

## Optimization of Agrobacterium-Mediated Transformation Parameters for Melastomatacea Spp. Using Green Fluorescent Protein(GFP) as A Reporter

### Abstract

Agrobacterium-mediated transformation for both *Melastoma malabathricum* and *Tibouchinu semidecandra* were optimized using green fluorescent protein (GFP) as a reporter. The binary vector pCAMBIA1304 harboring the modified green fluorescent protein (mgfp) gene driven by the CuMV 35S promoter was used. Parameters optimized were bacterial strain, bacterial concentration, pre-culture period, co-cultivation period, immersion time, acetosyring concentration and wounding type. Results obtained were based on the percentage of (GFP expression which was observed 3 days post-transformation. *Agrobacterium tumefaciens* strain LBA4404 and EHA105 at concentration  $1 \times 10^7$  cfu ml<sup>-1</sup> (OD 600nm 0.8) showed the highest virulence on *M. malabathricum* and *T. semidecandra*, respectively. Four days of pre-culture and 2 days of co-cultivation were optimum for *M. malabathricum* transformation, while 3 days of pre-culture and co-cultivation for *T. semidecandra*, . result also showed that 60 min of immersion and addition of 200 p.M acetosyringone gave the highest percentage of positive transformants for both *M. malabathricum* and *T. semidecandra*. Mild wounding also significantly increased the efficiency of *M. malabathricum* transformation.

**Keyword:** Agrobacterium, Melastomataceae, Green fluorescent protein