



RESEARCH ARTICLE

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Transformation of tobacco (*Nicotiana tabaccum*) with cry2AX1 gene and analysis of transgenic plants

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ABSTRACT : A novel synthetic cry2AX1 gene was codon optimized and a sequence encoding cotton rbcS1b transit peptide was fused upstream of coding sequence. The fusion cry2AX1 gene, driven by maize ubiquitin1 promoter was cloned in a pUH plant transformation vector. *Agrobacterium* mediated transformation was carried out with pUH-ctp-2AX1 construct using leaf discs of tobacco as model plant. Screening by PCR revealed presence of cry2AX1 gene in all nine putative transformants and expression of cry2AX1 protein in PCR positive T₀ tobacco plants ranged from 1.5 to 10.0 ng/g. The detached leaf bit bioassay of tobacco transformants with *Helicoverpa armigera* showed 30 per cent mortality even at lower level of cry2AX1 expression. The results indicated a newly developed construct was functionally expressed in tobacco plant.

KEY WORDS : Tobacco, Transformation, Insect resistance, *Helicoverpa armigera*

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