

A PRELIMINARY STUDY ON PHYSICO-CHEMICAL EVALUATION OF AGAR (*AQUILARIA MALACCENSIS*) SEED OIL FROM THREE DIFFERENT LOCATIONS

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ABSTRACT

Aquilaria malaccensis Lam. syn. *A. agallocha* Roxb (Agar) is one of the species of the genus *Aquilaria*, belonging to the family *Thymelaeaceae* producing highly priceless agar wood. As a result of a defence mechanism to fend off pathogens, *Aquilaria* species develop agar wood or resin which can be used for incense, perfumery, and traditional medicines. Many studies have reported reduction in natural populations of *Aquilaria malaccensis* due to the overexploitation of the species which become more threatened and enlisted into CITES Appendix-II. In India, natural habitats of *Aquilaria malaccensis* are found in North-Eastern States. Due to the commercial value of agar wood, the species is widely grown in Karnataka, Kerala and Tamil Nadu. The formation of agarwood depends on a natural infection of fungus in the wood and no proven artificial methodology available in India. The trees in the established plantations in South India started producing fruits and seeds were available in plenty and could be collected in huge quantities. There were no reports on its traditional use of seed oil of agarwood. On an average 3-5 year-old plant can produce around 1.5 - 3.0 kg of fruits and each fruit is having 1-2 seeds, predominantly two seeds. The seed index analysis experiment shows that on an average around 10000 numbers of seeds in 1kg with each seed weight of around 0.09g and with an average oil yield of 20-35%. In this study, a preliminary evaluation of physico-chemical properties of seed oil and its variations among three different locations of India is presented.

KEYWORDS: *Aquilaria Malaccensis*, Fruit and Seed Index, Physico-Chemical Characterization, Seed Oil