
EFFECTS OF ECOLOGICAL FACTORS ON AGARWOOD FORMATION OF *Aquilaria crassna*

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SUMMARY

The quality of agarwood depends on the provenance of *Aquilaria crassna*. The oil of *Aquilaria crassna* in Vietnam has 11/16 (68.75%), while *A. yunnanensis* has 7/16 (43.75%), and *A. malaccensis* and *A. microcarpa* have 8/16 (50%) important compounds. *Aquilaria crassna* distributed in Ha Tinh province has greater content of β -Agarofuran at 7.571 GC% in comparison to those distributed in other areas and countries. Temperature and humidity affect the ability of biological products absorbing and color changing process of wood to form agarwood in *Aquilaria* trees. Experiments conducted in the summer showed that *Aquilaria* trees absorbed biological products 10 times faster than those experimented in the winter or spring. Experiments of injecting *Fusarium* fungus products conducted on two different times of May 2017 and November 2017 in Huong Khe (Ha Tinh province) showed obviously significant different results: after 12 months, trees experimented in May has an average length of color changing wood of 49.90 mm in comparison with 42.53 mm of those conducted in November. The differences were because the temperatures of almost all the days of May and the next 5 months are more suitable for the development of fungi than that of November.

Keywords: Agarwood, *Aquilaria crassna*, ecological factors, important compounds, provenance.

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