

DEVELOPMENT OF PALM OLEIN-IN-WATER EMULSION CONTAINING EXTRACTS OF DERRIS ELLIPTICA BENTH AS INSECTICIDE

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Some cancer cases have been related to the adverse effects of pesticides and insecticides. People with high levels of pesticides and chemicals in their blood streams are far more likely to develop for instance genetic mutations linked to cancer. There is a possibility of using more environmental and human friendly substance to prevent the attack of insects to our plants and perhaps alleviating other undesirable symptoms which would reduce the yield. In view of the increasing trend of using plant-based products worldwide, it is vital that the farming of these precious plants would not be hampered by diseases affecting them and more importantly will not harm the farmers. A stable and effective formulation should be explored to replace harmful pesticides and insecticides which have been linked to the various ailments. Rotenone found in extracts of *Derris elliptica* Benth is known to be effective against insects and pests such as having molluscicidal activity. The potential use of the extract as insecticide was also reported. However, it was also found that the problem with the extract is the short shelf-life. Crude extracts of *Derris elliptica* from various types of solvent were obtained and these were added into palm olein-in-water emulsions used as a carrier. The emulsions were diluted and were used by spraying onto the leaves of the plants. The stability of the emulsions was monitored. The effectiveness of the formulations was tested on the leaves of *Plecthrantus amboinicus* Lour.. Known locally as *bangun-bangun*, it is used for post-natal therapy by natives in Indonesia and Malaysia, among its many other medicinal benefits. *P. amboinicus* is susceptible to *Valanga nigricornis*. Our preliminary results showed that palm olein-in-water emulsion containing both ethanolic and ethanol/water extracts of *D. elliptica* has the potential in curbing *V. nigricornis* from harming *P. amboinicus*. However, the stability of the emulsions must be enhanced for prolonged storage.