



Effects of scarification and darkness on nuts germination and plants growth of two local varieties of *Irvingia gabonensis* (Aubry-Lecomte)

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ABSTRACT

Objective: Improving the conditions of seedling production of wild mango trees may increase its growth. Here, we evaluate the effect of scarification on the germination capacity of nuts from two local varieties (*Wossro* and *Sissro*) of wild mango tree *Irvingia gabonensis* grown in Benin.

Methodology and Results: The ripe fruits were collected from two plantations and dried in the greenhouse for two days. One set of the nuts was scarified on the zygotic embryo pole and the second was maintained intact. A total of 300 nuts were sown in pots containing soil and cultivate in darkness and light conditions separately. Randomized complete block design with four replications was used. Nut scarification and darkness significantly influenced ($p=0.0001$) the germination rate related to the first two leaves' appearance duration. Cotyledon emergency, the growth in height, and the number of leaves of the plantlets were influenced by the genotype.

Conclusion and application of findings: The findings of this study showed that the cultivation on the dark of the scarified nuts inhibited the germination rate. The appearance time of the first two true leaves is shorter in the variety *Sissro* exposed to darkness and longer in the variety *Wossro*. It is also found that the scarification of nuts improved the seedlings height, internode length, vegetative tract development, and leaves length. These findings will be used to accelerate the germination rate of wild mango tree and facilitate rapid seeding production. The next step will be to form the seedlings producers for the use of scarification technic in their field.

Keywords: *Irvingia gabonensis*, scarification, germination improvement, growth, Benin