THE EVALUATION OF SOUTH AFRICAN CULTIVARS OF SOYBEAN FOR THEIR SUSCEPTIBILITY TO AGROBACTERIUM TUMEFACIENS AND THE PRODUCTION OF TRANSGENIC SOYBEAN

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ABSTRACT

Transgenic soybean plants have been obtained using *Agrobacterium*-mediated DNA transfer. Ten *Glycine max* (L.) Merrill cultivars were screened for susceptibility to *Agrobacterium tumefaciens*. All ten produced tumours in response to infection with *A. tumefaciens* strain A281. Stem, hypocotyl and cotyledon explants of selected cultivars were transformed with the the kanamycin resistance gene, using the binary vector **pBIN19**. Cotyledon explants from 10 day old "Forrest" seedlings were transformed with the β-*glucuronidase* gene by inoculating with *Agrobacterium* strain LBA4404, harbouring the plasmid **pBI121.** Transformed shoots were induced from the cotyledons on Gamborg's B5 medium containing 1.15 μg ml^{-1} benzyladenine and 200 μg ml^{-1} kanamycin. The shoots rooted on B5 medium containing 200 μg ml^{-1} kanamycin lacking hormones.