

Aila Ikhtimami, 2012, The Effect of Subculture Period on Saponin Content of Ginseng Jawa (*Talinum paniculatum* Gaertn.) Hairy Root, SKRIPSI, was being guide by Dr. Y. Sri Wulan Manuhara, M. Si., and Dr. Hery Purnobasuki, M. Si., Ph.D., Departement of Biology, Faculty of Sains and Technology, Airlangga University, Surabaya.

ABSTRACT

The aims of this study were to determine the effect of subculture period on dry weight and saponin content of ginseng jawa (*Talinum paniculatum* Gaertn.) hairy root. This study used transformed hairy root of *Talinum paniculatum* Gaertn. leaf explants which has been inserted T-DNA plasmid of *Agrobacterium rhizogenes* and the media were semisolid MS medium without plant growth regulators as subculture medium. The roots were treated by subculture periods (0, 2, 3, 4 weeks) and were cultured for 10 weeks. Datas were obtained as fresh weight root, dry weight root, and saponin content at the end of subculture period. Dry weight data analysis used one-way ANOVA followed up with LSD test (5% significance level). Saponin content were analyzed by semi-quantitative descriptive with Thin Layer Chromatography (silica gel GF₂₅₄). The results showed that the treatment of various subculture periods had significant influence in increasing dry weight of hairy root and 2-weeks subculture period treatment produced the highest dry weight of hairy root with 0,0229±0,0031 g dry weight. The result of saponin content on Thin Layer Chromatography test showed that the treatment of various subculture periods had effect on saponin content of hairy root and the highest saponin content obtained in without subculture (0 week) treatment with spot width 34±2,83 mm²/0,04 dry weight. The conclusion of this study were the treatment of various periods of subculture had significant effect on the *T. paniculatum* hairy root dry weight with the highest dry weight obtained at 2-weeks subculture period treatment with 0,0229±0,0031 g dry weight and various of subculture periods had effect on saponin content of *T. paniculatum* hairy root, the highest saponin content obtained in without subculture treatment with spot width 34±2,83 mm²/0,04 dry weight.

Keyword : Hairy root, ginseng jawa (*Talinum paniculatum* Gaertn.), subculture, saponin.