

**POLLEN TUBE MEDIATED  
TRANSFORMATION IN COTTON**  
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**Abstract**

Field and greenhouse experiments were conducted to investigate potential use of the pollen-tube mediated transformation procedure for producing transgenic cotton. The pollen-tube pathway method consist of applying DNA solutions onto the stigma or by injection directly into the ovary. Cotton fruit produced in the field were injected with exogenous DNA (EPSPS and GUS genes) to coincide with timing of fertilization. Seed harvested from treated fruit were planted in the greenhouse and seedlings sprayed with a 32 oz./a application of the herbicide glyphosate at cotyledon stage of growth. The initial screening includes approximately 4,100 seedlings of Suregrow 125. Response of glyphosate treated seedlings derived from fruit injected with EPSPS and GUS genes are currently being compared to Suregrow 125 glyphosate resistant and susceptible seedlings. Any seedlings identified as "possibly" resistant to glyphosate, will be analyzed via GUS, PCR and Southern analysis for confirmation of transformation. The cost of producing a transgenic with this method would be relatively cheap. Large amounts of exogenous DNA may be utilized with this method, and if found to be independent of genotype, offers important advantages over *Agrobacterium*-mediated gene transfer.