MINIMIZING ENVIRONMENTAL BURDEN OF OIL PALM TRUNK RESIDUES THROUGH DEVELOPMENT OF LAMINATED VENEER LUMBER PRODUCT

Kamarulzaman Nordin[1,*], Mohd Ariff Jamaludin[1],
Hashim W. Samsi[2], Abdul Hamid Salleh[2] and Zaihan Jalaludin[2]

[1] Department of Furniture Technology, Faculty of Applied Sciences
Universiti Teknologi MARA, 40450 Shah Alam, Selangor, Malaysia

[2] Product Development Division, Forest Research Institute Malaysia (FRIM),
Kepong, 52109 Kuala Lumpur, Malaysia.

* Corresponding author: Tel: +603-5544 4589 Fax: +603-5544 4562
e-mail: kamar629@salam.uitm.edu.my

ABSTRACT

Being the largest producer of palm oil with a global market share of 50%, the Malaysian palm oil industry is set to grow even more in the coming decades with ever-increasing oil palm plantation areas. As such, substantial amount of residue is expected to originate each year from oil palm re-plantation. Similar to the forest products industry, environmental concerns in the palm oil industry are also becoming serious issues that need stern consideration by the stakeholders. In ensuring the future growth of Malaysian palm oil industry, efficient use of field residues is therefore in need to minimize the environmental burdens associated with the disposal of the oil palm residues. In this paper, initiative that have been undertaken to utilize residues from oil palm re-plantation, particularly the oil palm trunk (OPT) for the production of laminated veneer lumber (LVL) was described. The aim was to access the bending and compression strength of the OPT LVL and to compare them with Malaysian oak (Rubberwood), timber species that is commonly used in the manufacture of furniture in Malaysia. Development effort to further improve the strength properties the OPT LVL was also discussed. OPT LVL was found to have comparable bending and compression strength to solid Malaysian oak. With such promising findings, the palm oil industry would benefit through development of by-products with higher value-added while continuing efforts to reduce the overall environmental burden and placed the industry on a new environmentally sustainable platform.

Keywords: environmental burden, oil palm trunk residue, laminated veneer lumber, bending strength, compression strength