**Antiaging Properties of Topical Cream Formulas with Active Ingredients of Pegagan Leaves and Merbau Wood Extracts and Its Nanophytosomes**

**Rita Kartika Sari1,4), Maeda Wahyuningrum1), Ietje Wientarsih 2,4),**

**Mohamad Rafi3,4)**

1Department of Forest Products, Faculty of Forestry, IPB University, INDONESIA

2Department of Veterinary Clinic Reproduction and Pathology, IPB University, INDONESIA

3Department of Chemistry, Bogor Agricultural University, INDONESIA

4Tropical Biopharmaca Research Center, IPB University, Bogor 16680, INDONESIA

\*Corresponding Author email: rita\_kbu@yahoo.com

*Abstract:* The purpose of this study was to analyze the chemical content and determine the in-vitro antiaging properties of the extract of merbau wood extract (*Intsia sp*.) (MWE) and pegagan leaf extract (*Centella Asiatica* L) (PLE) and its phytosomes, and determine the in-vitro antiaging properties of the topical cream formulas. The antiaging properties assay is its ability as the skin lightener (antityrosinase), antioxidants, and sun protection factor (SPF). The extracts were obtained by maceration with ethanol. The cream formulas are made with the active ingredients of MWE, PLE, combination of MWE + PLE, and a combination of its phytosome (8 formulas). This research shows that the highest antioxidant (DPPH and CUPRAC), sunscreen, and antityrosinase activities are the phytosome of PLE against DPPH (81.7 µmol troloks/g) and the phytosome of MWE against CUPRAC (1187.7µmol troloks/g), the PLE (SPF value is 18.5), and the MWE (IC50 value is 15.7 ppm), respectively. The PLE contains madecasosides, asiatioxide, and asiatic acid, while the MWE contains resorcinol, robidanol, and benzoic acid. The best cream formula is F5. This formula has higher antioxidant activity against DPPH (81.6 7µmol troloks/g) and CUPRAC (121.1 µmol troloks/g) and antityrosinase activity (1879.9 ppm) than the commercial day creams. But, this formula has an SPF value lower than the commercial day creams.

*Keywords: Antiaging, Centella Asiatica L, Cream formula, Intsia sp.*