

## **Antibacterial activity of ethanolic extract of *Syzygium polyanthum* L. (Salam) leaves against foodborne pathogens and application as food sanitizer**

### **ABSTRACT**

The aim of this study was to determine antibacterial activity of *S. polyanthum* L. (salam) leaves extract foodborne pathogens. All the foodborne pathogens were inhibited after treating with extract in disk diffusion test with range  $6.67 \pm 0.58$ - $9.67 \pm 0.58$  mm of inhibition zone. The range of MIC values was between 0.63 and 1.25 mg/mL whereas MBC values were in the range 0.63 mg/mL to 2.50 mg/mL. In time-kill curve, *L. monocytogenes* and *P. aeruginosa* were found completely killed after exposing to extract in 1 h incubation at 4x MIC. Four hours had been taken to completely kill *E. coli*, *S. aureus*, *V. cholerae*, and *V. parahaemolyticus* at 4x MIC. However, the population of *K. pneumoniae*, *P. mirabilis*, and *S. typhimurium* only reduced to 3 log CFU/mL. The treated cell showed cell rupture and leakage of the cell cytoplasm in SEM observation. The significant reduction of natural microflora in grapes fruit was started at 0.50% of extract at 5 min and this concentration also was parallel to sensory attributes acceptability where application of extract was accepted by the panellists until 5%. In conclusion, *S. polyanthum* extract exhibits antimicrobial activities and thus might be developed as natural sanitizer for washing raw food materials.