ABSTRACT

STANDARDIZATION OF SEMANGGI (Marsilea crenata Presl.) LEAF CULTIVATED IN RUNGKUT SURABAYA

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*Marsilea crenata* Presl. or known as semanggi, has been detected to have a compound containing high levels of estradiol, based on semanggi leaf extract test conducted with radio immuno assay (RIA) techniques. The test results are followed by a study which proves that semanggi leaf may help prevent osteoporosis by mechanically inhibiting the imbalance of bone remodeling in experimental animals females and post-menopausal women. Thus, estreadiol-like compound indicates that semanggi has the potential to be developed into herbal medicine. However, to assure the pharmaceutical quality on raw materials that could meet the requirements to be further processed into a safe and efficacious fitofarmaka dosage, then it is necessary to conduct standardization of semanggi leaf. In this study, the materials used are cultivated on semanggi plantation in Rungkut, Surabaya, which uses PDAM tap water to get a good quality semanggi.

From the research that has been done, semanggi leaf contains water (17.6134 ± 0.1365)%, ash (12.5904 ± 1.9046)%, insoluble acid ash (0.5822 ± 0.022)%, water soluble ash (8.5728 ± 0.3498)%, drying shrinkage (17.5159 ± 0.2200)%, contamination of heavy metals and mineral Pb 0.173 ppm, Cu 0.023 ppm, Cd 0.0018 ppm, and Cl 1.264 ppm, water-soluble extract (14.4594 ± 0.8678)%, soluble extract in ethanol (7.5034 ± 0.5270)%, essential oil is undetectable as the level is below the LOD. Based on qualitative test using TLC, semanggi contains terpenoids steroid, polyphenols (2.45 ± 0.06)%.

Keyword: standardization, semanggi, *Marsilea crenata* Presl., leaf