

## **Effectiveness of hot oil treatment on cultivated 15 year-old acacia hybrid against *Coriolus versicolors*, *Gloeophyllum trabeum* and *Pycnoporus sanguineus***

### **Abstract**

The effectiveness of the hot oil treatment process on 15 year old cultivated Acacia hybrid was studied. Accelerated laboratory durability studies were conducted on the hot oil treated Acacia hybrid inoculated with fungi *Coriolus versicolors*, *Gloeophyllum trabeum* and *Pycnoporus sanguineus*. The logs of Acacia hybrid were harvested, segregated into bottom, middle and top portions, and later were oil-heat treated in an organic palm oil at temperatures of 180, 200 and 220°C for the duration of 30, 60 and 90 min. The wood samples that were dried and ground into sawdust was air-dried again before undergoing accelerated laboratory durability tests. Untreated samples were used as control. The durability of the wood increases with an increase in temperature and duration of the treatment. The hot oil treated samples could reduce the attack of *G. trabeum* from 20.89%, 20.94% and 21.29% in the control samples to 0.88-4.07%, 1.22-4.84% and 1.28-4.22% at bottom, middle and top portions, respectively. The attack of *C. versicolors* were reduced from 26.59%, 30.28% and 34.79% in the control samples to 2.89-9.41%, 3.88-16.84 and 4.27-17.34% at bottom, middle and top portions. However, the attacked of *P. sanguineus* were least effective with 31.42%, 36.33% and 36.55% in control samples to 3.26-12.55%, 4.67-15.36% and 4.69-19.22% at bottom, middle and top portions. Massive colonization of mycelia occurs in vessels of the untreated Acacia hybrid wood in comparison to the hot oil treated wood when observed through scanning electron microscope.