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EVALUATION AND COMPARISON OF THE TOXICITY OF FERMENTED COCONUT BEVERAGES USING BRINE SHRIMP TEST

Ajibola Olaide Olawunmi*, Samuel Lihan, Awang Ahmad Sallehin Awang, Ngieng Ngui Sing and Rosmawati Saat

Faculty of Resource Science & Technology, Universiti Malaysia Sarawak, Kota Samarahan, 94300 Sarawak, Malaysia

**Corresponding author's email: olaideajibola@gmail.com*

Many fermented plant-based foods such as coconut beverage (CB) that use specific microbial (strain starter) culture such as lactate strain and certain yeast strains have been used to improve the dietary and therapy of various illnesses. Brine shrimp lethality test (BSLT) is a convenient and suitable test to check for toxicity of compounds in samples. In addition, *Artemia salina* nauplii (ASN) spp. is one of the world's most prevalent salt-water species worldwide that can be used in this type of studies. Some of these microbes, however, can produce toxic elements (TA) during metabolic process, which can be hazardous to consumers. The objective of this study was to assess the toxicity of *Lactococcus lactis* fermented unpasteurised CB (UPW) and pasteurised CB at 70°C (UPW70), 80°C (UPW80) and 90°C (UPW90) for (5,15 and 25) mins against ASN. Newly hatched ASN (after 24 h of incubation), were subjected to different concentrations of (0, 24 and 48) h sampling extracts. BSLT was used to investigate sample toxicity at different doses from 1 to 500 µg/mL at different time intervals. Results indicated that these four FE have low larvicidal potential against ASN. Fermented UPW had the maximum and PCW70 showed the minimum effects on mortality. The achieved results indicate that starter culture and fermentation time contribute to break down of the larger hydrolysable TA, producing smaller elements that exhibit lower respond in toxicity on BSLT. This thus justifies their wide use in dietary supplements and beverage foods.