

Title (2)	:	Characterization of Axonopus compressus Fibre through Chemical Composition, Thermogravimetric Behaviour, and Moisture Content Evaluation
Journal	:	Journal of Advanced Research in Fluid Mechanics and Thermal Sciences
Document Type	:	Article
Publisher	:	Semarak Ilmu Publishing
UniKL Author	:	Fahmi Asyadi Md Yusof
Link to Full Text	:	https://semarakilmu.com.my/journals/index.php/fluid_mechanics_thermal_sciences/article/view/4257
Link to Scopus Preview	:	https://www.scopus.com/inward/record.uri?eid=2-s2.0-85179328486&doi=10.37934%2farfmts.110.1.172181&partnerID=40&md5=8db491d86d47c8c527148ca90e1159af
Abstract	:	The thermal properties and moisture content of Axonopus compressus, a common grass species used for various purposes, have received insufficient attention. This study aims to investigate these facets, utilising insights from previous research on the plant's numerous applications, such as soil erosion prevention, water purification, and heavy metal pollution treatment. The study extracted Axonopus compressus fibre from Melaka, Malaysia, using the water retting method and analysed its chemical composition using neutral detergent fibre (NDF), acid detergent fibre (ADF), and acid detergent lignin (ADL) according to ISO standards. The results indicated a chemical composition of 27.28 % cellulose, 22.56 % hemicellulose, and 4.79 % lignin. Thermal gravimetric analysis (TGA) was used to determine the fibre's thermal stability and decomposition behaviour. The initial decomposition temperature of the fibres was 228 °C, with maximum decomposition occurring at 360 °C. In addition, the moisture content was measured at 14.95 %.