

**Effect of Preparation and Extraction Parameters of Banana (*Musa balbisiana* cv. Saba) Inflorescence on their Antibacterial Activities (Kesan Penyediaan dan Parameter Pengekstrakan Jantung Pisang (*Musa balbisiana* cv. Saba) ke atas Aktiviti Antibakteria)**

**Abstract**

The study aimed to determine the influence of sample preparation and extraction parameters on the antibacterial activity of inflorescences from banana (*Musa balbisiana* cv. Saba). Banana inflorescences were extracted using various solvent extractions and tested for antibacterial activity using agar-well diffusion assay against gram-positive bacteria (*Staphylococcus aureus*, *Bacillus cereus*, *Listeria monocytogenes* and *Brochothrix thermosphacta*) and gram-negative bacteria (*Salmonella typhimurium*, *Salmonella enteritidis*, *Escherichia coli* O157:H7, *Enterobacter sakazakii*, *Yersinia enterocolitica* and *Vibrio parahaemolyticus*) The effects of geographical origin, drying methods and extraction parameters (sample-to-solvent ratio, extraction time and temperature as well as methanol to solvent ratio) on antibacterial activity of the banana by-product were carried out. Among all the extracts evaluated, methanolic extract from the buds showed significant higher inhibitory against all gram positive bacteria ranging from 12.56-13.54 mm. Interestingly, no significant different ( $p>0.05$ ) was observed on the effect of geographical origin as well as extraction methods on the antibacterial capacity. Meanwhile, the extracts produced from 50°C oven dried sample seem to have comparable antibacterial activity with the freeze dried samples. Extraction parameters (sample-to-solvent ratio, extraction time and temperature as well as methanol to solvent ratio) were found responsible in determining the efficacy of the antibacterial. In conclusion, methanolic extracts from banana inflorescence buds could be a new source of natural antibacterial and further bioassay guided fractionation should be carried out to determine the bioactive compounds and their biological activities.