

Optimizing agrobacterium mediated transformation in *Melia volkensii*

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Melia volkensii (melia or mukau) is an indigenous multipurpose dryland tree species commonly grown in Kenya. Reforestry programs promote this fast-growing tree for its valuable termite-resistant timber, firewood and animal fodder. Micropropagation is hampered by irregular root induction. To study these rooting process it is crucial to provide genetic transformed lines with marker genes, controlled by root related promotors. Here we report how the *Agrobacterium tumefaciens*-mediated transformation for *Melia volkensii* was established. Leaf explants were co-cultivated with a disarmed *A. tumefaciens* strain harboring the binary vector Pkai with GFP reporter gene construct and the selectable marker pNOS::nptII. Regeneration took place on MS medium with 10 μ M of thidiazuron, 50 mg/l ticarcillin and 25 mg/l kanamycin. Transgenic plants were regenerated from the leaf explants. The total time required 2.5 to 3 months. The transgenic nature of several shoots was also confirmed by viewing under a florescent microscope for florescence. Then melia was transformed with a binary vector DR5::GUS reporter gene construct under Hygromycin selection. These plants will become transgenic models of melia that will allow to study the rooting process.

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