

Table S1. Taxa with highest aboveground carbon storage (AGC Mg ha⁻¹) values at a given density (no. of trees ha⁻¹) and classification of uses. Taxa were sampled in 16 plots location in dispersed tree in pasture, dry Caribbean region, Colombia.

Species	Dens.	AGC	Uses ^[1]
<i>Acacia farnesiana</i> (L.) Willd.	0.43	0.02	C, CF, F, M, R, S
<i>Acacia sp.</i>	0.02	0.00	U
<i>Albizia guachapele</i> (Kunth) Dugand	0.23	0.35	C, F, HC, S, SM
<i>Albizia niopoides</i> (Benth.) Burkart	0.18	0.19	C, CF, F, S, SM
<i>Albizia saman</i> (Jacq.) Merr.	2.84	4.65	C, CF, F, S, SM
<i>Anacardium excelsum</i> (Bertero ex Kunth)	0.02	0.00	C, F, HF, M, R, SM, WF
<i>Attalea butyracea</i> (Mutis ex. L.f.) Wess. Boer	0.55	0.02	C, CT, HC, HF, M
<i>Cecropia peltata</i> L.	0.18	0.01	C, CF, F, LF
<i>Ceiba pentandra</i> (L.) Gaertn.	0.18	0.23	C, CT, F, HC, M, S, SM, WF
<i>Cordia alba</i> (Jacq.) Roem. & Schult.	0.91	0.02	C, CF, F, HF, LF, S, SM, WF
<i>Cordia gerascanthus</i> L.	0.13	0.01	F, LF, S, SM
<i>Crescentia cujete</i> L.	0.04	0.00	C, CF, CT, F, HC, HF, M, R, S, WF
<i>Enterolobium cyclocarpum</i> (Jacq.) Griseb.	0.25	0.07	CF, HF, LF, M, R, S
<i>Erythrina fusca</i> Lour.	0.04	0.00	CF, F, HF, LF, M, S, WF
<i>Ficus dendrocyda</i> Kunth	0.02	0.00	WF
<i>Ficus insípida</i> Willd.	0.09	0.06	U
<i>Gliricidia sepium</i> (Jacq.) Walp.	0.13	0.03	CF, F, HF, LF, M, S, WF
<i>Guazuma ulmifolia</i> Lam.	8.07	1.06	C, CF, F, HC, M, R, S, SM, WF
<i>Lecythis minor</i> Jacq.	0.04	0.04	C, CF, CT, F, HC, HF, M
<i>Leucaena leucocephala</i> (Lam.) de Wit	0.57	0.04	CF, LF
<i>Maclura tinctoria</i> (L.) D. Don ex Steud.	1.21	0.09	C, F, S, SM, WF
<i>Pithecellobium dulce</i> (Roxb.) Benth.	0.25	0.01	CF, F, R, S, SM, WF
<i>Platymiscium pinnatum</i> (Jacq.) Dugand	0.04	0.00	C, CF, CT, F, S
<i>Prosopis juliflora</i> (Sw.) DC.	0.16	0.02	C, CF, F, HF, M, R, S, SM, WF
<i>Spondias mombin</i> L.	0.06	0.05	C, CF, F, HF, M, R, S, WF
<i>Sterculia apetala</i> (Jacq.) H. Karst.	0.16	0.06	C, CF, F, HF, SM, WF
<i>Tabebuia ochracea</i> A.H. Gentry	0.04	0.02	C, CF, F, M, S, SM
<i>Tabebuia rosea</i> (Bertol) DC	0.25	0.03	C, F, M, S, SM

^[1] C = construction. CF= cattle feed. CT = cultural. F = fuel. HC = handicraft. HF = human feed. LF = live fence. M = medicine. R = resin. S = shade. SM = sawmill. U = unknown. WF = wildlife feed

Table S2. Equations for estimating aboveground carbon (Mg C ha⁻¹) dispersed of trees in pasture in arid Caribbean region of Colombia.

Equation	Adj R²
Y=-0.29-0.03(N)+2.83(BA)	0.95
Y=2.83+0.23(N)	0.43
Y=-0.35+2.65(BA)	0.95

The equations are the result of linear regression tests with statistical significance at $p < 0.0001$. Y=aboveground carbon, Mg C ha⁻¹; N=number of trees ha⁻¹; BA=basal area, m² ha⁻¹.