

04-1-32

## Agrobacterium-mediated genetic transformation of soybean

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### Objectives

To development consensus genetic transformation system of soybean using cotyledonary node explants and *A. tumefaciens* strains as host cells.

### Materials and Methods

1. Three genotypes of soybean (#1049, Baekun and Muan as Korean cultivars and Thorne as American cultivar Thorne)
2. *Agrobacterium tumefaciens*-mediated cotyledonary node transformation, Southern blot analysis, and leaf painting assay

### Results and Discussion

*Agrobacterium tumefaciens*-mediated cotyledonary node transformation was used to produce transgenic soybean. There was a significant difference in the transformation frequency depend on bacteria strain. The EHA101 strain of the bacterial strains employed gave the maximum efficiency (3.6%). One hundred-six lines of resistance glufosinate plants were established. Histochemical GUS assay showed that at least 11 plants transformed with the GUS gene were positive response. The soybean transformants were obtained from the Thorne (5 plants), 1049 (5 plants) and Bakun (1 plant), respectively. Southern blot analysis and leaf painting assay revealed that the GUS and bar gene segregated to and expressed in their progeny.

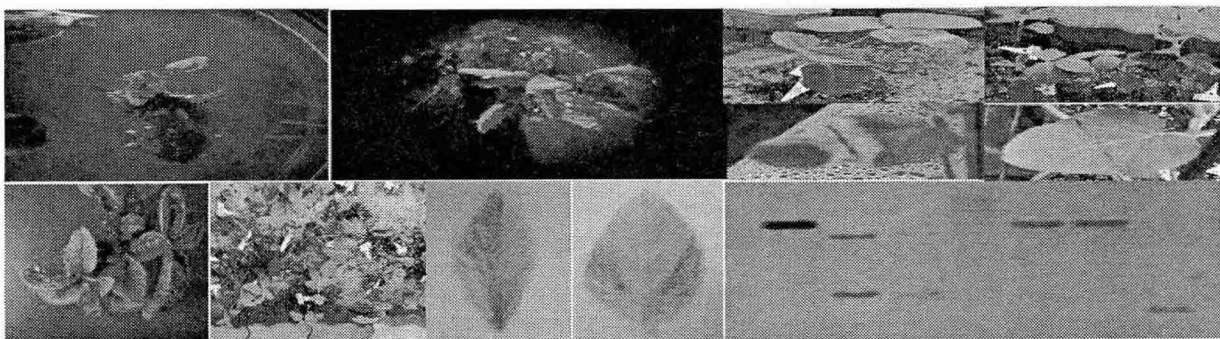


Fig 1. GUS assay, Southern blot analysis, and leaf painting assay of transgenic soybean produced from *Agrobacterium tumefaciens*-mediated cotyledonary node transformation method