

Comparing Seed Production and Regeneration of *Carapa guianensis* (Aublet.) in Two Forest Types in Acre, Brazil from 2004 to 2007

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*Carapa guianensis* is a tropical tree valuable for its seed oil and timber. This study compared *Carapa* seed production and regeneration density in two forest types: upland and occasionally inundated. We installed two 400 m x 400 m plots in upland forest and two in occasionally inundated forest at Embrapa's experimental forest in Acre, Brazil. We randomly nested 32 10 m x 10 m subplots within each larger plot. Within these nested plots, we inventoried all seedlings (height  $\leq 1.5$  m) and saplings (height  $> 1.5$  m, dbh  $< 10$  cm) and recorded height, diameter and position. For seed production, we randomly sampled trees within dbh classes. Seeds were collected during peak seed production from 2004 to 2007 and throughout the year in 2007-2008. Seedling density was significantly higher in the occasionally inundated forest in all years, with an average of 207 seedlings ha<sup>-1</sup> compared to 47 ha<sup>-1</sup> in upland forest. There was no significant difference between sapling densities in any year. Seed production was not significantly different between forest types in 2004 or 2005. In 2006, seed production in occasionally inundated forest (730 seeds) was almost double production in upland forest (377 seeds). In 2007 seed production in occasionally inundated forest (17,102 seeds) was more than twice that of upland forest seed production (8,481 seeds). Preliminary conclusions are that both forests have increased seed production in some years, but occasionally inundated forest appears to have periodically higher seed production and germination, perhaps partially explaining greater seedling densities.

Key words: *Carapa guianensis*, regeneration, seed production

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