Efficient production of transgenic melon via 
*Agrobacterium*-mediated transformation

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**ABSTRACT.** Oriental melon (*Cucumis melo* L. var. *makuwa*) is an important fruit for human consumption. However, this plant species is one of the most recalcitrant to genetic transformation. The lack of an efficient *in vitro* system limits the development of a reproducible genetic transformation protocol for Oriental melon. In this study, an efficient transgenic production method for *Agrobacterium*-mediated transformation using cotyledon explants of Oriental melon was developed. Cotyledon explants were pre-cultivated for two days in the dark, and the optimal conditions for transformation of melon were determined to be a bacteria concentration of OD₆₀₀ 0.6, inoculation for 30 min, and two days of co-cultivation. Transgenic melon plants were produced from kanamycin-resistant shoots. A total of 11 independent transgenic plants were regenerated with a transformation efficiency...
of 0.8% of the inoculated explants. The transgenic plants were phenotypically normal and fully fertile, which might be a consequence of the co-cultivation time.

**Key words:** *Agrobacterium tumefaciens; nptII; Genetic transformation; Transgenic melon*