Thesis Title	A Study of Nimbin Extraction from Neem Oil by Liquid-Liquid Extraction
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Abstract

In this research nimbin was extracted from neem (*Azadirachta indica* var. Siamensis Valeton) oil by liquid-liquid extraction using hexane and methanol. The properties of neem seed kernel powder were investigated. The results showed that the average size of neem seed kernel powder was 608 μm and moisture content was 7.3 wt percent of the total mass of powdered neem seed kernel.The optimum processing conditions of the neem oil extraction were determined. Neem oil was extracted from powdered neem seed kernel with a soxhlet extractor. The optimum ratio of hexane to neem seed kernel powder was found to be 20 ml/g. The neem seed on extraction gave in ≈ 38 wt percent of yellow brown oil. In addition, neem oil was extracted from powdered neem seed kernel with hexane at room temperature (30 $^{\circ}$C) for 1 hour, yielding 28 wt percent oil.

Subsequently, nimbin was extracted from neem oil with methanol. The optimum ratio of neem oil to methanol and number of stages in extraction were determined. The equilibrium relationship between nimbin in methanol, Y, and nimbin in oil, X, was found to be $Y = -2264X^2 + 2.87X$. The results showed that the optimum extraction ratio, (neem oil to methanol) was 1:5 vv^{-1} and the optimum number of extraction stages was 2. The extractor recovered ≈90 percent of the total nimbin in neem oil.

Keywords : Nimbin / Neem Oil / Liquid-Liquid Extraction