Characterization of the properties of buluh madu (gigantochloa albociliata)

ABSTRACT

Thirteen bamboo species are reported to be in commercial use in Malaysia. However, Buluh madu (Gigantochloa albociliata) did not make to the list. As a species, G. albociliata is cultivated for its delicious bamboo shoot and is demonstrated to possess great potential to produce commercialised products such as laminated bamboo panel. Unlike common bamboo, which has hollow cylindrical culms, G. albociliata has thick culms at the base, with smaller hollow cavities at the top portion. Therefore, it can be easily converted into high-thickness strips, thus improving the processing efficiency of laminated bamboo. To validate this theory, the anatomical, chemical, physical, and mechanical properties of G. albociliata were evaluated. The round bamboo and strips from the top and bottom sections of the bamboo stem were tested. It was found that G. albociliata has a vascular bundle type similar to that of the Gigantochloa genus bamboo. The fibre in G. albociliata is long and strong. The top section of bamboo has longer fibres, a higher density, and a higher specific gravity than the bottom section. As a result, bamboo from the top section has greater bending strength than bamboo from the bottom section. The G. albociliata species was discovered to have high mechanical strength, dimensional stability, and good wettability, making it an ideal material for laminated products.