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Hairy Root Induction on *Justicia gendarussa* by Various Density of *Agrobacterium rhizogenes* strain LB 510

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Abstract

Gandarusa (*Justicia gendarussa* Burm.f.) is an Indonesian medicinal plant that has many benefits as drug and male contracetive. For industrial needs, Gandarusa must be available in large quantity. Hairy root culture is one of methode to produce phytochemistry compound. The objective of the study was to examine the effect of various density of *Agrobacterium rhizogenes* strain LB510 on hairy roots induction of gandarusa (*Justicia gendarussa* Burm.f.) leaf plant. Leaf explants were inoculated in MS liquid medium with various density of OD_{600} = 0.1; 0.2; 0.3; 0.4; and 0.5. Explants were co-cultivated for 2 days on MS solid medium without any hormone then sub-cultured on MS solid medium containing antibiotic cefotaxim 300 ppm, in dark condition. The data were analyzed descriptively and statistically. The results showed that various density of *Agrobacterium rhizogenes* strain LB510 was affected the lenght of hairy roots induction of *J. gendarussa* Burm.f., but these was not effected toward lenght formation time and number of hairy root. The treatment of OD_{600} 0.2 was the best treatment for hairy root induction on *Justicia gendarussa* Burm. f. This data could be used for optimized the quality of methode of hairy root induction.

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