B269

Agrobacterium tumefaciens mediated transfer of cry gene to Phaseolus vulgaris L.

Bean fly (Ophiomyia phasedoli) is the major seedling pest of common bean (*Phsealus vulgaris L*) , which can cause complete loss of crop in severe infestations. This experiment was conducted to develop a bean fly resistant, transgenic bean plant, by

transferring Bacillus thuringiensis gene (cry 2 gene) coded for insecticidal crystal proteins.

An efficient transformation and regeneration system has been already established for bean. After germination of seeds of variety "Top drop" selected cotyledon explants were infected with *Agrobacterium tumefacians* strain AGL 1, carrying the binary vector pBI 121, to which the cry 2 gene, from Bacillus thurigiensis strain 6e is inserted. The Nopaline synthase and Cauliflower mosaic virus 35 S promoters drive the selectable marker gene Neomycin phosphotransferase II (npt II) and reporter gene GUS, respectively. The infected cotyledons were cultured on Murashinge and Skoog (MS) medium containing 15µM Benzyl adenin and 2 µM of Gibberellic acid for shoot induction.

Excised shoots were rooted on half strength MS medium containing 5µM of Napthlene acetic acid and 0.5µM of Gibberellic acid. Screening of transformed plantlets was done on a selective medium containing 125mg/I kananmycin & 600mg/I cefotaxime. Subsequently, well-rooted plats were acclimatized. Don't-blot analysis of isolated palnt DNA and the callus growth of transformed leaf disks on a medium containing kanamycin confirmed that introduction of cry gene to bean plant genome is successful.