



# Effect of *Faidherbia albida* (Del.) Chev. and *Elaeis guineensis* (Jacq) on upland rice growth and yield.

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## 1 ABSTRACT

This study aims to determine the influence of *F. albida* and *E. guineensis* on rice growth and productivity. In fact, the effect of these two woody species on the physiology and yield of upland rice was assessed. Thus, a total of 40 yield squares with 20 in each sampling distance (under and outside the canopy of trees) was installed to evaluate rice performance. In each square, the height of the stems, the number of tillers, the biomass and the yield were evaluated. These data were analysed using R software version 3.4.2. These analyses showed that the sampling distance and the species had significant influences ( $p < 0.05$ ) on all the parameters measured, except for tillering and yield, on which the species effect has no influence ( $p > 0.05$ ). The rice grown under *F. albida* trees had higher height (105.13 cm) than those in *E. guineensis* (90.75 cm). Sampling distance had affected significantly the height of rice. Rice grown under canopy had higher height (105.13 cm) than those outside canopies (84.36 cm) of *F. albida*. For *E. guineensis*, the height under and outside canopy were 90.75 and 78.42 cm. The rice performed better under than outside canopy of these two species, because the conditions for its development.