

Isoflavonoid Production in a Hairy Roots Culture of *Pueraria candollei*

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A hairy roots culture of *Pueraria candollei* was established using *Agrobacterium rhizogenes* ATCC15834 and grown in half-strength Murashige and Skoog (MS) medium. The highest production of total isoflavonoids was found to be (36.48 \pm 4.09) mg/g dry wt [(3.39 \pm 0.20) mg/g dry wt puerarin, (29.91 \pm 3.74) mg/g dry wt daidzin, (1.65 \pm 0.09) mg/g dry wt genistin, (0.76 \pm 0.03) mg/g dry wt daidzein, and (0.76 \pm 0.03) mg/g dry wt genistein, respectively]. The total isoflavonoid content in hairy roots of *P. candollei* was 5.18-fold higher than that of the native tuber. Effects of sucrose content and medium type on growth and isoflavonoid production were investigated. 5% (w/v) Sucrose was an optimum content for the growth and isoflavonoid accumulation in *P. candollei* hairy roots. Half-strength MS medium had the highest effect for biomass production whereas woody plant medium had mostly stimulated isoflavonoid content in hairy roots.

Key words: Isoflavonoid, Hairy Roots Culture, *Pueraria candollei*