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# *Agrobacterium Tumefaciens* mediated transformation of *Soalnum melongena* L (Egg Plant)

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Although conventional plant breeding methods have led to the improvement of crop plants, recent genetic engineering techniques can be used as an additional tool for introduction of agronomically important traits into already established cultivars. Agrobacterium mediated gene transfer method has been used to create many transgenic crop plants including tomato, potato, soybean, pea etc. *Solanum melongena* L. belongs to the family Solanaceae and it is an important vegetable crop cultivated widely in the tropics. The main objective of the study was to introduce genes into a local egg plant variety and obtain transgenic plants, using agrobacterium vector system. In search of establishing a system for genetic transformation of *S. melongena* Var. Padagoda, *Agrobacterium tumefaciene* carrying the plasmid Pbi 121 was used.

Initially three different explants were tested for callusing and the best explant was selected for further studies. Stem piece explants showed high callus formation frequency on kanamycin containing medium and therefore was selected as the explant. A two step regeneration/ selection procedure produced shoots of *S. melongena* in vitro, resistant to kanamycin.

Three regeneration media were used to determine the effect of the medium on callus production and shoot regeneration. Although stem explants showed high frequency of callus production in regeneration medium containing 1 mg/L NAA and 1 mg/L BAP the best medium for shoot bud induction was the medium containing 1 mg/L NAA only. Formation of green shoots indicated that the transformation was successful in integrating kanamycin resistance gene to *S. melongena*. But further tests such as expression assays are needed to confirm these results. Since many of explants were recalcitrant for regeneration, optimization of the regeneration medium needs to be carried out for stem explants.

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