

Elementary Exploration on Factors of Influencing Transformation via Particle Bombardment Embryonic Calluses of Cotton

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Abstract: In the article, we studied the different factors influencing the tissue culture and biolistic bombardment in cotton transfer. The results showed 2, 4-D is one of the key factors of callus initiation. In the process of the embryogenic calluses induction, it is benefit to production of embryogenic calluses that

the concentration of 2, 4-D was low or zero and the concentration of IAA was lower than KT. The embryogenic calluses physiology state, the distances and the times of bombardment were very important for success of transformation. By the transient expression of *GUS* gene, the results suggested that the optimums of target distance and times of bombardment were 9 cm and 2, respectively. The osmotic treatment of embryogenic calluses with $0.3 \text{ mol} \cdot \text{L}^{-1}$ mannitol for 4 h before and 16 h after bombardments was the best combination.

Key words: cotton; embryogenic calluses; biolistic; transient expression; transformation