.008	0.025
$\theta_{(i)}$	Non-rectangular hyperbola curve	—		W	0.982	0.616	0.935	0.974	0.500	0.934
				D	0.500	0.500	0.500	0.505	0.500	0.642

**Nitrogen concentrations  $n_{(i,j)}$**

$n_{(i,leaf)}$	Leaf W	$g_N g_{DM}^{-1}$	Berbesi (1990) except for <i>Lupinus</i> [Coûteaux (p.c.)] and for <i>Acaena</i> seed (estimation)	1.96	0.70	1.44	1.26	1.23	3.25
$n_{(i,stem)}$	Stem W			0.63	0.95	0.63	0.60	0.63	2.25
$n_{(i,seed)}$	Seed W			1.02	0.53	1.00	1.51	1.19	2.75
$n_{(i,root)}$	Root W			0.53	0.60	0.46	0.49	0.42	1.93
$n_{(i,leaf)}$	Leaf D	$g_N g_{DM}^{-1}$	Idem	2.32	0.67	1.50	1.35	0.61	3.25
$n_{(i,stem)}$	Stem D			0.63	1.10	0.62	0.70	1.30	2.25
$n_{(i,seed)}$	Seed D			2.60	0.41	1.00	1.10	1.12	2.75
$n_{(i,root)}$	Root D			0.85	0.40	0.45	0.61	0.53	1.93
$n_{(i,shoot)}^D$	dead mass Shoot	$g_N g_{DM}^{-1}$	Marquez (p.c.)	0.93	0.74	1.05	1.27	1.23	2.32
$n_{(i,root)}^D$	dead mass Root			0.47	1.04	0.84	0.77	0.93	0.95

**Mortality rate  $s^C_{(i,j)}$**

$s^C_{(i,leaf)}$	Leaf W	$g_C g_C^{-1} d^{-1}$	Sarmiento (p.c.) Estrada (p.c.)	0.50	0.25	0.43	0.29	0.37	0.67
$s^C_{(i,stem)}$	Stem W			0.28	0.02	0.03	0.02	0.03	0.28
$s^C_{(i,seed)}$	Seed W			0.28	0.28	0.28	0.28	0.28	0.28
$s^C_{(i,root)}$	Root W			0.33	0.10	0.11	0.09	0.11	0.55
$s^C_{(i,leaf)}$	Leaf D	$g_C g_C^{-1} d^{-1}$	Martineau (results of first-step calibrations, not shown)	2.00	0.38	0.64	0.34	0.37	2.67
$s^C_{(i,stem)}$	Stem D			1.12	0.03	0.04	0.02	0.02	1.11
$s^C_{(i,seed)}$	Seed D			1.12	0.42	0.42	0.33	0.28	1.11
$s^C_{(i,root)}$	Root D			1.32	0.15	0.17	0.11	0.09	2.22

$$* k_{(i)} = 0.988 \cdot \cos^{2.4} \left( \frac{\omega_{(i)}}{2} \right)$$