



## INFLUENCE OF SEED ORIGIN ON MORPHOLOGICAL CHARACTERISTICS OF CAPSULE, SEED AND GERMINATION OF *AQUILARIA MALACCENSIS* LAM.

ALOK YADAV\*, SANJAY SINGH, RAHUL NISHAD AND KULDEEP CHAUHAN

ICFRE-ERC, Prayagraj, U.P.

\*Correspondent author email: yadava@icfre.org

**ABSTRACT:** Study was conducted to compare the morphological characteristics of *Aquilaria malaccensis* capsule and seed originated from its natural habitat of Assam and introduced as plantation in Terai region of Uttar Pradesh. It was found that there was significant difference between the capsule length and width of Assam and Uttar Pradesh. Further the weight of capsule and seed also differed significantly with p value 0.018 and 0.043, respectively. Overall, the seed and capsule dimensions and weight were superior in case of the native area which may be attributed to difference in climatic conditions at the time of development. Their larger seed size also resulted in higher germinability of Assam seeds (67%) than seeds from Uttar Pradesh (48%).

**Keywords:** Agar, *Aquilaria*, capsule length, germination percentage, seed weight

**Citation:** Yadav A, Singh S, Nishad R, Chauhan K (2024) Influence of seed origin on morphological characteristics of capsule, seed and germination of *Aquilaria malaccensis* Lam. Indian J Trop Biodiv 32(1): 93-98.

Received on : 17/05/2024

Accepted on : 02/06/2024

### INTRODUCTION

Agarwood (*Aquilaria malaccensis* Lam.) is one of 13 recognized fragrant resin producing trees of the Thymelaeaceae family, reaching a weight of 18-30 m. The genus *Aquilaria* is endemic to the Indomalaysian region, with 21 recorded species (The Plant List, 2013). Seven of these species are listed as critically endangered in the Red List of the International Union for Conservation of Nature (IUCN) (The IUCN Red List of Threatened Species, 2018). The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (UNEP-WCMC 2015) has all

species listed in Appendix II. According to Lee *et al.* (2016), it is one of the most significant and prized tree species for its fragrant wood, which is also known as agar, oudh etc. (Borogayary *et al.*, 2018). Depending on grade, agarwood may cost up to \$100,000 per kilogramme (Naef, 2011). *Aquilaria malaccensis* possesses a natural population in South East Asian countries. In India it is naturally confined to the north eastern states and grown extensively in the home gardens there. It is listed as critically endangered in the wild. Large-scale extraction of *A. malaccensis* due to the high market price and demand for the resin has