

Daniel, Claire, “Agroecological Growth Patterns of Cultivated Bitterwood (*Quassia amara*) on the Northwestern Caribbean Slope of Costa Rica.” Advisor: Rafael Ocampo. Colorado College. 2010. 26pp.

This study spanned seven weeks between March and April, 2011, and assessed the effects of three different agroecological settings, in terms of soil composition and light, on the growth of cultivated *Quassia amara*. The agroecological settings were 1) along secondary rainforest margin, 2) in a plantation of Rambutan and banana trees, and 3) among plantain crops. Growth of the *Quassia* was evaluated in terms of height and diameter measurements. Apical meristem growth on select individuals in each site was measured over the study period. Soils were comparable among all three sites and appeared adequate for the cultivation of *Quassia amara*. Overall mean light measurements (kFc) were greater in Site 3 than in Site 1 or Site 2, and mean light measurements at 1400 hrs were greater in Site 2 than in Site 1 ($P \leq 0.0001$). *Quassia* growing in Site 2, in intermediate amounts of light, had the greatest diameter measurements among all three sites ($P \leq 0.0001$). Mean apical stem measurements were greatest for fourth-year *Quassia* in Site 3 ($P \leq 2.4 \times 10^{-5}$). Although younger trees may tolerate greater or more direct light intensities, it is recommended for the agroecological cultivation of the plant's wood that *Quassia* be planted in settings that offer large amounts of indirect light.